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Why did gender inequality lag GDP per capita and human development growth in Korea over 1976-1996?

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Key words: Gender pay gap; gender equality; economic growth; human development; South Korean growth; Marital status; Trade unions

Abstract

South Korea's economic growth (EG) miracle has been a source of discussion since the 1990s. The assumption of relatively equitable distribution of resources should be contested, as a growing base of evidence shows that human development (HD) and gender parity improvements are not automatic. To that effect, this dissertation asks the question of why the gender equality index (GEI), a subset of the historical index of human development (HIHD) lagged, despite GDP per capita and HIHD growth. It is hypothesised that the widening of the gender pay gap (GPG) during 1976-1996, was predominantly responsible for worsening the GEI, leading to the divergence between GDP, HIHD and GEI. The occupational wage survey (OWS) conducted annually since 1971, by the South Korean Ministry of Labour is used to perform econometric analysis to understand the GPG time trend and how it was impacted by marital status and the introduction of trade unions. The results demonstrate that whilst earnings increased, the GPG widened, with marital status and trade unions offering explanations for increased discrimination. My findings provide support for analysing the benefits of redistribution on a gendered basis and making a case for gender equality improvements on both an intrinsic and instrumental level. Much further research can be done in this area, especially in the quantification of culture and its ongoing legacy on societal gendered roles in determining GPG inter alia.

1. Introduction

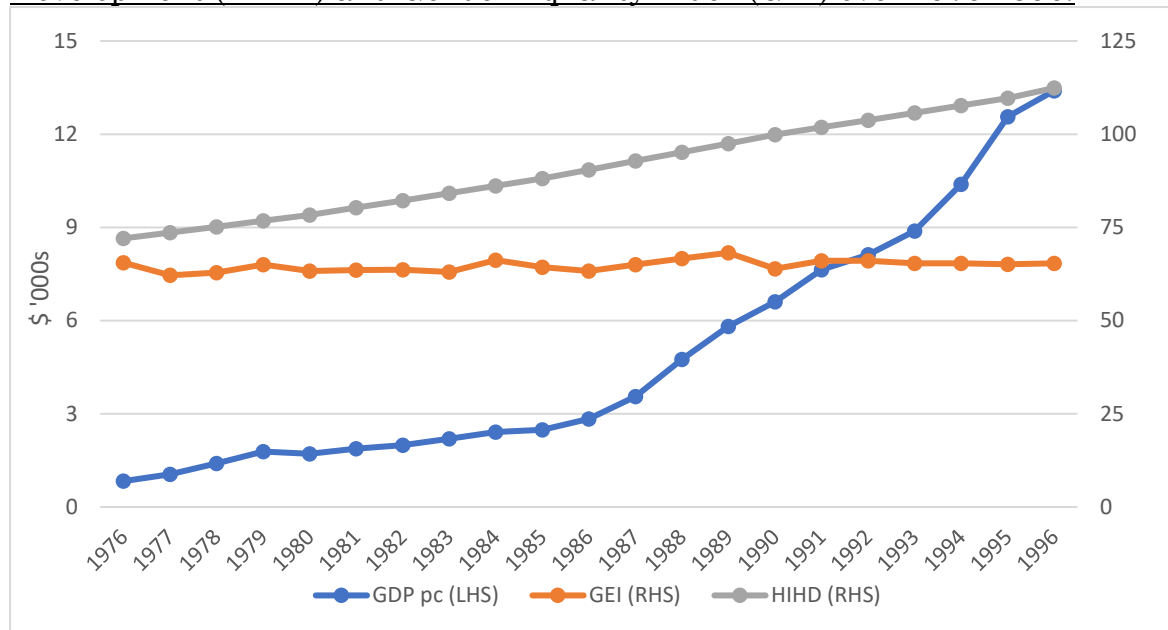
South Korean (henceforth referred to as Korean) economic growth (EG) was lauded in the early 1990s as an exceptional example of free market growth.¹

¹ John Fei, and Gustav Ranis, "A model of growth and employment in the open dualistic economy: the cases of Korea and Taiwan." In *Employment, Income Distribution and Development*, ed. Frances Stewart (London: Routledge, 2013), 32-63; Fleurbaey, Marc. "Beyond GDP: The quest for a measure of social welfare." *Journal of Economic literature* 47, no. 4 (2009): 1029-1075.

However, notable contributions from scholars such as Chang and Amsden have overturned this once mainstream explanation to illustrate Korea's growth as a product of developmental states, a combination of structural transformations driven by extensive government intervention and symbiotic relations with businesses, controlled through a carrot and stick approach.² Since the 1990s, through the dissemination of Amartya Sen's work on human capabilities, the UNDP increased its efforts in understanding and prioritising human development (HD), beyond EG. As such, scholarship also shifted its focus on the relationship between HD and EG. The main questions asked were if the Human Development Index (HDI) and GDP per capita are positively correlated and if so, what the causal mechanisms underlying the relationship are.

² Chang, Ha-Joon, "The political economy of industrial policy in Korea." *Cambridge journal of economics* 17, no. 2 (1993): 131-157; Alice Amsden, "The Paradox of "Unlimited" Labor and Rising Wages," in *Asia's next giant: South Korea and late industrialization*, ed. Alice Amsden (New York: Oxford University Press, 1992), 189–214.

Figure 1: Time trend of Korean GDP per capita, Historical Index of Human Development (HIHD) and Gender Equality Index (GEI) over 1976-1996.



Sources: GDP per capita: World Bank, accessed July 27, 2023, <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=KR>, GEI: Clio Infra, accessed July 27, 2023, <https://clio-infra.eu/Indicators/HistoricalGenderEqualityIndex.html#>,³ HIHD: Fundacion Rafael Del Pino, accessed July 27, 2023, https://frdelpino.es/investigacion/en/category/01_social-sciences/02_world-economy/03_human-development-world-economy/?lang=en.⁴
Note: HIHD has been rebased to GEI

Figure 1. shows that during 1976-1996, GDP per capita and Historical Index of Human Development (HIHD) trended upwards, demonstrating a positive association between EG and HD. High unprecedented levels of EG, which took Korea from a low-income country in the 1960s, to an upper middle-income country by the 1980s, being accompanied by HD generated global interest.⁵ Nevertheless, on closer inspection of HD, the gender equality index (GEI), a subset of HD, remained relatively flat. Gender has been acknowledged formally as a part of the UNDP's HD agenda only since 1995, being tracked and monitored in a similar fashion to HDI. Consequently, it is considered a contemporary theme, lacking comparable research to HDI on a historical, geographical and quantitative basis. So, why is it that we should care about gender matters in EG and HD? Dissecting

³ Selin Dilli, Sarah G. Carmichael, and Auke Rijpma. "Introducing the historical gender equality index." *Feminist Economics* 25, no. 1 (2019): 31-57.
⁴ Leandro Prados de la Escosura, "World human development: 1870–2007." *Review of Income and Wealth* 61, no. 2 (2015): 220-247.
⁵ Chang, "The Political Economy of Industrial Policy in Korea," 131.

HD on a gendered basis dispels and contradicts the assumption that HD benefits are distributed evenly, therefore highlighting the limitations of household level analyses, which tend to overlook the gendered division of labour. The acknowledgement of gender differentials will enable better policymaking to improve the lot of society on a growth and development front, achieving both intrinsic and instrumental goals.

This dissertation will take a quantitative approach looking beyond the relationship of EG and HD growth to understand why gender equality (GE) growth lagged between 1976 to 1996 in Korea. Occupational wage survey (OWS) data collected by the Korea's Ministry of Labour will be used to perform econometric analyses with variables selected based on their relevance in the literature and specificity to understanding Korea. The findings suggest that the gender pay gap (GPG) widening, driven by the impact of marriage and trade unions, hindered GE, accounting for the divergence between GEI and HIHD.

Through analysing the results, an intrinsic and instrumental case for GE can be made, broadening the literature by providing contradicting evidence to the assumed convention that EG leads to HD, which Korea has been applauded for. An additional contribution to the literature is highlighting the need to take a gendered approach to fully begin to understand how the benefits of EG and HD are distributed. Taking a retrospective approach before 1995 means that limitations exist, as gendered HDI was not measured on a country basis and so I use the GEI, a broader measure, which will be discussed in section 3.3. Furthermore, whilst more variables could be analysed, the inconsistency of the data collected through the earlier OWS limits the choice of variables for this type of analysis, leaving room for further research in accounting for the widening GPG in Korea.

2. Historical Background

Following the devastation of the Korean War (1950–1953), Korea was one of the poorest countries in the world.⁶ However, from 1961 to 1996, amongst political turmoil, Korea experienced rapid economic development. Park Chung Hee's military government came to power in 1961, giving priority to economic development, focusing on a combination of private entrepreneurship and state planning.⁷ Park's presidency is often credited with initiating pivotal reforms, which enabled industrialisation, but two major reforms under the Rhee administration (1948-1960), paved the way for Park. Land reform and educational developments were crucial in enabling the capital accumulation and surplus transfer from agriculture to industry, fuelling industrialisation, whilst ensuring minimal political discontent.⁸ This was aided by Korean society's mindset framed by Confucian traditions emphasising education and discipline, also playing a beneficial role.⁹

Korea's growth trajectory, documented through the now widely accepted conceptualisation of developmental states, followed an inward-looking import-substitution industrialisation strategy (ISI), before shifting towards an export-oriented strategy.¹⁰ Under ISI, Korea focused on light manufacturing industries, taking advantage of its low wage, educated and disciplined workforce, whilst accumulating foreign currency reserves.¹¹ This early stage was supported by an upsurge of young, single female labour, concentrated in low-wage industries, consisting of textiles, clothing, electrical machinery equipment.¹² Such industries

⁶ Charles Harvie, and Hyun-Hoon Lee, "Export-led industrialisation and growth: Korea's economic miracle, 1962–1989." *Australian Economic History Review* 43, no. 3 (2003): 256-286, 256.

⁷ Michael J. Seth, "South Korea's economic development, 1948–1996." *Oxford Research Encyclopedia of Asian History*, https://oxfordre.com/asianhistory/display/10.1093/acrefore/9780190277727.001.0001/acrefore-9780190277727-e-271?__prclt=8Aofsid3, published December 19, 2017.

⁸ Seth, "Korea's economic development"; Cristóbal Kay, "Why East Asia overtook Latin America: agrarian reform, industrialisation and development." *Third world quarterly* 23, no. 6 (2002): 1073-1102.

⁹ Harvie and Lee, "Export-Led Industrialisation and Growth," 256.

¹⁰ Chang, "Political Economy of Industrial Policy." 132.

¹¹ Seth, "Korea's economic development"

¹² Susan Horton, *Women and Industrialization in Asia* (London: Taylor & Francis Group, 1995), 175.

had much lower pay versus machinery, transportation, chemical and metals, where male workers were dominant.¹³ This occupational segregation in industries was based on prejudices perpetuated by Confucianism and exacerbated by education differentials. A shift from labour to capital-intensive industries was seen with the rise of wages. The 1960s and 1970s industrialisation push focused on footwear, textiles, steel, heavy equipment, ships, and petrochemicals. The 1980s saw the advent of electronics and automobiles.

The commitment to rapid industrialisation was an active strategy taken by the Park and Chun Doo Hwan (1980-1987) military governments, trading-off welfare and growth (Table 1).¹⁴ Industrialisation was founded on close cooperation between the state and large family-owned conglomerates known as chaebols, which were managed using a carrot and stick approach. For example, annual export targets were often assigned by officials in the Ministry of Trade and Industry, which on fulfilment would provide advantageous benefits such as preferential credit and loans, tax benefits and administrative support inter alia.¹⁵ By the early 1980s, despite the assassination of President Park leaving a political vacuum against a backdrop of an increasingly militant labour movement, President Chun managed to shift gears into focusing on policies supporting economic stabilisation and liberalisation, which proved to be successful, aided by favourable macroeconomic conditions, termed the three lows, referring to a weak dollar, low oil prices and global interest rates.¹⁶

However, the repression and brutality of the military regimes were resisted clandestinely through an organised labour movement, headed by university students, culminating in a watershed moment the summer of 1987.¹⁷ Prior to that,

¹³ Horton, *Women and Industrialization in Asia*, 174

¹⁴ Hyun Hoon Lee, Lee, Minsoo and Park, Donghyun. "Growth policy and inequality in developing Asia: Lesson from Korea." ERIA Discussion Paper Series 2012, <http://eria.org/ERIA-DP-2012-12.pdf>.

¹⁵ Harvie and Lee, "Export-Led Industrialisation and Growth," 261.

¹⁶ Harvie and Lee, "Export-Led Industrialisation and Growth," 264.

¹⁷ Seung Kyung Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?: The Lives of Women Factory Workers in South Korea*, ed. Seung Kyung Kim (New York: Cambridge University Press, 1997), 97-128, 110.

throughout the 1970s, single women led the labour movement through spontaneous acts of rebellion and protests, which were less organised versus male unions.¹⁸ However, in 1987, the uprising of the labour movement could no longer be contained and a surprise announcement by Roh, on accepting the demands for a direct presidential election and constitutional reform, opened the floodgates for increased activism, leading to the number of labour unions formed peaking in 1989.¹⁹ The early 1990s, saw increased trade liberalisation and subsequent structural changes in the economy, compounded by tougher macroeconomic conditions, putting uncertainty into sustaining high growth rates.

Furthermore, greater social demands since Roh's presidency, led to welfare policies being enacted, such as a minimum wage and a national pension program in the private sector.²⁰ The period between 1988 to 1997, is particularly monumental, as it marked the transition from "authoritarianism and autocracy to pluralism and democracy."²¹ Furthermore, a source of national pride originated from Korea's acceptance to join the Organization for Economic Cooperation and Development (OECD), recognition of it being a developed nation on the international stage, which was abruptly marred when the crisis hit in the July of 1997.²²

¹⁸ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 105.

¹⁹ Donghun Cho, and Joonmo Cho. "How do labor unions influence the gender earnings gap? A comparative study of the US and Korea." *Feminist economics* 17, no. 3 (2011): 133-157, 137; Kim, "Militancy and collective action," in *Class Struggle or Family Struggle*, ed. Kim, 111.

²⁰ Lee, Lee, and Park, "Growth Policy and Inequality," 9.

²¹ Lee, Lee, and Park, "Growth Policy and Inequality," 10.

²² Seth, "Korea's economic development."

Table 1: Development of economic and welfare policies in Korea, 1960 - 1997

Periods	Regime	Economic policies	Welfare policies
Authoritarian dictatorship	Park Chung-hee (1961-1979) Chun Doo-hwan (1980-1987)	Exported oriented Industrialisation (Government dominant growth strategy)	Growth First, Distribution Later (Developmental Welfare State or Minimalist Welfare State)
Democratisation	Roh Tae-woo (1988-1992) Kim Young-sam (1993-1997)		Transition period

Source: Data adapted from Lee, H., Minsoo Lee, and Donghyun Park. "Growth policy and inequality in developing Asia: Lesson from Korea." ERIA Discussion Paper Series, <http://eria.org/ERIA-DP-2012-12.pdf> (2012).

3. Literature Review

This section reviews the related literature discussing the interrelationships between Gross Domestic Product (GDP), Historical Index of Human Development (HIHD) and the Gender Equality Index (GEI).

3.1 HDI and HIHD

The HDI was introduced within the framework of the UNDP's Human Development Report in 1990.²³ Its purpose was to offer a credible alternative to conventional metrics like GDP and Gross National Product (GNP), which were criticised for overlooking the multi-dimensional aspects of HD that Sen's human capabilities approach emphasised.²⁴ The original measure of HDI comprised of the

²³ UN, "Human Development Report 1990," UN, <https://www.undp.org/publications/human-development-report-1990#:~:text=July%209%2C%201990,sum%20total%20of%20human%20endeavour>, published July 9, 1990.

²⁴ UN, "Human Development Report 1990.," Sudhir Anand and Amartya Sen. "Gender Inequality in Human Development: Theories and Measurement," Oxford University, <https://ora.ox.ac.uk/objects/uuid:2c87be7b-3113-4d75-a392->

following variables: (1) Life expectancy at birth: the average number of years a new-born could expect to live, (2) Educational attainment: measured through adult literacy rate (the percentage of adults aged 15 and older who could read and write), and the gross enrolment ratio, representing the combined primary, secondary, and tertiary enrolment rates and (3) Gross Domestic Product (GDP) per capita: representing the average income or output per person in a country, adjusted for purchasing power parity.²⁵ Due to the UNDP's index only being calculated since 1990, Prados de la Escosura's HIHD will be used, which is essentially the HDI index, but extended historically. The non-linearly transformed values of life expectancy (LEB) and education (EDU) and the adjusted per capita income (UNY), are combined to express the HIHD as: $HIHD = LEB^{1/3} + EDU^{1/3} + UNY^{1/3}$.²⁶

3.2 The relationship between HIHD and GDP

HD and EG are intricately interconnected in a dual causal process, as neatly outlined in two chains by Ranis and Stewart.²⁷ Firstly, EG plays a pivotal role in fostering sustained HD progress (chain A). Secondly, advancements in HD contribute to fundamental intrinsic development goals, but also serve as a vital input into EG over time (chain B). Observing the trends of GDP per capita and HIHD, as per figure 1, HIHD grew at a slower pace compared to GDP per capita in Korea, but nevertheless they demonstrate a positive correlation. In agreement with scholars and the Korean government's growth first, distribution later strategy, this dissertation will assume that Korea's growth was predominantly focused on Chain A pathways.²⁸

5b78390df9a1/download_file?file_format=application%2Fpdf&safe_filename=sudhir_anand_amar_tya_sen.pdf&type_of_work=Report, accessed July 13, 2023.

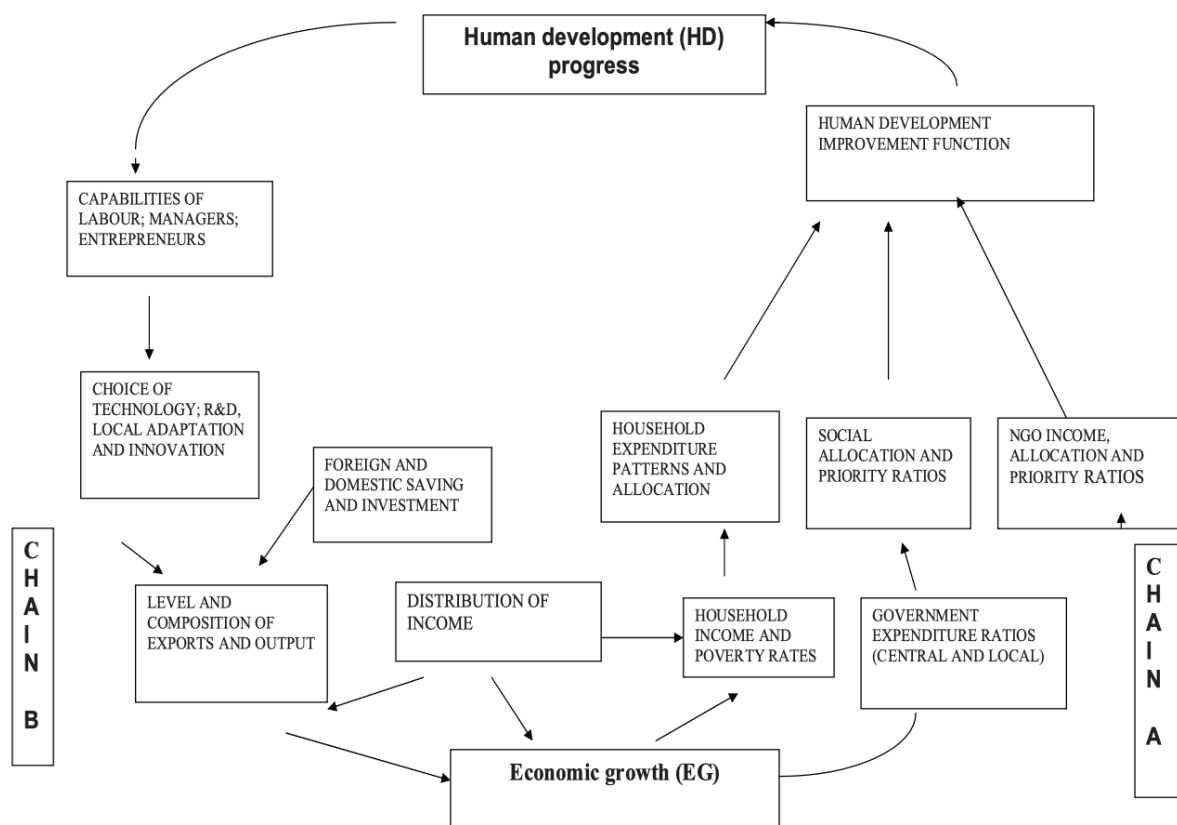
²⁵ UN, "Human Development Report 1990,"

²⁶ Prados De La Escosura, "World Human Development," 227.

²⁷ Gustav Ranis, and Frances Stewart. "Successful transition towards a virtuous cycle of human development and economic growth: Country studies." Yale University Economic Growth Center Discussion Paper 943 (2006): 1-32.

²⁸ Lee, Lee, and Park, "Growth Policy and Inequality," 7.

Figure 2: A diagram illustrating two-directional causality of EG and HD



Source: Ranis, Gustav, and Frances. Stewart. "Dynamic Links Between the Economy and Human Development." In *Dynamic Links Between the Economy and Human Development*. New York: United Nations, 2005.

Chain A (EG leads to HD) describes the process whereby GDP contributes to HD through the channels of household incomes, government expenditure, community organisations and non-governmental organisations (NGOs). HD is driven by households' incomes which in turn determine expenditure on HD enhancing items such as food, water, education, and health. According to Behrman as the incomes of the poor increase, a higher proportion of their earnings naturally get allocated to HD-related expenses.²⁹ Corroborating empirical evidence to support improved HD expenditure with increased and more evenly distributed EG comes from Birdsall, Ross and Sabot who found low-income inequality to be a contributing factor to EG in East Asia.³⁰ However, another important determinant in addition

²⁹ Jere R. Behrman, "Measuring the effectiveness of schooling policies in developing countries: Revisiting issues of methodology." *Economics of education review* 15, no. 4 (1996): 345-364.

³⁰ Nancy Birdsall, David Ross, and Richard Sabot. "Inequality and growth reconsidered: lessons from East Asia." *The World Bank Economic Review* 9, no. 3 (1995): 477-508.

to income levels and distribution is the household head controlling expenditure. Extensive studies demonstrate gendered differences persisting on a household level. Women having greater control over household expenditure positively impacts HD expenditures, through greater efficiency of healthcare usage and higher prioritisation of education for their children.³¹ Supporting evidence comes from Sub-Saharan Africa where children of female empowered households saw improved nutritional status and reduced occurrence of anaemia.³²

HD is also contingent upon government resource allocation, on both a central and local level. The enhancement of HD depends on total public sector expenditure, the amount directed towards HD sectors, and the specific distribution within those sectors. Local governments tend to favour HD allocations more than central governments.³³ Moreover, gendered differences within policymaking have led to differentiated outcomes, as shown by a randomised experiment in India by Chattopadhyay and Duflo.³⁴ Analysing the public services delivered by 265 village councils, their study demonstrates that infrastructure investments are based on the needs of each gender, dependent on the leaders' respective genders.³⁵ Similarly, Besley and Case established a link between worker compensation and child support enforcement policies and the number of women in parliament. Such policies were introduced in states where more women were in parliament.³⁶ Therefore, a lack of representation of women in politics, can worsen gender

³¹ Nancy Birdsall et al. "Underinvestment in Education: How Much Growth has Pakistan Foregone?[with Comments]." *The Pakistan Development Review* 32, no. 4 (1993): 453-499.

³² Aaron Christian et al. "Women's Empowerment, Children's Nutritional Status, and the Mediating Role of Household Headship Structure: Evidence from sub-Saharan Africa." *Maternal and child nutrition* 19, no. 3 (2023): 1-13.

³³ Jeni Klugman, "Decentralisation: A survey of literature from a human development perspective." UNDP Human Development Report Office, <https://deliverypdf.ssrn.com/delivery.php?ID=409065022090123088004069072087124107100012095020070029025083069086096071094098076085122016002103042099002112084009029091121021051037093012023084065090003105030018111081085052073125023024126023117030005016126124121110102109121027071006108028027101097126&EXT=pdf&INDEX=TRUE>, published September 1, 1994; Ranis, Gustav, and Frances Stewart. "Decentralisation in Indonesia." *Bulletin of Indonesian Economic Studies* 30, no. 3 (1994): 41-72.

³⁴ Raghavendra Chattopadhyay, and Esther Duflo. "Women as policy makers: Evidence from a randomized policy experiment in India." *Econometrica* 72, no. 5 (2004): 1409-1443.

³⁵ Chattopadhyay and Duflo, "Women as policy makers."

³⁶ Timothy Besley, and Anne Case. "Unnatural experiments? Estimating the incidence of endogenous policies." *The Economic Journal* 110, no. 467 (2000): 672-694.

inequality through underinvestment in female needs, presenting a case for HDI and GEI divergence.

Non-Governmental Organisations (NGOs) and civil society activities traditionally focused strongly on HD objectives, through undertaking projects to raise the income of the poor and invest in areas like schools, nutrition, and health. However, mixed views exist on whether NGOs can narrow the gender gap to empower women. Examples of female empowerment come from cross-country studies demonstrating increased household incomes through microfinance loans made to women and increased female education.³⁷ The latter can be particularly powerful generationally, as children's health and education are more closely associated with their mother's education than father's.³⁸ However, the evidence is inconclusive. Microfinance to women has also been shown to exacerbate poverty through increased indebtedness.³⁹ Furthermore, the picture is complicated further when cultural norms come into play. NGOs holding Western-ideals centric, have reportedly been unpopular where alternative opposing conceptions of womanhood exist, such as in Islamic states.⁴⁰ Moreover, NGOs at best play a supplementary role in most contexts, therefore there are limitations upon relying on them to progress the HD agenda and even more so on the gender front.

Contrastingly, Chain B reasons that HD is the driver of EG. The dependent pathways, while naturally distinct from Chain A, exhibit familiarity, as many growth theories, such as the Solow model, use human capital as an input.

³⁷ Vilma Seeberg et al. "Frictions that activate change: dynamics of global to local non-governmental organizations for female education and empowerment in China, India, and Pakistan." *Asia Pacific Journal of Education* 37, no. 2 (2017): 232-247; Rana Ejaz Ali Khan, and Sara Noreen. "Microfinance and women empowerment: A case study of District Bahawalpur (Pakistan)." *African Journal of Business Management* 6, no. 12 (2012): 4514-4521.

³⁸ Paul Schultz, "Why governments should invest more to educate girls." *World development* 30, no. 2 (2002): 207-225.

³⁹ Banerjee, Subhabrata Bobby, and Laurel Jackson. "Microfinance and the business of poverty reduction: Critical perspectives from rural Bangladesh." *Human relations* 70, no. 1 (2017): 63-91.

⁴⁰ Masooda Bano, "Empowering women: More than one way?." *Hagar* 9, no. 1 (2009): 5-23; Omayma Abdel-Latif, and Ottaway, Marina, "Women in Islamist Movements: Toward an Islamist Model of Women's Activism," Carnegie Endowment for International Peace, <https://policycommons.net/artifacts/977272/women-in-islamist-movements/1706399/>, accessed August 15, 2023

Contemporary growth theories are founded on education and research and development (R&D), endogenising technical progress. For example, Lucas proposes that a higher level of education in the workforce leads to increased capital productivity because educated individuals have a higher probability to deliver innovation, benefiting overall productivity, resulting in EG.⁴¹ Another perspective suggests that technical progress relies on the level of R&D in the economy, with education playing a crucial role in contributing to R&D and facilitating interactive learning.⁴²

Increased levels of HD through greater educational attainment is linked to higher earnings, with the rate of return varying with educational level.⁴³ For example, Deraniyagala's research examined Sri Lanka's clothing and engineering sectors, illustrating a positive correlation between the educational levels of workers and entrepreneurs and the pace of technical advancements within firms.⁴⁴ However, despite the clear evidence of beneficial outcomes for all, there persists a perplexing divergence in educational investment based on gender, which again differ based on cultural gendered role definitions.⁴⁵ For example, in societies where men are typically the breadwinners, they are the prioritised recipients of both nutritional and educational investment, which has a notable negative knock-on effect on female HD.⁴⁶ Besides cultural explanations, practical issues stemming from infrastructure problems in developing countries, such as distance to school, also

⁴¹ Robert E Lucas Jr., "On the mechanics of economic development." *Journal of monetary economics* 22, no. 1 (1988): 3-42.

⁴² Paul M. Romer, "Endogenous technological change," *Journal of political Economy* 98, no. 5, Part 2 (1990): 71-102.; Gene M. Grossman, and Elhanan Helpman, "Trade, knowledge spillovers, and growth," *European economic review* 35, no. 2-3 (1991): 517-526.

⁴³ George Psacharopoulos, "Returns to investment in education: A global update," *World development* 22, no. 9 (1994): 1325-1343; Paul Schultz, "Education investments and returns," *Handbook of development economics* 1 (1988): 543-630; John Strauss, and Duncan Thomas, "Human resources: Empirical modeling of household and family decisions," *Handbook of development economics* 3 (1995): 1883-2023.

⁴⁴ Sonali Deraniyagala, "The impact of technology accumulation on technical efficiency: an analysis of the Sri Lankan clothing and agricultural machinery industries," *Oxford Development Studies* 29, no. 1 (2001): 101-114.

⁴⁵ Harold Alderman, and Elizabeth M. King. "Gender differences in parental investment in education." *Structural Change and Economic Dynamics* 9, no. 4 (1998): 453-468.

⁴⁶ Tassawar S. Ibraz, Anjum Fatima, and Naheed Aziz, "Uneducated and Unhealthy: The Plight of Women in Pakistan [with Comments]," *The Pakistan Development Review* 32, no. 4 (1993): 905-915.

negatively affects only girls' enrolment according to Alderman et al, leading to poorer HD outcomes for females once again.⁴⁷

HD is shaped directly by health and nutrition, affecting EG through labour productivity, particularly among disadvantaged individuals.⁴⁸ Bloom, Canning and Sevilla found health to be an essential input for EG on aggregate.⁴⁹ Similarly, a longitudinal study in Chile concluded that providing nutritional supplements to prevent malnutrition in children would yield productivity benefits six to eight times the cost of the intervention.⁵⁰ Likewise with education, despite a wealth of evidence showcasing the benefits of investing in health and nutrition for both HD and EG, the perpetuation of gender disparities remains enigmatic. Social factors, including the extent of women's exclusion from education and public involvement, directly influence their understanding of health issues and their prevention and treatment.⁵¹ East Asian and Indian studies demonstrate the discrimination of nutrition and immunisation, resulting in excess mortality of girls.⁵² Therefore, whilst a positive relationship between health and HD exists, on a gendered basis, this message is diluted.

On balance, HD in the form of education and health improvements, whilst being pivotal, cannot transform an economy alone. The extent and success of investments, from both domestic and international sources, coupled with the broader policy landscape, also play significant roles in determining economic outcomes. Undoubtedly, the HDI adeptly captures additional facets of HD that

⁴⁷ Harold Alderman, Peter F. Orazem, and Elizabeth M. Paterno, "School quality, school cost, and the public/private school choices of low-income households in Pakistan, *Journal of Human resources* (2001): 304-326.

⁴⁸ Jere R. Behrman, "The economic rationale for investing in nutrition in developing countries," *World Development* 21, no. 11 (1993): 1749-1771.

⁴⁹ David E. Bloom, David Canning, and Jaypee Sevilla, "The effect of health on economic growth: a production function approach," *World development* 32, no. 1 (2004): 1-13.

⁵⁰ Marcelo Selowsky, and Lance Taylor. "The economics of malnourished children: an example of disinvestment in human capital," *Economic Development and Cultural Change* 22, no. 1 (1973): 17-30.

⁵¹ Carol Vlassoff, "Gender differences in determinants and consequences of health and illness," *Journal of health, population, and nutrition* 25, no. 1 (2007): 47-61.

⁵² Rohini P. Pande, "Selective gender differences in childhood nutrition and immunization in rural India: the role of siblings," *Demography* 40, no. 3 (2003): 395-418.

GDP overlooks. However, as the gender-related instances highlighted earlier emphasise, a critical limitation lies in its failure to unveil the varying levels of socio-economic progress experienced by distinct individuals and groups within a nation.⁵³ These disparities can be rooted in factors such as race, gender, and ethnicity, inter alia. This recognition has spurred the expansion of the HDI and has prompted calls for more comprehensive examinations of HD dynamics. Whilst the UN's HD reports have always been conscious of gender, it is only since 1995, that the UNDP introduced two new measures: the Gender-Related Development Index (GDI) and the Gender Empowerment Measure (GEM) to tackle gender as a standalone issue.

3.3 GEI

In the current state of affairs, adopting a gender-specific perspective when delving into EG and HD may appear commonplace. However, the fact is that such conceptualisation and measures started only from 1995, meaning there is little overlap with the data set. The most well-known measures such as the UNDP's GDI and its replacement, the Gender Inequality Index (GII) and the OECD's Social Institutions and Gender Index (SIGI), do not extend historically for my purposes and to my knowledge, there exists no gendered equivalent of the HDI for Korea. As a result, Carmichael, Dilli, and Rijpma's study which constructs a Gender Equality Index (GEI) is helpful in offering a retrospective, international regional comparison of gender inequality.⁵⁴ This composite measure centres on gender disparities in societal outcomes linked to the dimensions mentioned earlier. The authors' choice of the four indicators shaping the GEI was influenced by data availability, focusing on examining gender disparities mentioned in existing literature. A higher GEI value corresponds to diminished gender inequality. Whilst the GEI includes more variables and isn't a direct parallel to the HIHD on a gendered basis, it suffices for this dissertation in providing a long-term perspective of gender dynamics in Korea.

⁵³ Shalendra D. Sharma, "Making the human development index (HDI) gender-sensitive," *Gender & Development* 5, no. 1 (1997): 60-61.

⁵⁴ Carmichael, Dilli, and Rijpma, "Gender Inequality since 1820."

Table 2. GEI indicators, coverage and summary statistics

Dimension	Indicator	Range	Mean (s.d.)	Countries
Health	Life expectancy ratio	0.87-1.66	1.08 (0.05)	130
	Sex ratio	0.83-1.23	0.97 (0.02)	130
Socio-economic standing	Average years schooling ratio	0.03-1.46	0.73 (0.26)	130
	Labour force participation ratio	0.02-1.29	0.6 (0.24)	130
	Inheritance	0-1	0.56 (0.50)	159
Household	Marriage age ratio	0.61-0.98	0.85 (0.07)	129
Political	Parliament seats ratio	0-0.95	0.06 (0.10)	130
	Suffrage	0-1	0.35 (0.48)	152

Source: Adapted from Dilli et al. "Introducing the Historical Gender Equality Index." *Feminist economics* 25, no. 1 (2019): 31–57, 41.

The first indicator measured in the GEI is health. This bears significant importance, as the practice of sex-selective abortions and the neglect of medical care puts the survival of females at risk. It goes without saying that there is an intrinsic need to ensure equal opportunities for women to lead long and healthy lives. Secondly, socio-economic standing is considered, looking at the capability of women to achieve economic independence. This also holds intrinsic significance and has indirect effects on their roles within households, beyond traditional roles like marriage and childbearing.⁵⁵ Beyond impacting their personal well-being, women's socio-economic standing influences the welfare of their children, as mentioned earlier. Lastly, in most countries, men wield more influence in political decision-making processes, stemming from their overrepresentation in public office. Addressing these gender imbalances is pivotal for advancing gender equality, HD and EG.

⁵⁵ Amartya Sen, "Development as capability expansion," *The community development reader* 41 (1990): 319-327.

3.4 How gender inequality affects HD and EG

Since 1995 gender inequality became more of a focal point in discussions on HD and EG. Subsequently, academic research focused on understanding how gender inequality affects overall development outcomes and economic growth has been produced. Bandiera and Natraj posit that while cross-country studies might not establish a direct causal link between gender inequality and growth, they do offer valuable collective insights.⁵⁶ They contend that investigating micro-level studies, which unveil the underlying mechanisms through which gender inequality influences development, holds utility for policy formulation.⁵⁷ As anticipated from section 3.2, education and health are key drivers examined on the HD side and a wealth of literature exists analysing the effect of gender inequality and its repercussions. One prominent example is Goldin's seminal paper on the quiet revolution, which uncovers a transformative shift for women, from mere secondary household income earners, to holding occupations and curating careers as part of one's fundamental identity and societal worth.⁵⁸

The non-gendered correlation between human capital, income, and growth across countries stems from Mankiw's inaugural paper, which spurred research separating the impact of male and female educational attainment and the relationship between gender inequality in schooling and EG.⁵⁹ This is crucial to highlight, as my dissertation questions the assumed directionality and the assumption that EG leads to improvements in HD and GE. In fact, research shows that the reverse also demonstrates a positive association ($GE \rightarrow HD \rightarrow EG$), suggesting both instrumental and intrinsic reasons to improve GE can exist without trade-offs. For example, Hill and King examine the correlation between women's education and the gender differentials in primary and secondary school enrolment and impact on GDP per capita spanning from 1975 to 1985. Their

⁵⁶ Oriana Bandiera, and Ashwini Natraj, "Does gender inequality hinder development and economic growth? Evidence and policy implications," *The World Bank Research Observer* 28, no. 1 (2013): 2-21, 2.

⁵⁷ Bandiera and Natraj, "Does gender inequality hinder development," 2.

⁵⁸ Claudia Goldin, "The quiet revolution that transformed women's employment, education, and family," *American economic review* 96, no. 2 (2006): 1-21.

⁵⁹ Gregory Mankiw, David Romer, and David N. Weil. "A contribution to the empirics of economic growth." *The quarterly journal of economics* 107, no. 2 (1992): 407-437.

findings indicate a significant and meaningful correlation.⁶⁰ Controlling for capital stock, female education level, and labour force size, a lower female/male enrolment ratios (below 0.75) is linked to up to 25 per cent lower GNP compared to countries with lower gender inequality.⁶¹ This is corroborated by findings from Pakistan, where the income lost due to diminished female primary school enrolment in 1960 (13 per cent for females versus 26 per cent for males) was estimated to contribute to over 15 per cent of the per capita income loss by 1985.⁶² Similarly, Knowles et al. found a negative association between the gender gap and income. Keeping male educational attainment constant, a decline in female educational achievement was connected to a reduction in steady-state income.⁶³

Further literature examining economic outcomes and growth differentials as a result of gender inequality support my hypothesis and direction. Generally, from a labour market perspective, economic inequality is measured through gender gaps in labour force participation (LFP), occupational structure and wages. Tzannatos studies female LFP, occupational segregation and GPG to compute efficiency losses, concluding that eliminating occupational segregation would reduce the GPG and boost GDP.⁶⁴ Additionally, Klasen and Lamanna's cross-country study produced negative correlations between gender gaps in LFP and EG over 1960-1990.⁶⁵ Contrastingly, Seguino's influential work reveals that export-oriented countries with female majority workforces, exploit larger GPGs and enjoy faster GDP growth across 1975-1995.⁶⁶ Nevertheless, given the evidence that improvements in GE can result in EG, it begs the question whether prioritisation

⁶⁰ Anne M. Hill, and Elizabeth King. "Women's education and economic well-being." *Feminist economics* 1, no. 2 (1995): 21-46.

⁶¹ Hill and King, "Education and economic well-being," 22.

⁶² Birdsall, Ross, and Sabot, "Underinvestment in Education," 453.

⁶³ Stephen Knowles, Paula K. Lorgelly, and Dorian Owen, "Are educational gender gaps a brake on economic development? Some cross-country empirical evidence," *Oxford economic papers* 54, no. 1 (2002): 118-149.

⁶⁴ Zafiris Tzannatos, "Women and labor market changes in the global economy: Growth helps, inequalities hurt and public policy matters," *World development* 27, no. 3 (1999): 551-569.

⁶⁵ Stephan Klasen, and Francesca Lamanna, "The impact of gender inequality in education and employment on economic growth: new evidence for a panel of countries," *Feminist economics* 15, no. 3 (2009): 91-132.

⁶⁶ Stephanie Seguino, "The effects of structural change and economic liberalisation on gender wage differentials in South Korea and Taiwan," *Cambridge Journal of Economics* 24, no. 4 (2000): 437-459.

of GE improvements by such countries could have delivered the same EG results, without having to sacrifice the welfare of women as a trade-off for EG.

3.5 GPG and gender inequality

Table 3 presents a breakdown of the constituent variables for each index. There is an overlap in certain indicators between HIHD and GEI, with life expectancy and years of schooling being directly measured by both. GEI is taken as a proxy for gendered HIHD for this dissertation, whilst noting greater inclusiveness due to a broader array of variables measured. Nonetheless, I contend that the GEI variables are interconnected, directly and indirectly by the GPG, contributing to the GDP per capita component through income. Thus, the linkage between GPG, GEI and GDP is clarified, leading to the hypothesis that a widening GPG accounts for GEI lagging HIHD and GDP per capita growth. The remainder of this literature review will build the case for this interconnectivity.

Table 3: A comparison of the components of HIHD and GEI

HIHD	GEI
Health: Life expectancy	Health: Life expectancy
Education: Adult literacy, Enrolment rates	Education: Av. years of schooling
GDP per capita	Labour force participation ratio
	Inheritance
	Marriage age
	Parliament seats
	Suffrage

Sources: HIHD: Prados de la Escosura. "World Human Development: 1870-2007," GEI: Dilli et al. "Historical Gender Equality Index."

It is widely researched and accepted that gender imbalances in education and LFP ratios contribute negatively to enlarging the GPG, reducing incomes for households and hindering GDP per capita growth. Tzannatos, Klasen and Lamanna, Cavalcanti and Tavares all find that reductions in the GPG can increase GDP through improving LFP ratios and minimising occupational segregation.⁶⁷

⁶⁷ Tzannatos, "Women and Labor Market Changes," Klasen and Lamanna, "Impact of Gender Inequality," Tiago Cavalcanti, and José Tavares, "The output cost of gender discrimination: A model-based macroeconomics estimate," *The Economic Journal* 126, no. 590 (2016): 109-134.

Cross-country studies have found that health outcomes of individuals is determined by income. A reduction in income inequality, has led to improvements in life expectancy.⁶⁸ To recapitulate the relevant literature in section 3.2, female-led households see greater expenditures and investment towards health and education.⁶⁹ Combining this with Sen's co-operative conflict model, which finds bargaining power being linked to greater financial contribution to household prosperity, the presence of a GPG reduces women's intrahousehold powers, which in turn affects essential expenditures such as healthcare.⁷⁰ Inheritance is not directly affected by the GPG, but is an important measure of economic well-being through wealth. GPG affects current income inequality, whereas wealth inequality encompasses accumulated historical and structural disparities. Given women have been historically disadvantaged through inheritance matters, the addition of a GPG exacerbates the wealth gap. Sierminska et al. and Bonnet et al. find wealth gaps of 45 per cent and 16 per cent, favouring men in Germany and France respectively, supported by Ferraro et al. estimating a gender wealth gap of approximately 45% in Estonia, which coincides with the largest GPG in EU.⁷¹

Marriage incidence and marriage age, sources of societal contention, play a significant role in understanding the GPG. Becker's seminal paper on household specialisation and division of labour put into motion the idea that within couples, one partner will specialise in domestic duties while the other focuses on market-based work, earning a salary.⁷² A plethora of research exists based on Becker's theory, demonstrating that the GPG may stem from marital and parental status. Using data from U.S Current Population Surveys, Blau and Beller found that, *ceteris paribus*, married men earn more than unmarried men, and in both cases,

⁶⁸ Ichiro Kawachi, and Bruce P. Kennedy. "The relationship of income inequality to mortality: does the choice of indicator matter?," *Social science & medicine* 45, no. 7 (1997): 1121-1127.

⁶⁹ Christian et al. "Women's Empowerment, Children's Nutritional Status," 1-13.

⁷⁰ Amartya Sen, "Gender and cooperative conflicts" in *Persistent Inequalities*, ed. Irene Tinker (New York: Oxford University Press, 1990), 123-149.

⁷¹ Simona Ferraro, Jaanika Meriküll, and Karsten Staehr, "Minimum wages and the wage distribution in Estonia," *Applied Economics* 50, no. 49 (2018): 5253-5268, Gogoladze, "Gender income gap over life-cycle," in *Gender income gap over life-cycle*, ed. Gogoladze, 1.

⁷² Gary S. Becker, "Altruism in the Family and Selfishness in the Market Place," *Economica* 48, no. 189 (1981): 1-15.

earn more than their female counterparts.⁷³ Headlee and Elfin assert that as much as 30 per cent of the total US GPG can be attributed solely to men's marital status.⁷⁴ On the other hand, it is also quite common to observe married women experiencing a much larger GPG than single women, in-line with Becker's theory.⁷⁵ Lastly, political aspects of GEI, which are measured by parliament seats and suffrage, exhibit a more nuanced connection to GPG. King and Leigh analyse GPG changes as an indicator of shifting societal norms to assess if women's electoral prospects have evolved in-line with changing social norms over the last century in Australia.⁷⁶ Their findings indicate that societal perceptions regarding gender equality closely mirror the trajectory of the GPG.⁷⁷ Lastly, the Fawcett Society found that 84% of women in British red wall constituencies take into account proposed GPG policies when casting votes in a general election.⁷⁸

3.6 Contribution

My contribution to the literature is quantitative analysis, using individual level data to contend the widely accepted directional relationship of EG and HD growth for Korea during 1976-1996 and to provide an explanation why. I demonstrate that GE lagged due to the GPG enlarging, driven by the impact of marriage and trade unions disproportionately affecting women. Previous research in this area by Kim is extremely valuable on the qualitative front, as she immerses herself as a female worker in an export-processing zone, collecting valuable daily insights through surveys etc.⁷⁹ However, her results are location and time specific, such that generalisations and quantification across years is difficult. Given the richness of my data set, I can use econometric methods to show the time trend of GPG and

⁷³ Francine D. Blau, and Andrea H. Beller, "Trends in earnings differentials by gender, 1971–1981," *ILR Review* 41, no. 4 (1988): 513-529.

⁷⁴ Margery Elfin, and Sue Headlee, *The Cost of Being Female*. (USA: Bloomsbury Publishing, 1996), 7.

⁷⁵ Becker, "Altruism in the Family."

⁷⁶ Amy King, and Andrew Leigh, "Bias at the ballot box? Testing whether candidates' gender affects their vote," *Social Science Quarterly* 91, no. 2 (2010): 324-343.

⁷⁷ King and Leigh, "Bias at the ballot box?," 324.

⁷⁸ Fawcett Society, "The Gender Pay Gap: A crucial factor in voting intention," Fawcett Society, <https://www.fawcettsociety.org.uk/news/red-wall>, published January 1, 2023.

⁷⁹ Seung-kyung Kim, *Capitalism, patriarchy, and autonomy: Women factory workers in the Korean economic miracle*. (New York: City University of New York, 1990), 1-280.

further analyse gendered differentials of life events such as marriage and impact of trade unions to understand their respective impact on the GPG. Thus, I build upon Kim's qualitative research, strengthening it with quantitative evidence.

Berger, Groothuis and Jeon's study, looks at the GPG over 1980 to 1991, computing the mean of male and female wages, and decomposing them to different contributing factors. However, this is still on an integrated level, but by taking into account individual variation, I hope to demonstrate another perspective their methodology cannot.⁸⁰ The scarcity of quantitative studies on the gendered impact of trade unions and GPG generally highlight a gap in the literature, as findings have been inconclusive or lacking because of insufficient interest. Furthermore, whilst GPG has been studied as a prominent cause of GE, there are to my best knowledge, no studies on Korea that hypothesise it as being the main cause of gender inequality during industrialisation. The linkage of GE, HD and EG through GPG is unique, as it covers broad macro level topics, whilst remaining specific, linking both the macro and micro picture. Consequently, I highlight the need and justification for an intrinsic and instrumental case for GE, which has implications for policymakers who often trade-off female welfare for EG, assuming a zero-sum game. Lastly, my findings emphasise the importance of a gendered approach when analysing the distributional benefits of EG and HD, which should also be considered within the context of longer-term generational implications.

4. Data and Methodology

4.1 Data

The data being used in this dissertation originates from the OWS which has been conducted annually by the Ministry of Labour in Korea since 1971. The OWS is a pooled cross-section and time series data set on individual workers, including their earnings, working hours, educational background, labour market experience, occupation, industry, and geographical region. It is the most comprehensive and

⁸⁰ Mark C. Berger, Peter Groothuis, and Philip Jeon, "The changing gender wage gap in Korea," *Applied economics letters* 4, no. 9 (1997): 579-582.

representative source of labour market data available for Korea. The survey adopts a stratified random sampling approach to select establishments with a workforce of at least ten employees. However, the self-employed, workers in small enterprises, temporary workers, family workers, and those in the public sector are excluded, making the survey representative of approximately half of South Korea's non-agricultural labour force.

Each year, random samples are drawn from the original surveys. Initially, the surveys covered all industries until 1986, after which agriculture, forestry, hunting, and fishing were excluded. Despite this modification in the sampling process, there is no significant impact on the types of nonfarm enterprises covered by the survey. In this dissertation, due to data availability and consistency issues, the following years have been selected for use: 1976, 1980, 1983, 1986, 1989, 1992, 1994 and 1996. The labour income variable, denoted PMSAL, is the monthly salary at the primary location of work for an individual. The other variables are as follows: sex (SEX), education (EDUC), which is split into five categories of primary school, middle school, high school, 2-year college and 4-year college, marital status (MARTL) and union membership (UNION).

Adjustments needed to be made for marital status, in years 1976 and 1980, as all years after those, categorised individuals as either single or married. In 1976, marital status was classified in a more granular way, such that individuals could be single, married, widowed and divorced or separated. The data was adjusted so that individuals that were in the last two groups (widowed and divorced or separated) were added to the married category, as they were deemed to have been married at one point in their lives. The same approach was applied in 1980, where the categorisation was reduced to single, married, or other, suggesting that the Ministry of Labour was also streamlining the process, leading to individuals in further years being either single or married. The union variable appears in the data set from 1989, measuring membership in a trade union. This is because in the summer of 1987, the Korean government finally conceded to democratic rule,

leading to the labour movement gaining strength in response to decades-long repression, resulting in the official recognition of unions.

The main advantage of this panel data is that the observations are on an individual level, across a long period, with relatively consistent collection methodologies, allowing trends to be analysed. Furthermore, a large sample is taken on a yearly basis, where the proportions of surveyed individuals remain fairly constant, suggesting limited biases. Whilst the OWS has been used in a few other studies, extensive analysis on how the GPG can be explained are yet to be performed. The nature of the data being individual is advantageous, as disaggregated results here can be used to understand the trends, variations and behaviours within subgroups. This is of interest, as it may enable the validation of women's qualitative experiences during this time from studies such as Kim's.⁸¹

However, limitations exist from a sampling standpoint, where the individuals across the data set are not tracked but sampled randomly from the original surveys for each year. However, checking the summary statistics, proportions and number of individuals remains relatively constant, suggesting the sampling is indeed random allowing unbiased trends to be drawn. Secondly, pre-1986, the occupational wage survey covers all industries. However, after 1986, the survey excludes agriculture, forestry, hunting, and fishing. This alteration in the sampling process does not seem to result in a notable shift in the categories of nonfarm businesses included in the survey. The design of the survey omits self-employed, unemployed and workers of small companies in addition to limiting earnings being based on primary occupation labour income only, excluding other income generated and income contributions from other family members. Lastly, the number of observations is not consistent across the years. However, given that random sampling was used, the observations should be representative of the underlying survey each year and provide a sufficient representation of the Korean

⁸¹ Seung-kyung Kim, *Capitalism, patriarchy, and autonomy: Women factory workers in the Korean economic miracle*. (New York: City University of New York, 1990), 1-280.

labour force at the time, that the general trends can be observed to a degree of accuracy.

4.2 Methodology

I will use econometric tools to capture the relationship between the aforementioned independent variables and the GPG across 1976-1996 to support the hypothesis that the increasing GPG prevented GEI from catching up with HDI and GDP per capita growth. Furthermore, the GPG increasing, worked in Korea's favour in accelerating export-oriented industrialisation, leading to increasing GDP per capita.

The regressions can be split into two parts. Firstly, understanding the GPG trend across 1976-1996. Secondly, I explore how the independent variables can explain the dependent variable within each of the years.

i) Regression equation for part i:

$$(1) \quad y_i = \alpha + \beta_1 SEX_i + \beta_2 YEAR_i + \beta_3 SEX_i \times YEAR_i + \varepsilon_i$$

Where y_i is the dependent variable $PMSAL_i$, monthly salary. SEX_i is a dummy variable, where males are assigned the value 0 and females 1. $YEAR_i$ is also a dummy variable taking values of 1976, 1980...1996. $SEX_i \times YEAR_i$ is an interaction term and ε_i is the residual. The coefficient of interest is β_3 , which measures the change of GPG to the base year of 1976. The GPG is defined as the difference between males and females pay.

ii) Regression equations for part ii:

$$(2) \quad y_i = \alpha + \beta_1 SEX_i + \beta_2 MARTL_i \times \beta_3 SEX \times MARTL_i + \beta_4 EDUC_i + \varepsilon_i$$

$$(3) \quad y_i = \alpha + \beta_1 SEX_i + \beta_2 UNION_i \times \beta_3 SEX \times UNION_i + \beta_4 EDUC_i + \varepsilon_i$$

Equation (2) is generated to understand the impact of marital status on GPG, controlling for education.

Where y_i is the dependent variable $PMSAL_i$, monthly salary. SEX_i is a dummy variable, where males are assigned the value 0 and females 1. $MARTL_i$ is also a dummy variable taking values of 0 and 1 for single and married respectively. $EDUC_i$, the variable denoting educational level of the observed individual, takes five different values: primary school, middle school, high school, 2-year college and 4-year college. SEX_i is a dummy variable, where males are assigned the value 0 and females 1. $SEX_i \times MARTL_i$ is an interaction term and ε_i is the residual. The regressions are run for each of the mentioned years. Equation (3) is for understanding the impact of trade unions on GPG, controlling for education.

Where y_i is the dependent variable $PMSAL_i$, monthly salary. SEX_i is a dummy variable, where males are assigned the value 0 and females 1. $SEX_i \times UNION_i$ is an interaction term. The dummy variable $UNION_i$ is assigned 0 and 1, denoting union members and non-union members respectively. $EDUC_i$, the variable denoting educational level of the observed individual, takes five different values: primary school, middle school, high school, 2-year college and 4-year college. The regressions are run from 1989 and on a yearly basis thereafter, as this is when data on union membership starts to be collected. It is assumed that unions being recognised officially and not being illegal had a significant impact on the GPG. ε_i is the residual.

5. Regression results

5.1 GPG trend from 1976-1996

Table 4. shows the trend of the GPG across 1976 to 1996. It demonstrates that across this time period, women on average earned KRW 44,550 less than men. Generally, across each year included, monthly salaries increased significantly. For example, in 1980, monthly salaries increased by KRW 79,610, compared to 1976, but the GPG grew by KRW 48,886. As seen by the interaction term results, the

GPG increased consistently year on year for women at a 1% significance level, resulting in an enlarged GPG of KRW 373,996 by 1996 compared to 1976.

5.2 The impact of marital status on GPG

Table 5. shows the impact of marriage on gender pay gap. Columns 1-8 display each of years used in the data set. Controlling for five different levels of education, in general, women earned less than men and this gap increased over 1976-1996, consistent with the findings from Table 4. In 1976, women generally earned KRW 30,619 less than men, consistently increasing to KRW 297,888 by 1996 at a 1% significance level. Following this trend, single individuals earned KRW 31,149 less than their married counterparts in 1976 and by 1996 earned KRW 409,365 less. However, looking at the interaction term, across columns 1-8, single females earned more than their married female counterparts. For example, they earned KRW 25,185 more in 1976, KRW 52,590 in 1980, KRW 75,598 in 1983, KRW 85,043 in 1986, KRW 124,381 in 1989, KRW 168,454 in 1992, KRW 191,860 in 1994 and KRW 248,366 more by 1996. All such results were found to hold true at a 1% significance level. The overall implication is that marriage acted as a penalty to women, but rewarded men, who were seen as the dominant breadwinners in-line with the aforementioned studies.

Across 1976-1996, education had a positive effect on monthly earnings, demonstrated by monthly earnings increasing with level of education, once again in-line with studies mentioned in the literature review. Taking 1976 as an example, those that completed middle school education earned KRW 2,837 more than primary school graduates. Similarly, high school graduates earned KRW 24,171, 2-year college graduates KRW 57,512 and 4-year college graduates KRW 113,118 more when compared to the earnings of their primary school counterparts. Middle school graduates earned progressively more across 1976-1996, demonstrated by the consistent increase in earnings from KRW 2,837 in 1976, KRW 5,561 in 1980, KRW 5,294 in 1983, KRW 12,426 in 1986, KRW 15,461 in 1989, KRW 22,884 in 1992, a slight fall in 1994 to KRW 21,462 and then back to increasing by KRW

23,449 in 1996. The trend is replicated at a 1% significance level for all other education levels, excluding the dip in earnings in 1994.

5.3 The impact of trade unions on GPG

Table 6. shows the impact of trade unions on the GPG from 1989 onwards since data on trade union membership was not collected by the OWS before this. In general, across 1989 to 1996, being part of a trade union meant a higher monthly salary. Non-union members earned KRW 41,966 less in 1989, KRW 8,173 less in 1992, KRW 37,255 less in 1994 and KRW 32,373 less in 1996, at a 1% significance level except for 1992. However, on the GPG front, looking at the interaction term, in 1989, at a 1% significance level, non-union female workers saw the GPG reduce by KRW 26,367 versus their unionised counterparts. This trend was then reversed to follow the general non-gendered trend mentioned above from 1992 onwards, whereby non-union members saw a widening of the GPG by KRW 10,095 in 1992, KRW 11,449 in 1994 and KRW 18,729 by 1996, albeit at lower significance levels of 5% and 10%. As with tables 4 and 5, females earned less than men and increasing education levels translated into higher monthly earnings across 1989 to 1992.

Table 4: Gender Pay Gap trend across 1976-1996

VARIABLES	(1) PMSAL
FEMALE	-44,550*** (536.1)
1980	79,610*** (547.6)
1983	170,119*** (568.2)
1986	236,866*** (600.0)
1989	389,809*** (2,001)
1992	635,710*** (2,376)
1994	790,298*** (2,573)
1996	1.015e+06*** (3,222)
FEMALE x 1980	-48,886*** (596.7)
FEMALE x 1983	-97,837*** (626.2)
FEMALE x 1986	-128,981*** (665.5)
FEMALE x 1989	-180,332*** (2,264)
FEMALE x 1992	-267,960*** (2,906)
FEMALE x 1994	-308,430*** (3,553)
FEMALE x 1996	-373,996*** (4,445)
Constant	76,806*** (488.9)
Observations	1,760,664
R-squared	0.516

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Impact of Marriage on Gender Pay Gap across 1976-1996

VARIABLES	(1) 1976	(2) 1980	(3) 1983	(4) 1986	(5) 1989	(6) 1992	(7) 1994	(8) 1996
MIDDLE SCH	2,837*** (310.9)	5,561*** (178.4)	5,294*** (307.9)	12,426*** (435.3)	15,461*** (3,285)	22,884*** (3,776)	21,463*** (5,347)	23,449*** (6,944)
HIGH SCH	24,171*** (504.2)	38,710*** (252.7)	52,919*** (362.2)	62,304*** (485.1)	78,617*** (3,525)	127,567*** (4,125)	145,031*** (5,460)	183,224*** (6,928)
2-YR COLLEGE	57,512*** (2,778)	99,539*** (1,105)	135,378*** (1,105)	145,785*** (1,092)	177,571*** (5,634)	234,591*** (5,427)	258,876*** (6,985)	339,069*** (8,412)
4-YR COLLEGE	113,118*** (1,761)	198,100*** (880.4)	290,264*** (998.2)	341,244*** (1,159)	396,458*** (6,606)	507,900*** (6,739)	553,107*** (7,568)	690,588*** (8,960)
FEMALE	-30,619*** (1,267)	-71,526*** (442.0)	-102,428*** (585.0)	-113,606*** (677.0)	-171,198*** (3,135)	-220,446*** (4,147)	-243,110*** (5,439)	-297,888*** (6,312)
SINGLE	-31,149*** (590.4)	-65,044*** (300.3)	-97,785*** (380.9)	-130,297*** (461.9)	-167,163*** (2,965)	-265,619*** (3,544)	-320,401*** (4,034)	-409,365*** (5,017)
FEMALE#SINGLE	25,185*** (1,307)	52,590*** (478.2)	75,598*** (646.0)	85,043*** (758.1)	124,381*** (3,927)	168,454*** (4,983)	191,860*** (6,461)	248,366*** (7,571)
Constant	60,353*** (442.0)	131,116*** (242.5)	201,728*** (337.8)	249,460*** (457.0)	382,641*** (3,431)	564,676*** (4,041)	687,882*** (5,288)	856,894*** (6,679)
Observations	30,381	405,915	587,152	580,990	30,456	40,982	42,301	42,487
R-squared	0.503	0.521	0.523	0.512	0.462	0.431	0.384	0.390

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Impact of Trade Unions on Gender Pay Gap across 1989-1996

Robust standard errors in parentheses

	(1)	(2)	(3)	(4)
VARIABLES	1989	1992	1994	1996
Non-UNION	-41,966*** (3,847)	-8,173* (4,471)	-37,255*** (5,157)	-32,373*** (6,051)
Female	-165,360*** (2,062)	-214,815*** (3,066)	-248,307*** (3,774)	-282,655*** (4,985)
Non-Union#Female	26,367*** (4,216)	-10,095* (5,221)	-11,449* (6,606)	-18,729** (7,863)
Middle School	-5,654* (2,959)	-3,737 (3,442)	-889.2 (4,966)	1,756 (6,566)
High School	40,215*** (2,962)	56,774*** (3,210)	61,444*** (4,529)	69,853*** (5,763)
2-Year College	144,337*** (5,552)	167,734*** (5,167)	179,158*** (6,623)	221,579*** (7,837)
4-Year College	373,054*** (6,573)	452,127*** (6,429)	485,546*** (7,094)	604,876*** (8,332)
Constant	378,285*** (3,099)	555,522*** (3,577)	690,841*** (4,710)	855,095*** (6,087)
Observations	30,456	40,982	42,301	42,487
R-squared	0.411	0.361	0.312	0.311

*** p<0.01, ** p<0.05, * p<0

6. Discussion

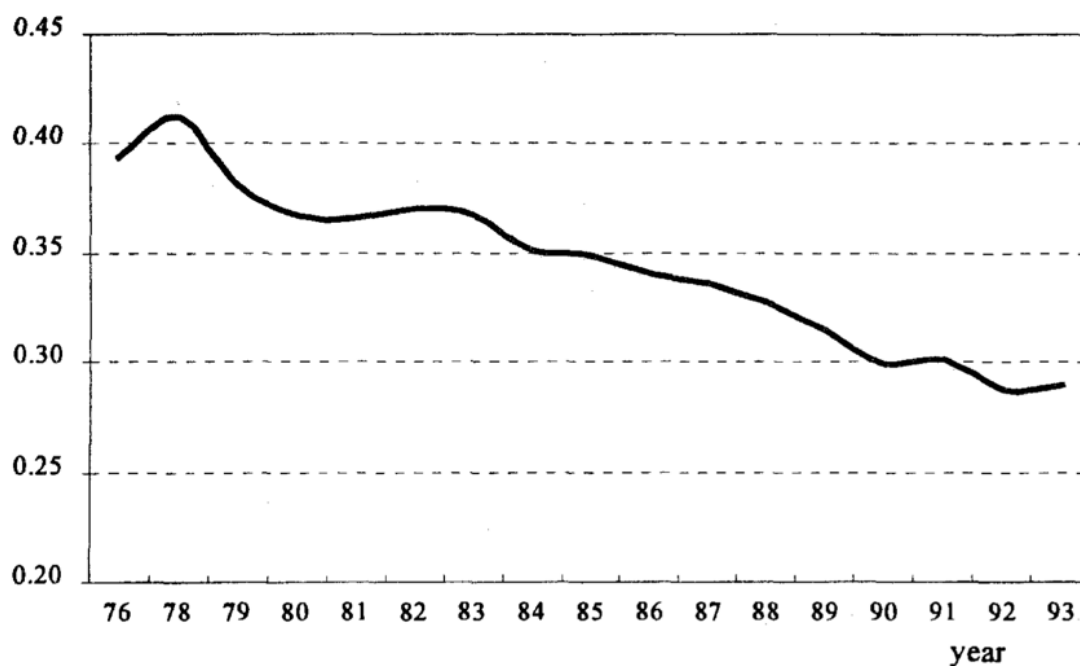
The purpose of this dissertation is to determine why GEI growth, a subset of HD, lagged whilst GDP and HIHD grew between 1976-1996. My findings provide compelling evidence that the GPG widens due to educational differences, the impact of marriage and trade unions. Furthermore, my research expands the literature, emphasising the importance of dissecting income inequality on a gendered basis, rather than accepting national household statistics. For instance, table 4 demonstrates that from 1976 to 1996, both earnings and GPG increase annually. Calling into question Korea's EG, which was deemed even more spectacular, as it was combined with a fall in labour income inequality, which holds true on a household level, but arguably not on a gendered basis.⁸² Previous research is generally reaches a consensus that income inequality fell, but is in disagreement about the latter. Fields and Yoo, illustrate that the labour income inequality Gini coefficient, fell 27 per cent from 1976-1993, representing an 11-point reduction.⁸³ Numerous other studies also reached the same conclusion, making Korea's growth being coupled with inequality reduction widely accepted.⁸⁴ The same data source is used by Fields and Yoo to look at income inequality over 1976-1993. They report that gender differences in income narrow, which somewhat contrast my findings of GPG widening, but this can be explained by the different base measure of income used. They use total income, defined as the sum of base salary, bonus and overtime pay.

⁸² Gary S. Fields, and Gyeongjoon Yoo, "Falling labor income inequality in Korea's economic growth: Patterns and underlying causes," *Review of Income and Wealth* 46, no. 2 (2000): 139-159.

⁸³ Fields and Yoo, "Falling labor income inequality," 139.

⁸⁴ Dae-II Kim, and Robert H. Topel. "Labor markets and economic growth: Lessons from Korea's industrialization, 1970-1990." In *Differences and changes in wage structures*, ed. Richard B. Freeman, Lawrence F. Katz, (Chicago: University of Chicago Press, 1995) 227-264., Hakchung Choo, "Income distribution and distributive equity in Korea," *Social Issues in Korea: Korean and American Perspectives* 19 (1993): 335-60.

Figure 3: Gini coefficients of labour income inequality in Korea, 1976-1993



Source: Fields, Gary S., and Gyeongjoon Yoo. "Falling labor income inequality in Korea's economic growth: Patterns and underlying causes." *The Review of income and wealth* 46, no. 2 (2000): 139–159.

6.1 Education and GPG

Firstly, education is widely acknowledged in the literature as a determinant and differentiator of wages between genders.⁸⁵ Human capital theory according to Mincer and Becker predicts that greater investment in education and training, increases productivity translating into higher wages and being employed in higher-level occupations.⁸⁶ Subsequently, it follows that the GPG is a function of differing human capital investments between the genders, with females getting compensated less due to lower educational attainment and productivity.

⁸⁵ Jaeram Lee, and Jungjoon Ihm, "Gender difference in returns to education independent of gender wage gap in Korea," *Asian Economic Journal* 34, no. 2 (2020): 213-232., Lawrence F. Katz, and David H. Autor. "Chapter 26 Changes in the Wage Structure and Earnings Inequality," In *Handbook of Labor Economics* vol 3, ed. Orly Ashenfelter and David Card (Burlington: Elsevier B.V, 1999), 1463–1555.

⁸⁶ Gary S. Becker, *Human Capital: a Theoretical and Empirical Analysis, with Special Reference to Education* (New York: Columbia University Press for National Bureau of Economic Research, 1964), Jacob A. Mincer, "The human capital earnings function," In *Schooling, experience, and earnings*, ed. Jacob Mincer (Cambridge: NBER, 1974), 83-96.

However, this explanation is not convincing, as between 1960 and 1990 the overall education level of the labour force in Korea experienced substantial improvement, driven in part by government policies combined with Confucian values of discipline and education.⁸⁷ For women, as seen in figure 4 and table 7, middle and high school education became regarded as compulsory on a societal level, leading to LFP ratios of 15 to 18-year-olds falling and to higher female (education) advancement rates from the 1980s. Part of this uptake is also attributable to the Korean government passing a law in 1977 requiring companies in export processing zones to fund and allow workers to attend evening high school classes.⁸⁸ With many families not being able to afford education for their female offspring, it was seen as a welcome opportunity.⁸⁹ As such, educational differentials did narrow and increase in-line with HIHD and GDP. Nevertheless, despite higher levels of education translating into higher earnings for females, the GPG widened, suggesting other obstacles stood in the way of gender equal pay.

One reason for this according to Fields and Yoo is the correlation between education and earnings becoming weaker, therefore diluting the mechanism above whereby increased education leads to higher wages.⁹⁰ Surprisingly, the tenure of a woman's career being shortened due to marriage and childbearing, did not provide families and employers ammunition to invest less in women's education, or at least was foreseen as a market failure waiting to happen, thus corrected in advance by the government. Nevertheless, Mincer and Becker's human capital theory breaks down, as despite higher levels of education predicting women being employed in higher-level occupations, this did not happen. Women mainly worked in agriculture and factory-based jobs, with less than 5 per cent working as professional, technical, or administrative workers. The occupational discrimination women faced, combined with a seniority-based pay structure, meant that they were relegated to lower paid roles, with limited promotion opportunities, meaning that higher educational attainment held less value to

⁸⁷ Amsden, "The Paradox of "Unlimited" Labor," in *Asia's next giant*, ed. Amsden, 204

⁸⁸ Kim, *Capitalism, patriarchy, and autonomy*, 107.

⁸⁹ Kim, *Capitalism, patriarchy, and autonomy*, 108.

⁹⁰ Fields and Yoo, "Labor Income Inequality."

females.⁹¹ Additionally, the husband's education level is found to be inversely proportional to a woman's LFP probability, meaning that even with higher female educational levels, a man's education level was still the dominant factor in deciding if a woman (re)enters the workforce.⁹² Thus, within this overall context, despite a narrowing of educational differentials, a widening GPG makes sense.

Table 7: The number of advancers and trends in advancement rates to higher educational institutions, 1966-1990

		<i>Women</i>			<i>Men</i>		
		<i>Middle school</i>	<i>High school</i>	<i>University</i>	<i>Middle school</i>	<i>High school</i>	<i>University</i>
Advancers	1966	112,289	51,325	12,526	192,466	101,431	24,852
	1970	197,131	81,710	14,748	313,319	140,219	24,325
	1980	405,038	268,738	43,505	441,310	360,411	81,044
	1990	370,191	357,345	143,100	390,399	406,385	259,130
Advancement rate %	1966	40.4	69.5	34.3	59.2	74.7	32.6
	1970	53.4	70.3	28.6	72.7	71.3	26.0
	1980	95.1	80.1	23.6	98.5	88.8	28.6
	1990	99.5	88.1	40.3	99.7	94.5	63.7

Source: Korean Ministry of Education, Statistical Yearbook of Education

6.2 Marital status and GPG

Table 5, illustrates the impact of marriage on GPG via the interaction term. One consistent finding with table 4 is that, controlling for five different levels of education, women continue earning less than men and this gap increases over 1976 to 1996. Secondly, single individuals overall earn less than their married counterparts, suggesting that marriage boosted wages. However, when combined with a widening GPG the implication is that marriage penalises women, but rewards men. This is corroborated by single females earning more than their married counterparts, demonstrated by the interaction term. These findings can be explained through a combination of the following explanations: household roles

⁹¹ Turner, and Monk-Turner, "Gender differences in occupational status," 554-565.

⁹² Bun Song Lee, Soomyung Jang, and Jayanta Sarkar, "Women's labor force participation and marriage: The case of Korea," Journal of Asian Economics 19, no. 2 (2008), 138-154, 152.

of women, cultural beliefs and demand and supply of female labour, which together collectively manifest as labour force participation ratios (LFPR).

Seguino's extensive studies across East Asia, demonstrate that single women, played an instrumental role during industrialisation in the 1960s and 1970s, also shown by the increased LFPRs in figure 4.⁹³ However, an M-shaped LFPR is persistent, suggesting structural explanations unique to Korea may exist, in-line with Klasen et al.'s findings that economic, social, and institutional constraints that shape female LFP remain largely country-specific, highlighting the importance of culture in explaining economic development.⁹⁴ For Korea, the biggest determinant of this persistent M-shape is entrenched cultural beliefs. The first interruption in a woman's career, is due to marriage and/or childbearing, and it is also where the trade-offs between childcare and labour market decisions commence. This well-established phenomenon of the motherhood penalty is also applicable in Korea, exacerbated by the fact that workforce re-entry is not assumed as default and often contrary to the hopes of young female workers who believe initially that marriage would allow them to escape factory jobs forever.⁹⁵ The census in 1990 showed that 95 per cent of South Korean women were married by age thirty, with those who found themselves single still by age twenty-seven being referred to in derogatory terms as old maids, reflecting the stigma and importance of getting married.⁹⁶ First-hand accounts collected in Masan Export Processing zone corroborate this, whereby women saw their jobs as a steppingstone to marriage, the "principal strategy" used to improve their lives.⁹⁷

⁹³ Seguino, "Gender Wage Inequality," Lee, Jang, and Sarkar, "Women's Labor Force Participation."

⁹⁴ Stephan Klasen et al., "What drives female labour force participation? Comparable micro-level evidence from eight developing and emerging economies," *The Journal of Development Studies* 57, no. 3 (2021): 417-442, 417., Lawrence E. Harrison, *Underdevelopment Is a State of Mind: the Latin American Case* (Cambridge: Center for International Affairs, Harvard University, 1985)., Max Weber, and Stephen Kalberg, *The Protestant Ethic and the Spirit of Capitalism*. (Oxford: Blackwell, 2002)

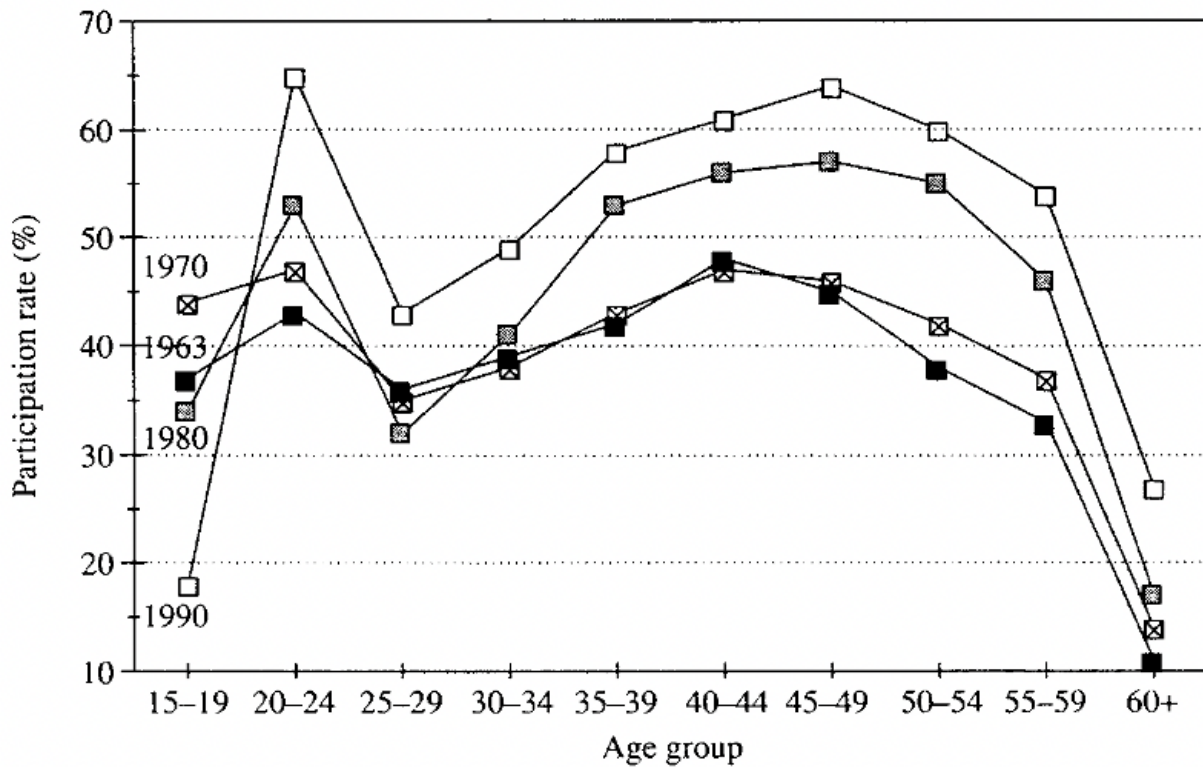
⁹⁵ Jane Waldfogel, "Understanding the 'family gap' in pay for women with children," *Journal of economic Perspectives* 12, no. 1 (1998): 137-156., Michelle J. Budig, and Paula England, "The Wage Penalty for Motherhood," *American Sociological Review* 66, no. 2 (2001): 204-225, Seung-Kyung Kim, "'Big companies don't hire us, married women': exploitation and empowerment among women workers in South Korea." *Feminist studies* 22, no. 3 (1996): 555-571, 557.

⁹⁶ Kim, "Big companies don't hire us, married women," 557.

⁹⁷ Kim, *Capitalism, patriarchy, and autonomy*, 141.

Organised collective action to improve their working, living conditions and pay was not a priority, as only one escape route was accepted societally.

Figure 4 Labour Force Participation Rates by Women by Age Group, 1963-1990



Source: Horton, Susan. *Women and Industrialization in Asia*. 1st ed. London: Taylor & Francis Group, 1995, 169.

Conflicting gender roles stemming from cultural beliefs can explain the persistent GPG after marriage. Confucian culture, established as a state ideology in the 14th century complicated matters for females in society. Such ideals of female subordination, docility, discipline etc. were realistic for upper classes, yet hard to reconcile for lower class workers, whose husbands couldn't always guarantee economic security.⁹⁸ Therefore, being a housewife was a privilege reserved mainly for those married to men with sufficient salaries to look after their family.⁹⁹ This created a dichotomy in lower classes, as wives were forced to re-enter the

⁹⁸ Kim, *Capitalism, patriarchy, and autonomy*, 172.

⁹⁹ Kim, *Capitalism, patriarchy, and autonomy*, 142., Gillian Pascall, and Sirin Sung, "Gender and East Asian Welfare States: from Confucianism to Gender Equality?," (paper presented at Fourth Annual East Asian Social Policy research network (EASP) International Conference, October 2007), 1-23.

workforce, whilst their husbands attempted to “maintain their position as patriarchs” by denying the need for additional income brought home by their wives.¹⁰⁰ However, the extent of the entrenched beliefs, often meant both genders came to acknowledge the exchange of domestic unpaid work for financial support whenever possible.¹⁰¹ These Confucian ideals were perpetuated further, as housewives’ negotiating powers in household matters diminished with non-market work, solidifying obedience to their husbands. Consequently, the GPG was exploited further by employers in a discriminatory fashion, as social norms and stigmatisation enabled the erosion of married women’s bargaining power inside and outside the home. My findings expand the literature by adding East Asian support to a range of studies on intra-household bargaining by Sen, Kabeer and Antman inter alia, suggesting that despite the existence of specific cross-country cultural norms, there are ample parallels to make generalisations of the impact of marriage on GE across countries.¹⁰²

Furthermore, the previously observed relationship between education and earnings was weakened for married women, in-line with discrimination towards older married women being reported. For example, despite the same education level as their unmarried female counterparts, they were reportedly in lower occupational strata.¹⁰³ Employers often preferred single women over married ones claiming they were less dextrous, reducing demand for them.¹⁰⁴ Consequently, informal economic activities became crucial to married women, because such activities blurred the lines of domestic and market work, due to increased flexibility and intermittence, enabling them to tread the fine line of being a good

¹⁰⁰ Kim, Capitalism, patriarchy, and autonomy, 172.

¹⁰¹ Julie Brines, "Economic dependency, gender, and the division of labor at home," *American Journal of sociology* 100, no. 3 (1994): 652-688, 665.

¹⁰² Sen, "Gender and cooperative conflicts" in *Persistent Inequalities*, ed. Tinker, 123-149., Naila Kabeer, "Women, wages and intra-household power relations in urban Bangladesh," *Development and change* 28, no. 2 (1997): 261-302., Francisca M. Antman, "Spousal employment and intra-household bargaining power," *Applied economics letters* 21, no. 8 (2014): 560-563.

¹⁰³ Lee, Jang, and Sarkar, "Women’s Labor Force Participation," 142.

¹⁰⁴ Kim, Capitalism, patriarchy, and autonomy, 142’.

wife and mother, in-line with Confucianism.¹⁰⁵ Their self-selection into such roles, due to social norms, legal and institutional constraints, enforced discriminatory outcomes, exacerbated and reinforced discriminatory outcomes, explaining the widening GPG.¹⁰⁶ Overall, married women were penalised for the discontinuity in their market work, even with high educational attainment and increased hourly experience, contradicting the conventional explanations for the GPG. Whilst this could explain why women were less likely to participate in the workforce post-marriage, due to the knowledge of lower wages, it is more likely that cultural beliefs and a high opportunity cost from neglecting domestic work and childcare were of greater importance.¹⁰⁷

6.3 Trade unions and GPG

Lastly, the impact of trade unions on the GPG is shown in table 6. The results need to be analysed considering the political context of the 1960s to 1980s, as the labour movement's strikes coincided with periods of political instability.¹⁰⁸ As seen in table 9 below, the 1960s saw few labour disputes, under Park Chung Hee's military dictatorship, due to an oversupply of labour and anti-Communist ideology, which meant little tolerance for independent labour activities.¹⁰⁹ However, a pivotal event in 1970, where a 22-year-old male publicly committed suicide by immolation, initiated an era of militant, and determined activism within the South Korean labour movement, as national attention was drawn to the adverse working conditions in factories.¹¹⁰ Conflicts continued to emerge during industrialisation and in December 1971, under the state of emergency, President Park closed

¹⁰⁵ Uhn Cho, and Hagen Koo, "Economic Development and women's work in a newly industrializing country: the case of Korea," *Development and Change* 14, no. 4 (1983): 515-531, 527.

¹⁰⁶ Joseph G. Altonji, and Rebecca M. Blank, "Race and gender in the labor market," In *Handbook of Labor Economics* vol 3, ed. Orly Ashenfelter and David Card (Burlington: Elsevier B.V, 1999): 3143-3259, 3220.

¹⁰⁷ Martin Piotrowski et al., "Attitudes towards women's paid labor and children in East Asia: A cross-national analysis," *Comparative Sociology* 18, no. 5-6 (2019): 620-657.

¹⁰⁸ Dong-One Kim, "An analysis of labour disputes in Korea and Japan: the search for an Alternative Model," *European Sociological Review* 9, no. 2 (1993): 139-154.

¹⁰⁹ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 99.

¹¹⁰ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 100.

universities, curtailed union activities and treated the labour movement as a threat to national security. The relaxation of restrictions on collective bargaining in 1986, led to strikes peaking in the summer of 1987, where as many as 3,311 cases of labour conflicts occurred, more than the total number of disputes that had occurred since industrialisation started in the early 1960s (table 9). Pre-1987, unions lacked power, evidenced by the fact that being in a union did not have a significant impact on earnings.¹¹¹

Firstly, interpreting the findings on a non-gendered basis post 1989, unionised individuals earn a higher monthly salary compared to non-union members, corroborating previous research demonstrating that successful collective bargaining, tends to result in 10 to 30 per cent higher wages.¹¹² A higher union density (% of workers belonging to a union) improves bargaining power, due to strength in numbers and better organisation, which increases pressure applied, leading to better wage outcomes for union members.¹¹³ Union density peaked in 1989 at 19.8 per cent alongside the total number of trade unions (table 9), offering an explanation for why the earnings differential was greatest in 1989 for unionised and non-unionised members.¹¹⁴ This is also reflected in my findings in table 8, as the proportion unionised workers was highest in 1989 and lowest in 1996 for both genders.

¹¹¹ Fields and Yoo, "Falling labor income inequality," 155.

¹¹² Gerald Mayer, "Union Membership Trends in the United States," Washington, DC: CRS Report for Congress, 2004, 1-36, 1.

¹¹³ Donghun Cho, and Joonmo Cho, "How do labor unions influence the gender earnings gap? A comparative study of the US and Korea," *Feminist economics* 17, no. 3 (2011): 133-157, 137.

¹¹⁴ Cho and Cho, "How do labor unions influence the gender earnings gap," 137.

Table 8: Proportion of unionised and non-unionised workers by gender and year across 1989-1996

Year	Gender	% Unionised	% Non-Unionised
1989	Male	47%	16%
	Female	25%	12%
TOTAL		72%	28%
1992	Male	44%	22%
	Female	20%	14%
TOTAL		64%	36%
1994	Male	53%	20%
	Female	18%	9%
TOTAL		71%	29%
1996	Male	46%	26%
	Female	15%	13%
TOTAL		61%	39%

Source: Korean Occupational Wage Survey, Ministry of Labour

On the GPG front, my findings that the GPG is reduced for unionised females and minorities, are somewhat in-line with the existing literature, which Pfeffer and Ross highlight to be an understudied area with scant evidence. Therefore, I am able to make a contribution to the literature with my findings, showing that the impact of unions, in Korea from 1976 to 1996, was mostly beneficial for unionised females, as the GPG narrowed.¹¹⁵ The exception to this general trend is 1989, where non-unionised females saw a reduction in GPG. A couple of explanations may exist for this. For example, wage demands being accepted, due to a peaking of labour disputes, could have come at the cost of negative backlash towards unionised females, resulting in their pay being diminished to provide improved pay for males. Secondly, seniority-based compensation was more common in unionised jobs. When combined with a shorter tenure for women, as per their LFPRs, this likely exacerbated the GPG, making it advantageous to be outside a

¹¹⁵ Marta M. Elvira, and Ishak Saporta, "How does collective bargaining affect the gender pay gap?," *Work and Occupations* 28, no. 4 (2001): 469-490, 473., Jeffrey Pfeffer, and Jerry Ross. "Unionization and female wage and status attainment," *Industrial Relations: A Journal of Economy and Society* 20, no. 2 (1981): 179-185.

union.¹¹⁶ However, the overall time trend seen from 1992 onwards, suggests unions were beneficial for women and the GPG. Despite this, I question the realised benefits, as the number of women belonging to a union was not significant enough to translate into mass benefits of unionisation. The data set I use demonstrates this clearly, as each year, the number of men in unions are almost double that of women (table 2), despite single women being the main carriers of Korean industrialisation.¹¹⁷

Firstly, one explanation in favour of GPG being reduced directly because of trade unions is that the labour movement efforts of female workers during the 1960s and 1970s finally came to fruition. It is widely accepted that women's unions led the labour movement in the 1970s, due to male unions being more organised, which ironically led to their extinguishment and repression.¹¹⁸ This contrasts the view that Korean women were often not recognised as part of the formal labour movement and were often relegated to subordinate roles in anti-government groups, perpetuated the notion that men should be dominant in the political domain, in-line with Confucianism.¹¹⁹ Whilst it is undeniable that women's unions headed the labour movement, there are a couple reasons why I don't find it compelling that their efforts directly improved the GPG. Firstly, the assumption that female unions represent female labour issues, did not hold true in Korea, as disputes were focused on the working class, rather than the sexual inequality and repression experienced by women. Therefore, the GPG was rarely a key focal point in disputes, but rather poor working conditions and general wage increases took mainstage.¹²⁰ Interviews and studies report that women saw poor working conditions as temporary and as a means to an end to fund their dowries and support their families.¹²¹ Furthermore, according to interviewees in Koo's book,

¹¹⁶ Cho and Cho, "How do labor unions influence the gender earnings gap," 149.

¹¹⁷ Stephanie Seguino, "Accounting for gender in Asian economic growth," *Feminist Economics* 6, no. 3 (2000): 27-58, 33.

¹¹⁸ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 105.

¹¹⁹ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 104.

¹²⁰ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 112.

¹²¹ Kim, "Big companies don't hire us, married women," 558.

most female workers lacked a suitable framework for interpretation or the language necessary to comprehend their experiences in the context of prevailing gender dynamics.¹²² However, being forced to leave the union when they married, reminded them of gender inequality and not just class inequality which they fought so hard for.¹²³ Secondly, the effects of women's activism throughout the 1970s, is hard to quantify due to their disorganised and spontaneous nature. Thirdly, from the 1980s, structural shifts in the economy from light to heavy industries, meant the labour movement also shifted from female workers to male workers, suggesting female interests diminished as did their employment opportunities, exacerbated by the M-shaped female LFPRs.¹²⁴

Tying together the two main variables of this dissertation, the impact of unions on women and the GPG cannot be discussed without considering the overarching narrative of marriage in a woman's life. In the case of Korean women, it is particularly difficult to disentangle and quantify the effect of marriage and trade unions separately due to the cultural aspects of post-marriage life discussed above. The constant shame from defying the conventions of Confucianism, led to married women compromising their voice, meaning they couldn't openly support unions given their lack of moral authority.¹²⁵ Thus even when they became aware of gender inequality, not just class inequality, there was little they could do. Thus, to begin to understand the intersection of marriage and trade union membership, I separated the data set into gender, union membership and marital status to discover the majority of the women in unions are single (figure 5, figure 6). This makes sense given fewer married women were in the workforce and because married women were asked to leave unions.¹²⁶ This trend continues till 1996, although the percentage of married women in unions increases marginally.

¹²² Koo, Korean workers, 96.

¹²³ Koo, Korean workers, 97.

¹²⁴ Gina Kong, "Are Women-Only Trade Unions Necessary in South Korea: A Study of Women Workers' Struggles in Korea's Labor Market," *Nw. J. Int'l L. & Bus.* 29 (2009): 217-243, 218.

¹²⁵ Kim, "Big companies don't hire us, married women," 568.

¹²⁶ Koo, Korean workers, 97.

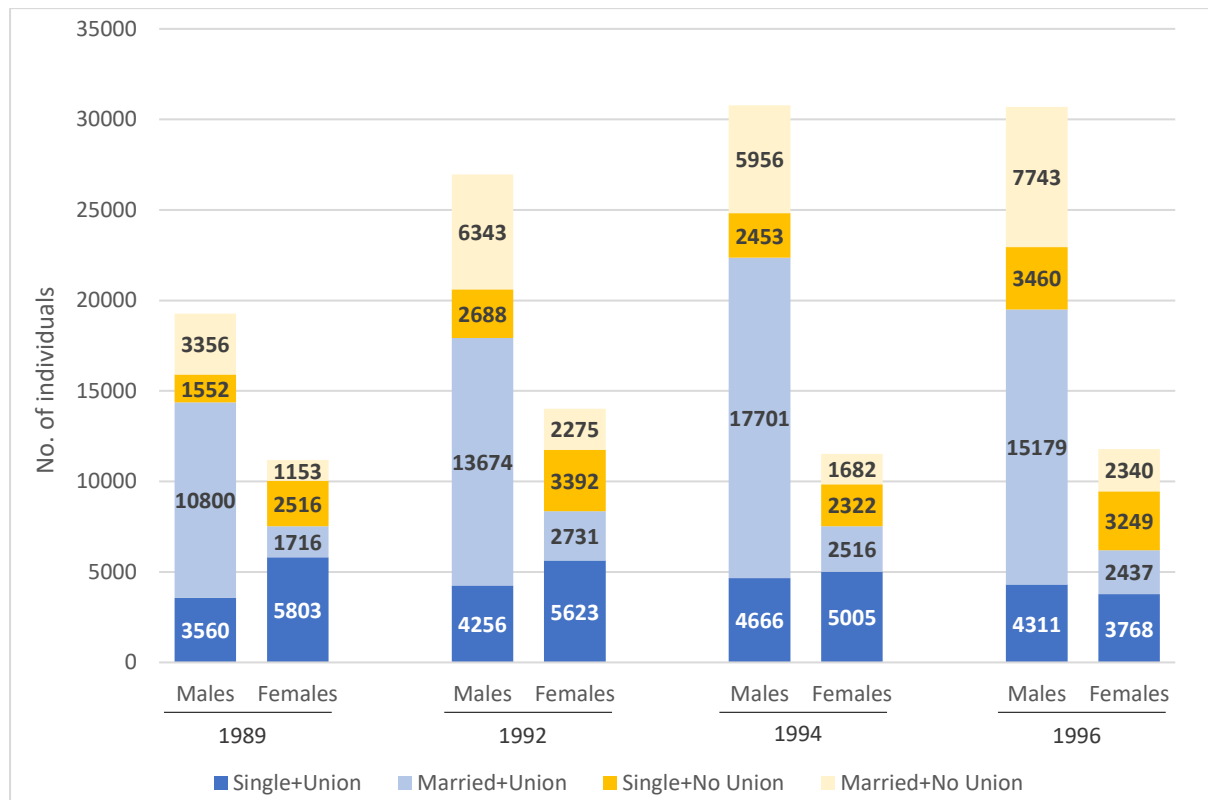
Alternatively, the M-shaped participation pattern could have worked in their favour and offers an explanation why single women were in trade unions. Single and young women could afford to be militant, as they had little to lose versus their male counterparts, who had promotion opportunities on the line if they complied with employers.¹²⁷ Although this view whilst somewhat persuasive, it is difficult to quantify, given that female workers were not merely victims of capitalism and patriarchy, but they also resisted and protested against the oppressive structure as active agents, as per their activist roles in the 1970s.¹²⁸ The combination of male dominated union governance structures, inability to express and protest gender inequality, social stigmatisation coming from non-adherence to Confucian culture, hindered women's ability to use trade unions effectively to improve their working conditions and the GPG. The fact that they worked longer hours than men and relied on bonuses to supplement their monthly salaries strengthens the argument that the GPG had to be overcome through alternative ways besides unions.¹²⁹

¹²⁷ Kim, "Big companies don't hire us, married women," 567.

¹²⁸ Amrita Chhachhi, and Renée Ilene Pittin, *Confronting state, capital and patriarchy: Women organizing in the process of industrialization* (London: Macmillan Press Ltd, 1996), 1-490.

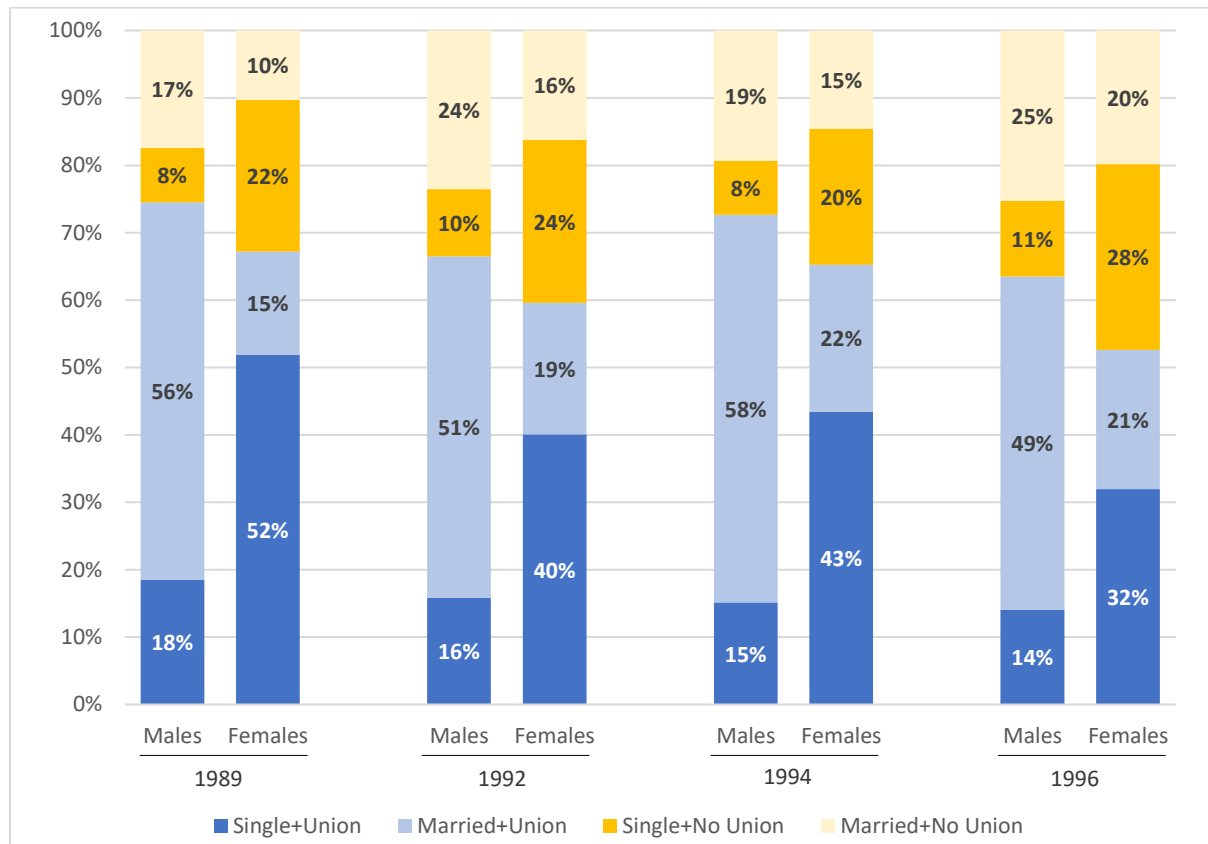
¹²⁹ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 104.

Figure 5: Number of workers by gender, union membership and marital status across 1989-1996



Source: Korean Occupational Wage Survey, Ministry of Labour

Figure 6: Percentage of workers based on gender, union membership and marital status across 1989-1996



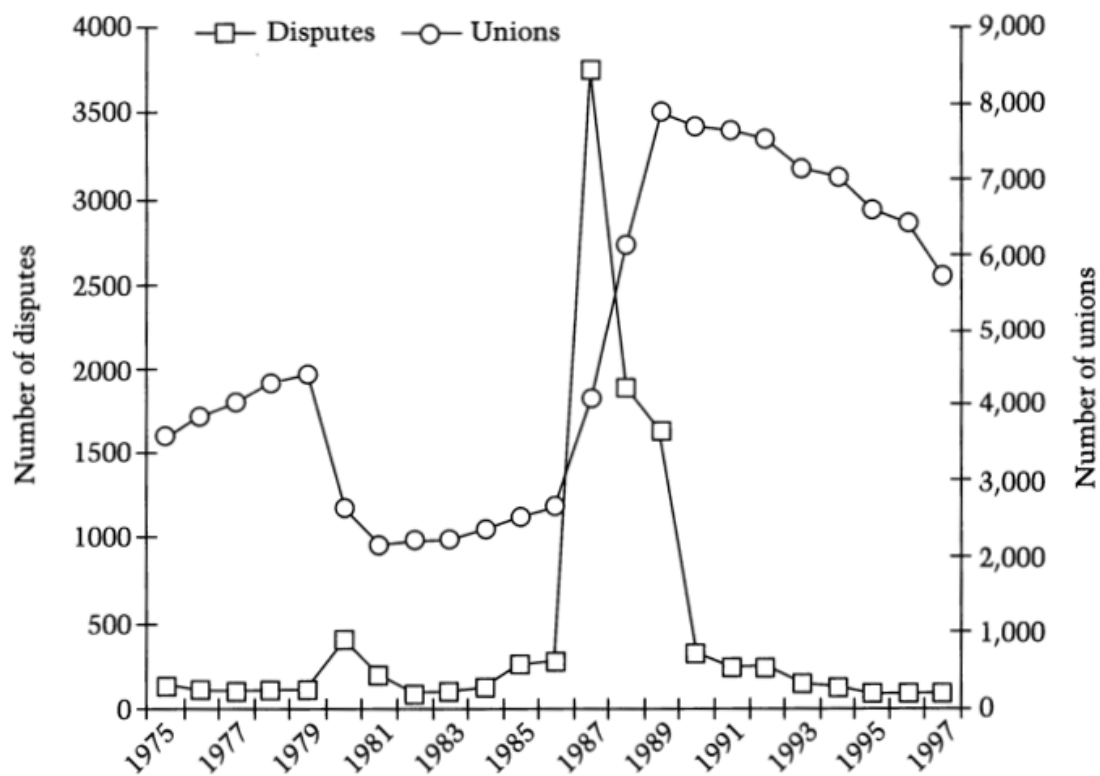
Source: Korean Occupational Wage Survey, Ministry of Labour

Table 9: Union disputes, number of unions, number of union members, across 1963-1998

Year	Disputes	Unions	Union Members (thousands)
1963	—	1,820	224
1964	126	2,105	272
1965	113	2,255	302
1966	117	2,359	327
1967	130	2,619	378
1968	135	2,732	413
1969	94	2,939	445
1970	90	3,063	473
1971	109	3,061	497
1972	—	2,961	515
1973	—	2,865	548
1974	—	3,352	656
1975	133	3,585	750
1976	110	3,854	846
1977	96	4,042	955
1978	102	4,301	1,055
1979	105	4,394	1,088
1980	407	2,618	948
1981	186	2,141	967
1982	88	2,194	984
1983	98	2,238	1,010
1984	113	2,365	1,011
1985	265	2,534	1,004
1986	276	2,658	1,036
1987	3,749	4,086	1,267
1988	1,873	6,142	1,707
1989	1,616	7,883	1,932
1990	322	7,698	1,887
1991	234	7,656	1,803
1992	235	7,527	1,735
1993	144	7,147	1,667
1994	121	7,025	1,659
1995	88	6,606	1,615
1996	85	6,424	1,599
1997	78	5,733	1,484
1998	128	5,560	1,402

Source: Koo, Hagen. “The Working Class at the Crossroads.” In *Korean Workers*, 188–218. Ithaca, NY: Cornell University Press, 2019.159

Figure 7: Number of labour disputes and labour unions, 1975-1998



Source: Koo. "Working Class at the Crossroads." 157

Lastly, a limitation of this research could be that only monthly earnings were considered in measuring the GPG, whilst other authors considered other additional sources of income. However, I believe to measure GPG accurately, total income coming from women working longer hours and mandatory overtime shifts, encouraged to do so by employers to make up for the lower pay, should not be included, as men were not coerced similarly.¹³⁰ Continuing to compare income on a different base, is inaccurate measurement and will only further reinforce discrimination and delay HD improvements, as women are forced to overcompensate for the persistent GPG by working overtime. The premise that the GPG narrowed because women worked longer hours to reach parity will not create HD improvements or drive sustainable GDP growth. As such, justification of this in the literature can lead to diminished health outcomes and a reduction in population growth, as half the potential workforce have to contend

¹³⁰ Kim, "Labor militancy and collective action" in *Class Struggle or Family Struggle?*, ed. Kim, 104.

with an increased burden of increased working hours versus having a baby. In the long run, this can depress EG through a shrinking labour force and productivity issues. Furthermore, other variables beyond marital status and trade unions can explain GPG, such as occupational segregation, tenure etc. which other scholars have shown to merit research, but have been omitted here due to time constraints. Lastly, the data itself did not track the same individuals throughout their careers, nor were the number of individuals surveyed annually constant, meaning variation in sample size across the years. Nevertheless, due to substantial sample sizes, significant enough trends were shown suggesting this was not a barrier to producing research.

7. Conclusion

This dissertation has taken two decades worth of OWS individual level data, to understand the impact of marital status and trade unions on the GPG, a proxy for gender inequality during industrialisation in Korea (1976-1996). The findings show that whilst earnings increased, GPG widened, suggesting limited redistributive benefits of EG on a gendered level. The impact of marital status, controlling for educational attainment, was negative for female workers, indicated by a greater GPG across 1976-1996. Marriage as an institution, defined by rigid cultural norms stemming from Confucianism, prevented women from enjoying material gains from higher education levels, as returning to the workforce after marriage was frowned upon. This automatically shortened their work experience and made female labour more disposable. Given the widely known and societally accepted temporary nature of it, employers used it to justify discrimination, which again perpetuated imbalanced gendered roles. Unionisation, which typically improves wages, through greater collective bargaining power, did show patterns consistent with the literature for females. Being outside a union for female workers meant that they were subject to a wider GPG, which is not surprising, given the seniority wage-based system, combined with women's M-shaped LFPRs.

However, the proportion of women belonging to unions was significantly lower, that the benefits accruing to women as a whole and their incentive to bargain for longer term gains were minimal.

This dissertation whilst broadening the literature by offering novel gendered perspectives on redistribution of EG, by looking at the impact of marriage and trade unions, is potentially limited by only looking at monthly wages (PMSAL). However, as mentioned above, I believe this is the correct methodology for GPG analysis, as women were often coerced to work longer hours through overtime shifts to compensate for their lower pay. A further limitation is that the OWS reportedly under-represents service workers and has a sampling bias towards manufacturing.¹³¹ Nevertheless, given the time-period under consideration coinciding with industrialisation, which was driven by manufacturing, the main source of GDP growth, this bias may not be significant enough to affect my results. Additionally, great care was taken to ensure the consistency of variables and the great number of yearly individual observations, I believe were sufficient to enable time trends to be observed to a high degree of significance. The findings bear relevance for policy and future research, as the lack of research in the gendered impact of trade unions in Korea particularly highlights the need for structural changes in wages, moving towards a less seniority focused, but meritocratic compensation plan, greater workplace support to encourage female human capital to increase their tenures, tackling the M-shaped participation ratio for both an intrinsic and instrumental purposes.

Further research exploring how culture can be quantified would be particularly insightful, as numbers speak louder than words in policymaking. Estimations on how much GDP growth could be increased on the reshaping societal norms would be particularly impactful in accelerating changes for both genders of future generations.

¹³¹ Charlie G. Turner, and Elizabeth Monk-Turner, "Gender differences in occupational status in the South Korean labor market: 1988-1998," *International journal of social economics* 34, no. 8 (2007): 554-565, 557.

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