Equality and Development:

Gender Insights with Evidence from China

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Catalog

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Introduction

SDG 5 describes gender equality, a matter that warrants attention both in China and across the globe. In fact, there are significant differences in the participation rates of different genders in the labor market which is argued via Part Gender Differences in China with data and figures. While gender differences do not result in substantial disparities in ability, gender discrimination and inequality have led to differences in wages, as discussed in Part Case on Data and Part Tracing the Roots.

In China, with the advent of Chinese economic reform and accession to the WTO, societal attitudes toward women have undergone significant changes, from the slogan “Half of the Sky” to the notion of “sending women back home” and later to the belief that “women can also be executives.” But, throughout the process of economic shocks and transformations, the group most significantly affected has consistently been women. It must be acknowledged that the power of women is incredibly strong. What benefits women often carries significant positive externalities, whereas the same cannot be said for what benefits men, as discussed in Part Awesome She Power. Each Sustainable Development Goal is interconnected, influencing one another to form a comprehensive network. Therefore, as a word that What is beneficial to women is beneficial to society as a whole.

The inescapable question we face is how to find the light that leads to a solution within the reality of inequality. This paper utilizes data from CGSS 2021 and employs an economics-based analytical framework, employing OLS, which is used to examine the factors influencing gender equality, and DID, which is used to assess the extent of the gap under different gender conditions.

Background

Gender Differences in China

I compiled data on global and Chinese labor force participation rates by sex (Figure 1) and age (Figure 2), to expose that female labor force participation in China is lower than that of males. Historically, the economic boom driven by the Chian economic reform and China's accession to the WTO significantly increased household income, enabling a single income to support an entire family, which prompted a situation where women withdraw from the labor market (Figure 1). The difference in labor force participation rates indicates gender inequality in China which is reflected in various forms of systemic bias.

Awesome She Power

There is a body of evidence indicating that what benefits women has positive impacts on the whole.

Restoring women's rights improves safety. The implementation of abortion laws, which returned to women the rights they inherently deserve, in the USA significantly reduced crime rates (Donohue & Levitt, 2001), which not only highlighted women's autonomy over their own bodies but also indicated that family environments contribute to the psychological well-being of children. Evidence from China also supports this conclusion, with research employing province-year panel data and decennial censuses to reach similar findings (Edlund et al., 2013). Similarly, The widespread use of oral contraceptives reduced the cost for women to pursue long-term professional education, increased the proportion of women entering professional fields, and delayed the age of first marriage (Goldin & Katz, 2002).

The primary contributor to the family is often the mother. By the late 20th century, China transitioned from a socialist planned economy to a socialist market economy, offering a range of quasi-natural experiments, providing substantial evidence for research on gender equality. Nancy Qian (2008) provided evidedce demonstrating that increasing female income benefits the entire family, which is particularly significant in terms of children's educational attainment and the survival rates of female children while increasing male income shows little to no effect by examining the differences in income and crop cultivation across rural after the Chinese economic reforms, while simultaneously challenging the unitary model and arguing that female income is more likely to be allocated toward family welfare.

Marriage Gradient

From the perspectives of economics and sociology, marriage matching follows a gradient (Becker, 1973; Z. Qian, 1998; Waller, 1937), and house price influences those who remain single (Wrenn et al., 2019; Yi & Zhang, 2010). Based on the gradient of marriage, sufficient evidence supports the argument that women are in a disadvantaged position in the marriage market, indicating that gender inequality objectively exists. Nevertheless, women's contributions in the family are often higher than those of men (N. Qian, 2008).

In the marriage market, women who have not entered the labor market are often in a disadvantaged position. They typically do not have the freedom to choose but instead follow the wishes of their parents. At the same time, modern society drums out of the Malthusian model (Chen & Kung, 2016), which has further exacerbated gender inequality.

Previously, the growth rate of the working-age population far exceeded that of the dependent population, significantly increasing per capita productivity in the economies of East Asia, particularly China (Bloom & Williamson, 1998). Under the current condition of population stagnation, fewer women possess the ability to resist. Cash transfers to mothers or fathers may lead to different equilibrium allocations, and the long-term distributional effects of transfer policies could be significantly altered through changes in the equilibrium of the marriage market (Lundberg & Pollak, 1993).

Based on these facts and the theory of the Marriage Gradient, it is evident that women remain discriminated against or in a disadvantaged position in various aspects of society.

Evaluation of the Case

Case on Data

Although differences on gender and disparities in labor market participation rates are factual, I hope to find out what a level effected the gender wage gaps and perceptions of gendered dicision of labor exist is, so the CGSS 2021 (Chinese General Social Survey) data is used to examine that. A section of the CGSS describes issues of gender differences and division of labor in marriage where I have compiled and analyzed this portion. The questions are sorted in Table 1 whose value is range of 1 to 5 for the recognition. Table 2 presents the descriptive statistics of the data. In order to compare the impact of gender, I conducted that by gender, as shown in Table 3. Descriptive Statistics shows that there is a significant gender-based difference. It is also sorted as Figure 3.

Labor economics has long debated the issue of the relationship between wage and years of education (Angrist & Krueger, 1991; Schmieder, 2023). Studies have also shown that the salary is significantly correlated with years of education, the age of employees, and the square of their age (Schmieder, 2023). Generally, income and educational attainment can affect people's level of cognition. This paper aims to follow the approach of Angrist & Krueger (1991, 2001), using years of education and age as instrumental variables (IV) to study the cognition of gender division of labor which is proved from Table 4 for the feasibility of IV for thier F-statistic which is over 10.

Then, the statistical data are used to estimate and identify the factors influencing the differences in gender cognition. To distinguish the effects of different cognitions and factors, a benchmark regression was conducted as formula (1), where $Score_{i,j}$ represents the scores of different indicators, $gender_j$ is a dummy variable for gender, with 1 for male and 0 for female, $hukou_j$ is a dummy variable for household registration, with 1 for urban hukou and 0 for non-urban hukou, $educ_j$ is a dummy variable for education level, with 1 for having attended university and 0 for not, age_j refers to age, λ_j represents individual fixed effects, and $\varepsilon_{i,j}$ is the random error term.

$$Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j + \beta_4 \cdot age_j + \lambda_j + \varepsilon_{i,j} \quad (1)$$

The result of the regression is presented in Table 5. Although almost all parameters are significant, the R-squared is too small to explain the extent of the impact on the scores effectively. Therefore, the following regressions are used to identify an appropriate set of parameters and the results are shown in Table 6.

$$\sum_i Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j + \beta_4 \cdot age_j + \lambda_j + \varepsilon_{i,j} \quad (2)$$

$$\sum_i Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j + \beta_4 \cdot age_j + \beta_5 \cdot children_j + \lambda_j + \varepsilon_{i,j} \quad (3)$$

$$\sum_i Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j + \beta_4 \cdot age_j + \beta_5 \cdot son_j + \beta_6 \cdot daughter_j + \lambda_j + \varepsilon_{i,j} \quad (4)$$

For formula (2), this is a baseline regression for the overall test, and the results are presented in column (1) of Table 6.

For the formula (3), I use children as an exogenous shock to test whether marriage affects the cognition of gender. Simultaneously, further distinction is made in formula (3), considering the number of children in a family and using the presence of a son to assess whether gender preferences, such as a preference for sons, in the family potentially influence the regression results, and the results are presented in column (2-3) of Table 6. Then, the effects of children are separated in formulas (4), presented in column (4) of Table 6.

$$\sum_i Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j + \beta_4 \cdot age_j + \beta_5 \cdot marriage_j + \lambda_j + \varepsilon_{i,j} \quad (5)$$

$$\sum_i Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j \\ +\beta_4 \cdot age_j + \beta_5 \cdot wgap_j + \lambda_j + \varepsilon_{i,j} \quad (6)$$

Studies have shown that marriage could also have an impact on the awareness on gender (Weichselbaumer & Winter-Ebmer, 2005). Therefore, $marriage_j$, a dummy variable for marriage is added to the equation in formula (5) directly, and the results are presented in column (5) of Table 6. Typically, income affects family status and decision-making power within the family (Lundberg & Pollak, 1993), which in turn influences cognition. Therefore, the income gap between spouses, denoted as $wgap_j$ in formula (6), is introduced, and the results are presented in column (6) of Table 6.

And for formulas (2-6), each includes fixed effects, with provincial fixed variables included to avoid the influence of geographic factors excluded from the scope of this paper.

The results presented in Table 6 indicate that the wage gap between spouses does not have a significant impact on the final score, while marital status and the number of sons have a significant effect on the score.

Furthermore, a Difference-in-Difference (DID) model is used to determine the extent of their respective impacts. The traditional DID model is typically used for policy evaluation over time, whereas in this case, it is employed to differentiate between gender and others. The DID model is specified as formula (7), and some extensions drived by results presented in Table 7, where the meaning of the variables is the same as previously mentioned.

$$\sum_i Score_{i,j} = \beta_0 + \beta_1 \cdot gender_j + \beta_2 \cdot hukou_j + \beta_3 \cdot educ_j \\ +\beta_4 \cdot gender_j \times hukou_j + \beta_5 \cdot gender_j \times educ_j + \beta_6 \cdot hukou_j \times educ_j \\ +\beta_7 \cdot gender_j \times hukou_j \times educ_j + \varepsilon_{i,j} \quad (7)$$

From the R-squared perspective, model of Table 7 is chosen for analysis. What needs to be done is to minimize this score for minimizing the gap of gender. Therefore, based on the results of DID model, some stylized facts are significantly effective in reaching that goal.

On the condition of weak limitation, gender does not have a significant impact on the score, whereas higher education levels significantly reduce the bias score. Hukou, to some extent, has an impact but not a substantial one. For men, having an urban hukou and a college education intensifies this bias on gender, with the deviation being 0.24 higher for hukou and 1.159 higher for education compared to women. Focusing on gender, differences in hukou do not have a substantial impact, but there is a significant difference in education, where women with a college education reduce the bias score by 4.421, compared to 3.087 for men, making women more effective than men in significantly reducing the bias score.

Tracing the Roots

Although we must acknowledge the differences in comparative advantages between genders, the labor market should still reflect equal wage returns, conditioned on the absence of discrimination. However, the reality shows a obvious gender wage gap, which is not attributable to the differences in the abilities of female employees (Agarwal, 1997; Cohen & Huffman, 2007; Sin et al., 2022). Gender wage gap is also a common research topic in labor economics, which means that there is ample evidence supporting gender issues, where firms often play an important role in wage inequality (Barros & Santos Silva, 2025; Card et al., 2018), but the influence of family is also significant (Lundberg & Pollak, 1993; N. Qian, 2008). In most cases, the gender issues being discussed usually revolve around inequality. As what have been referred, the inequality is cacused by gender rather than ability, female could increase their income by increasing their ability to reach the same wage with male but they always make a over effort than others. There is still an argument on whether the income inequality lead to gender inequality, and gender imbalances are driven significantly by gender-specific income differences (Deng & Tong, 2020) .

Proposed Solutions and Changes

Promoting inclusive education and ensuring the equitable distribution of educational resources in the gender dimension. Education is a fundamental way of eliminating gender bias and promoting gender equality. Its positive effects are not only reflected in changes in individual perceptions but can also influence the gender concepts of society as a whole through intergenerational transmission. At the level of concrete implementation, the system should be designed to focus on the educational opportunities for women in economically less developed regions, establish a special financial support mechanism, and strengthen the balanced allocation of educational resources, to realize the positive role of educational empowerment in promoting gender equality.

Promoting women's participation in the labor market and eliminating gender discrimination in employment. Since Chinese economic reform, there has been a remarkable change in the degree of women's participation in the labor market. To reverse this trend, legislation should regulate recruitment practices, eliminate gender discrimination, and build incentive mechanisms to promote women's career development. At the same time, a comprehensive career development support system should be established to provide women with equal employment opportunities and space for career development, to reconstruct a more equal labor market structure.

Reasonable understanding of the gender division of labor to optimize the efficiency of social resource allocation. The difference between urban and rural areas and the level of education have led to significant differences in people's perception of the gender division of labor. On the basis of a full understanding of gender characteristics, we should break through the limitations of the traditional gender division of labor model and establish a resource allocation mechanism oriented by ability and willingness. At the same time, we should promote a balanced distribution of domestic work, break the traditional gender role stereotypes, and realize gender equality in the family and occupational fields.

Improve the legal system and build an institutional guarantee system for gender equality. The existing marriage system and social structure still have systematic unfavorable effects on women. Therefore, it is imperative to establish and improve laws and regulations related to gender equality, strengthen the effectiveness of the enforcement of the anti-sex discrimination law, and improve the legal aid mechanism, so as to provide a solid guarantee of gender equality under the rule of law. At the same time, a systematic policy evaluation mechanism should be established to ensure that the relevant laws and regulations are effectively implemented, so as to effectively guarantee the realization of gender equality.

Building on these four points, ESG provides an effective solution for advancing the achievement of SDG 5. First, the “S” component of ESG evaluates the gender ratio of male and female employees within companies, and ESG ratings are often positively linked to a company’s overall evaluation. This correlation incentivizes companies to avoid practices that hinder women from entering the labor market. Additionally, higher scores in the “S” component enhance a company’s overall evaluation, with a positive corporate image serving as a strong motivator for improved business performance.

Additional Whispers

Story I: Correlation and Causation

As demonstrated, these 17 goals are not independent but a network interconnected with one another, which has been supported by data (Qi et al., 2023) and there are further supported by adequate existing studies attempting to establish correlations during this period.

From the empirical perspective of this paper, it can also be observed that an increase in education levels reduces gender inequality. There is also evidence that gender equality increases infant survival rates and children's educational attainment (Farmer & Tiefenthaler, 1995; N. Qian, 2008).

There is evidence from Brazil saying male-specific labor demand shocks increased support for Bolsonaro, while female-specific shocks had the opposite effect, leading to more conservative political preferences among men, supporting the notion that gender equality is helpful in achieving peace and justice (Barros & Santos Silva, 2025).

In the back words, inequality reduces income growth among the poor but has no impact on the wealthy. Existing longitudinal data provide limited support for the Kuznets hypothesis (Deininger & Squire, 1998). The Environmental Kuznets Curve, derived from the Kuznets Curve, illustrates the relationship between the environment and economic growth (Hettige et al., 2000; Koop & Tole, 1999).

Besides, the improvement of water quality also strengthens urban safety and sustainability (Liu et al., 2024). Supervision is an effective method for improving the urban environment and enhancing public well-being (Zou, 2021). There are also discussions about forests, suggesting that when urban livability improves, people are less likely to engage in deforestation (Bošković et al., 2023). Many articles have discussed the causal relationship between them, so it will not be elaborated or listed further here.

Story II: Half of the Sky

Half of the sky is a slogan emphasized by *the women of the new society*, which led women, who were traditionally expected to stay at home and manage household duties, to enter the labor market, giving them a sense of respect, in 20th-century China, aimed at encouraging more women to enter the labor market (Kou, 2025). The emergence of this slogan, on one hand, promoted equality between men and women in various aspects, although the background of the slogan was the insufficient male labor force to cover the labor market.

With the impetus of Chinese economic reform and the favorable momentum from joining the WTO, men's incomes became sufficient to cover the family's expenses, causing some women in urban areas to exit the labor market, which transformed them into full-time housewives, a role that most of them didn' t wish to assume. Over the subsequent years, women gradually re-entered the labor market; however, the persistent gender wage disparity has fostered underlying social risks.

Why is it that women are always the ones being affected? This clearly undermines the contributions of women, both in the labor market and within the household. A feasible foundational approach suggests that equality is not simply about equal rights but about fostering mutual respect as a prerequisite.

Story III: Lexical Bias

There is a word called *Feminism* but there is no equivalent term to describe men. From a linguistic perspective, this could be considered a form of gender discrimination.

The emergence of new words carries both contingency and inevitability. The inevitability of the word *feminism* lies in the gender inequality and imbalance within society. According to Chizuko Ueno, the roots of feminist thought can be traced back to the Enlightenment era and the rise of modernity. During the Enlightenment and the early development of capitalism, thinkers proposed ideas of reason, equality, and liberty. Although these ideas were predominantly male-centered, they provided intellectual support and a foundation for women to fight for equal rights and social status.

The march of history moves steadily forward, and the emergence of the term *feminism* is an undeniable reality. Thus, the focus should not be on preventing its existence but on seeking more effective solutions to address inequality.

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Figures

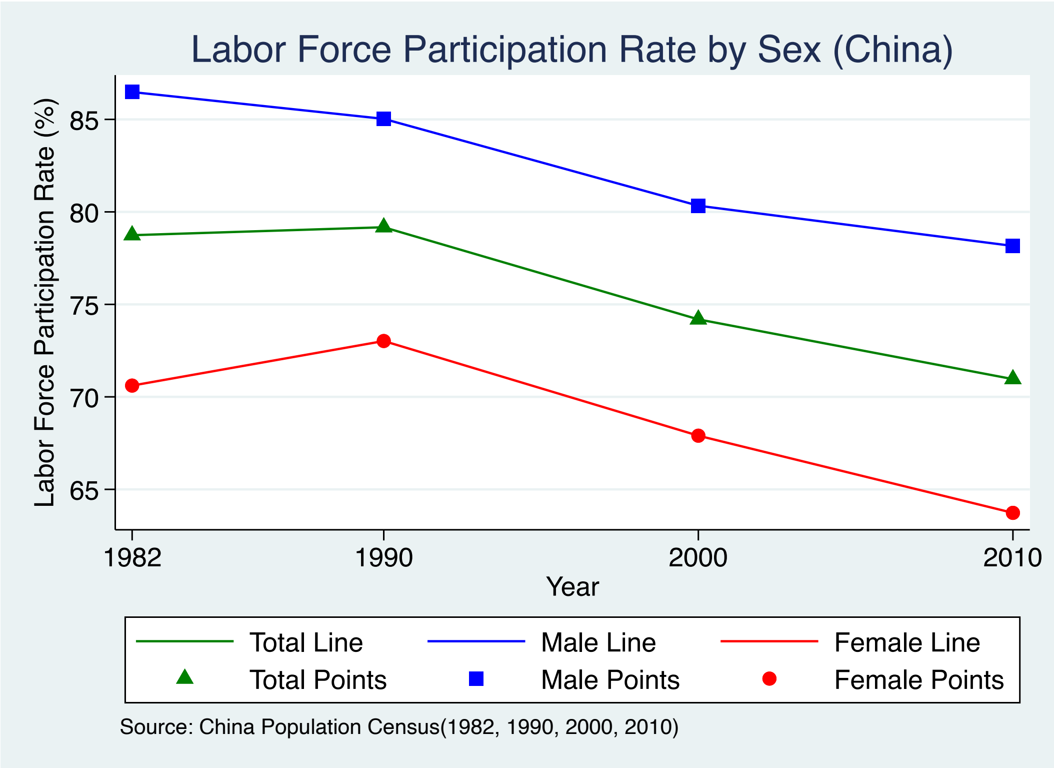

Figure 1 China Labor Force Participation Rate by Sex

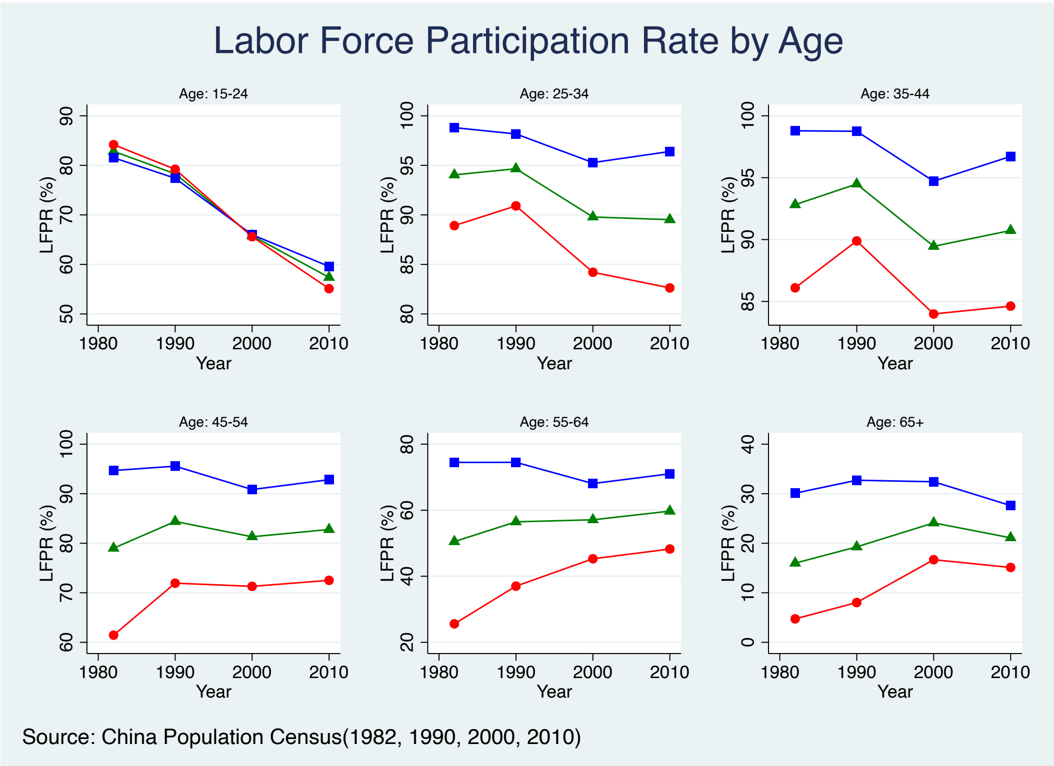

Figure 2 China Labor Force Participation Rate by Age

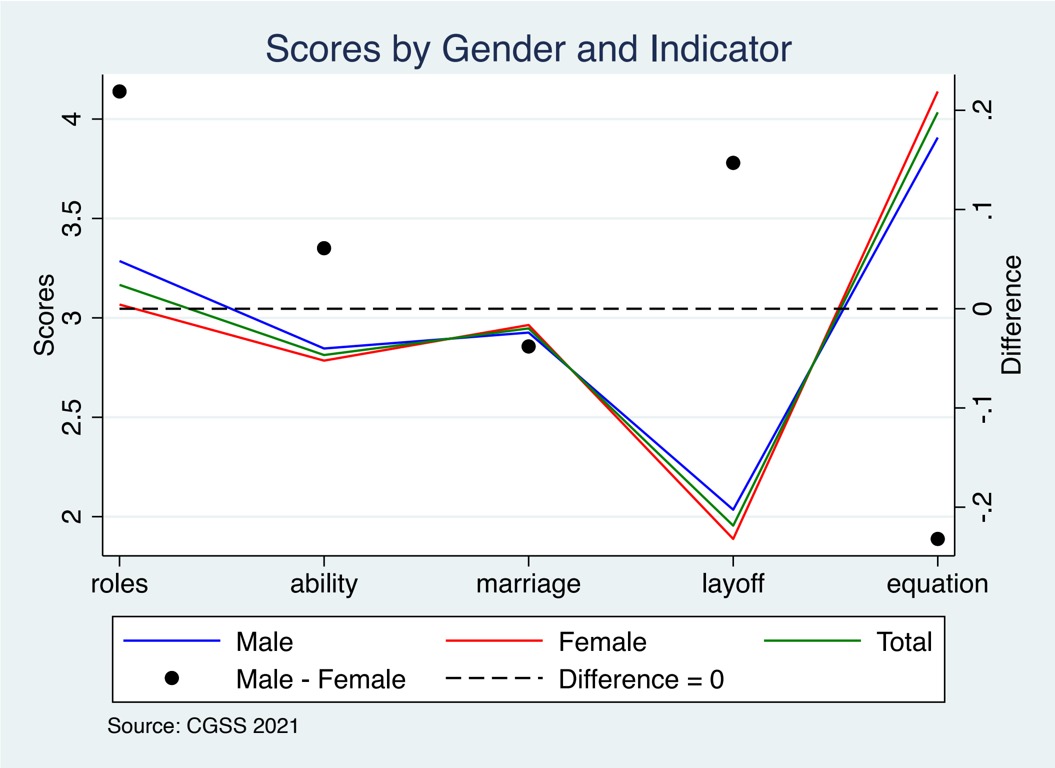

Figure 3 Sources by Gender and Indicator

Tables

Table 1 Description of Questions

Index	Question
roles	Men should focus on their careers, while women on their families.
ability	Men are naturally more capable than women.
marriage	It's better to marry well than to work hard.
layoff	During economic downturns, women employees should be laid off first.
equation	Husbands and wives should equally share household chores.

Table 2 Descriptive Statistics

VARIABLES	N	MEAN	SD	MIN	MAX
gender	8,148	0.452	0.498	0	1
hukou	8,148	1.770	1.157	1	7
educ	8,148	0.131	0.338	0	1
eduy	8,127	9.307	4.726	0	19
age	8,148	51.64	17.57	18	99
children	8,139	1.659	1.240	0	13
son	8,139	0.891	0.820	0	11
daughter	8,139	0.768	0.925	0	11
ln(income)	4,367	10.20	1.349	2.996	16.12
ln(mate_income)	3,280	10.30	1.198	4.868	16.12
ln(wgap)	2,546	10.09	1.214	4.868	16.12
is_marriage	8,148	0.711	0.453	0	1
roles	8,079	3.166	1.349	1	5
ability	8,041	2.813	1.319	1	5
marriage	8,003	2.947	1.337	1	5
layoff	7,812	1.955	1.065	1	5
equation	8,087	4.034	1.050	1	5

Table 3 Descriptive Statistics by gender

VARIABLES	MALE		FEMALE	
	N	MEAN (SD)	N	MEAN (SD)
roles	3,656	3.286	4,423	3.067
		(1.276)		(1.400)
ability	3,639	2.846	4,402	2.785
		(1.273)		(1.354)
marriage	3,617	2.926	4,386	2.964
		(1.300)		(1.367)
layoff	3,553	2.035	4,259	1.888
		(1.071)		(1.055)
equation	3,653	3.907	4,434	4.139
		(1.084)		(1.010)

Table 4 Testing IV

VARIABLES	(1) sumscore	(2) sumscore	(3) sumscore	(4) ln(income)
ln(income)	-0.734***			
	(0.042)			
eduy		-0.271***	-0.260***	0.128***
		(0.010)	(0.010)	(0.004)
age		0.035***	0.187***	0.051***
		(0.003)	(0.013)	(0.007)
age2			-0.002***	-0.001***
			(0.000)	(0.000)
Constant	22.187***	15.613***	12.133***	8.221***
	(0.430)	(0.205)	(0.352)	(0.180)
Observations	4183	7630	7630	4357
R^2	0.069	0.193	0.208	0.306
F	310.627	912.059	668.754	640.519

Standard errors in parentheses

** p<0.05, ** p<0.01, *** p<0.001*

Table 5 OLS Results

VARIABLES	(1) roles	(2) ability	(3) marriage	(4) layoff	(5) equation
gender	0.217***	0.058**	-0.042	0.137***	-0.229***
	(0.028)	(0.028)	(0.029)	(0.023)	(0.023)
hukou	-0.199***	-0.121***	-0.093***	-0.101***	0.027***
	(0.012)	(0.012)	(0.013)	(0.010)	(0.010)
educ	-0.568***	-0.536***	-0.476***	-0.176***	0.028
	(0.045)	(0.045)	(0.047)	(0.037)	(0.038)
age	0.020***	0.017***	0.015***	0.014***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	2.443***	2.218***	2.442***	1.381***	4.294***
	(0.052)	(0.052)	(0.054)	(0.043)	(0.044)
Observations	8,079	8,041	8,003	7,812	8,087
R^2	0.162	0.107	0.079	0.084	0.018

Standard errors in parentheses

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

Table 6 Testing Parameters(Fixed Province)

VARIABLES	(1) sumscore	(2) sumscore	(3) sumscore	(4) sumscore	(5) sumscore	(6) sumscore
gender	0.113	0.124	-0.178*	0.128	0.117	-0.134
	(0.080)	(0.081)	(0.104)	(0.080)	(0.080)	(0.108)
hukou	-0.364***	-0.356***	-0.459***	-0.350***	-0.359***	-0.376***
	(0.038)	(0.039)	(0.053)	(0.039)	(0.038)	(0.053)
educ	-1.499***	-1.485***	-1.228***	-1.478***	-1.415***	-1.414***
	(0.130)	(0.130)	(0.221)	(0.130)	(0.131)	(0.196)
age	0.063***	0.061***	0.056***	0.059***	0.062***	0.064***
	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)
son				0.220***		
				(0.061)		
daughter				-0.020		
				(0.050)		
children		0.067	-0.077			
		(0.043)	(0.053)			
is_marriage					0.397***	
					(0.092)	
wgap						-0.000
						(0.000)
Constant	12.424***	12.427***	13.436***	12.429***	12.185***	12.625***
	(0.153)	(0.154)	(0.221)	(0.153)	(0.163)	(0.229)
Observations	7,649	7,640	4,996	7,640	7,649	4,579
R^2	0.137	0.137	0.068	0.139	0.139	0.090
Adj. R^2	0.130	0.130	0.0555	0.131	0.132	0.0764

Standard errors in parentheses

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

Table 7 DID Results

VARIABLES	(1) sumscore	(2) sumscore	(3) sumscore	(4) sumscore	(5) sumscore	(6) sumscore
gender	0.269***	-0.199	0.087			
	(0.084)	(0.159)	(0.091)			
hukou	-0.375***	-0.645***		-0.430***	-0.309***	-0.534***
	(0.036)	(0.050)		(0.039)	(0.058)	(0.053)
educ	-2.968***		-3.751***	-3.829***	-3.087***	-4.421***
	(0.123)		(0.168)	(0.259)	(0.379)	(0.352)
gender#hukou		0.240***				
		(0.074)				
gender#educ			1.159***			
			(0.243)			
hukou#educ				0.389***	0.292**	0.433***
				(0.102)	(0.148)	(0.141)
Constant	15.797***	15.883***	15.237***	16.011***	15.860***	16.137***
	(0.084)	(0.106)	(0.061)	(0.081)	(0.120)	(0.109)
Gender Limit	All	All	All	All	Male	Female
Observations	7,649	7,649	7,649	7,649	3,472	4,177
R^2	0.097	0.029	0.087	0.097	0.068	0.126

Standard errors in parentheses

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