

The Positive Effect of Promoting Gender Equality in Education on Economic Growth: From the Perspective of Gender Dividend

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Abstract. The gap between males and females in education appears not only in the semi-industrial regions but also in the industrial regions. Many literature have discussed the importance of promoting gender equality in education based on data-driven results. This study explains the conception and connotation of gender dividend, the positive effect of promoting gender equality in education from the perspective of gender dividend, and elaborates it from three dimensions based on Shi and Zhang's analytical framework: personal development dimension, family development dimension, and aggregate economy dimension. This study believes that gender equality in education would improve woman's status, entire population human capital, family development and economic development level through the three channels. This study also argues that promoting gender equality in education in countries experiencing economic structure transformation is necessary and comes up with two directions for future research: focusing on the effect of promoting gender equality education and parents' preference towards children's gender structure.

Keywords- gender equality in education; economic growth

1. INTRODUCTION

The gender gap in education has been narrowed down quite a lot with the development of the economy. It is still one of the most important impediments for women's development in middle-income countries. According to the World development report in 2012, compared with boys, girls are more prone to be out of school in the indigenous Kreung and Tampuen in 2001. Girl's attendance at school varied from 10 percent to 60 percent across different villages. These out-of-school girls had to engage in agricultural works to supply their family and take care of their siblings. Due to the limited food supply in these villages, girls were most likely to be affected by poor conditions: they tended to be the last child to eat and receive non-nutritive food [1]. Although it might be an extreme case, many girls in developing countries suffer from the gender gap in education and gender discrimination from family or society. Even girls from developed countries still being unequally treated. This study stresses the importance of

promoting gender equality in education and elaborates on how it positively affects economic growth from the perspective of gender dividend.

In 1989, Benavot firstly argued that existing literature till 1989 did not consider gender gaps when establishing the model of education and economic growth. He finds that women's participation rate only explained women's education level in the labour market [2]. After that, more and more researchers begin to focus on gender equality problem in education. Much literature reveals the positive relationship between promoting gender equality in education and economic growth based on data from the aggregate level. In the last ten years, the conception "gender dividend" is put up by Carmen Pages and Claudia Piras. It develops from the demographic dividend and focuses on the benefits brought by promoting gender equality [3]. This study explains the positive effect of promoting gender equality on economic growth, based on Shi and Zhang's analytical framework for gender dividend. It concludes that promoting gender equality would improve economic development through women's development, family development, and aggregate economy levels [4]. Section 2 explains the conception and analytical framework of gender dividend. Section 3 elaborates the mechanism of the positive effect of promoting gender equality in education on economic growth through the 3 dimensions. Section 4 discusses the necessity of promoting gender equality in education in middle-income countries and discusses two future research directions: short-run effect and long-run effect of gender equality in education, the effect of parents' preference of children's gender structure.

2. GENDER DIVIDEND: CONCEPTION AND ANALYTICAL FRAMEWORK

2.1 The conception of demographic dividend and gender dividend

"Demographic dividend" is the base of "gender dividend". It mainly focuses on fertility rate, mortality rate, and population age structure. The conception of "demographic gift" was firstly proposed by Bloom and Williamson in 1998 [5]. They investigate the effect of demographic transition in East Asia countries in the twentieth century on economic growth. These countries experienced a transition that the high fertility rate and high mortality rate gradually turned to high fertility rate and low mortality rate. It has a trend to turn to low fertility rate and low mortality rate. They claim that this transition provides an opportunity for developing countries to improve people's living standards and accelerate economic development. The United Nations Population Fund (UNFPA) uses the term "demographic dividend", claiming a high proportion of working ages people in the total population. Overall, the three channels to realize demographic dividend are increasing labour supply, increasing saving amount, and increasing the return rate of human capital investment [4]. Due to the effect of aging population, the demographic dividend brought by the lower fertility rate cannot last persistently. Mason and Lee further explain the demographic dividend. They claim that the aging population can accelerate capital accumulation and increase the capital intensity, which would improve working people's per capita output [6].

According to Shi and Yang, the conception of demographic dividend should focus not only on the number of people but also on the quality of the population [7]. Yang et al. further extend it to spatial structures of population, then construct an analytical framework of economic growth from the perspective of demographic dividend. They claim that the dividend of the total

number of a population refers to a relatively lower manufacturing labour cost. The dividend of population quality refers to the increase in the level of education on population, leading to a higher level of comprehensive quality of population, which would lead to a higher level of aggregate productivity. The dividend of spatial population structure refers to the release of potential productivity during the urbanization or non-agricultural process of the agricultural labour force [8]. Yang et al.'s analytical framework is an extension of demographic dividend and provides a standard methodology to investigate the gender dividend [4].

In 2010, Carmen Pages and Claudia Piras first came up with the term "gender dividend", comparable with "demographic dividend" [3]. Gender dividend focuses on the key role women playing in society and the household. They claim that promoting women's access to employment and decent jobs can boost economic growth and eliminate poverty. UN Women also suggest that gender dividend means empowering women since it benefits the women cohort and further benefits everyone in society. Gender dividend should service for women and children and speak for women. Overall, we can understand gender dividend from two economic benefits channels: First, utilizing women's existing skills and potential skills can boost economic growth and stimulate productivity. Second, the fact that those women have been engaged in management or leadership positions might be an important advantage for companies to survive in the recession. In 2010, UN Women released the Women's Empower Principle, calling that women's engagement in the labor market can promote an equal working environment and a healthier family. Till 2021, 4895 companies in the world have become its signatories. In 2011, World Economic Forum launched Economic Dividend for Gender Equality (EDGE), an assessment methodology and business certification standard for gender equality, including gender equality in promotion, salary, policies, and culture. There are more than 200 certified organizations in the world till 2021.

According to Shi and Zhang, the connotation of gender dividend involves three aspects: personal development, family development, and economic development. From a personal development perspective, women can better control their lives by improving their status and investing more in their human capital and social capital to acquire a better condition of material life and higher social status. From a family development perspective, women's large contribution to family without payment and their family status can be acknowledged and affirmed by society. With stronger power towards controlling resources in the family, women are prone to invest more in children's education and family health, which benefit from improving family development and eliminating poverty in intergenerational transmission. From an economic development perspective, women's engagement in the labour market promotes gender equality in all works of life [4]. Women's productivity can be released efficiently, which would provide a sufficient labour force for economic growth. The three perspectives are different. They focus from individual to aggregate levels, while it is also a progressive layer of process, a mutual promotion process.

2.2 The analytical methodology based on gender dividend

Shi and Zhang propose an analytical framework of gender dividend based on Andrew Morrison's gender equality and economic growth (or poverty reduction) analytical framework [4]. Their study discusses gender equality from the perspective of social gender equality, not absolute gender equality, which means that social gender equality is the equality of opportunities, resources, rights, and speaking rights. The goal of improving women's status is

giving women options towards education, health, and economic opportunities and improving the effectiveness of their actions. During the process of improving women's status, the gender dividend it released would positively affect income and consumption and benefit the whole society, which mainly reflects on personal development, family development, and relieving intergenerational poverty transmission.

They also propose three dimensions of gender dividend. First, the improvement in women's status and personal development. The core target to promote gender equality or improve women's status is empowering women. The only way to improve women's action capability in every field in society is fundamentally improving women's freedom. Second, women's status in family and women's role in relieving poverty and boosting family development. In the short run, the improvement in women's status would increase the whole family's productivity and income level. In the long run, the improvement in women's status would increase the investment in family's human capital, leading to a persistent alleviation of poverty in the family, which would be helpful to eliminate the intergenerational poverty transmission. Third, the improvement in women's status and economic growth. The most important relationship between them is the potential skills and gifts that women have, which would be used in the labour market but have been ignored to some extent and have been suppressed by fertility and family pressure. What's more, the improvement in women's status can boost economic growth through increasing saving amounts. See Fig. 1.

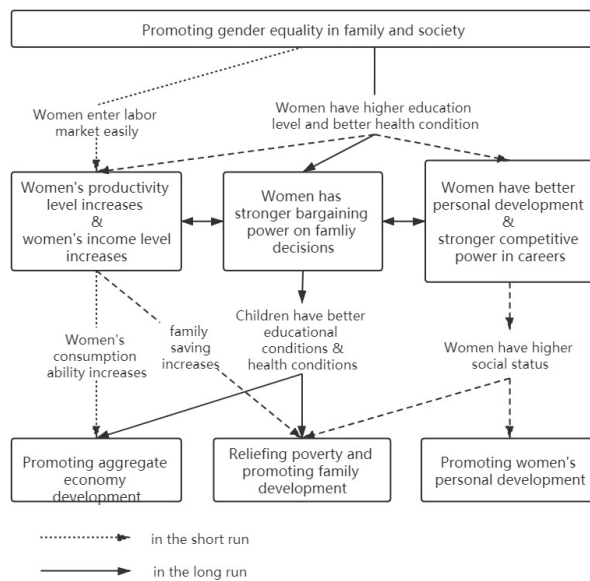


Figure 1. The analytical framework of gender dividend.

However, it is important to understand that improvement in women's status does not have a causal relationship with economic growth. For instance, if there are no sufficient job opportunities, women's participation rate in the labour market would not increase significantly.

This study discusses the importance of promoting gender equality in education from the perspectives of the three dimensions and elaborates the mechanism of education's role in improving women's status at the personal level, family level, and aggregate level, which would then boost economic growth from three dimensions.

3. THE EFFECTS OF PROMOTING GENDER EQUALITY IN EDUCATION FROM THREE DIMENSIONS

3.1 Promoting gender equality in education: personal dimension

Promoting gender equality can improve women's education level and women's health conditions. This is a benefit to women's personality and career development, which would further lead to a higher productivity level in society and better family development.

Many literature are claiming that the marginal returns of education on girls are higher than the marginal returns of education on boys [9, 10]. It is necessary to promote gender equality in education since women's potential skills and talents are not used efficiently. According to a World development report in 2012, women are more prone to engage in labor-intensive and low-productive jobs. In business or management sectors, women tend to manage relatively small firms or departments, or women tend to lead the less important and less profitable business projects [1].

Women's better personal development can improve the objective conditions against gender inequality in the labour market, which would also improve the allocation of talent. Lucas investigates the economic growth from the perspective of the effect of education on human capital accumulation, which is homogeneity towards the entire population, including women's talent, and based on the entire society [11]. Esteve-Volart also gives an insight into it. The distortion of talent allocation across all walks of life would lead to a decrease in total available talent in the economy, further slowing down technology growth [12]. Plank-Bazinet et al. find that the increase in women's work in scientific fields would increase scientific discoveries, bring economic benefits, and improve women's health conditions, which means investing in women would improve economic development [13]. Hence, eliminating gender gaps in education, which leads to a higher education level of the entire population, can better allocate talent. Blackden proposes a similar idea. The inequality in education can lead to a decrease in total human capital in the whole economy, which would impede the economy's growth since there is a loss on educated female labor force who are qualified to engage in non-manual work [14]. Overall, the positive effect of increasing the number of educated women on the labour market and the aggregate economy would further increase the investment in women's human capital from the society, especially increase women's education level and health condition [4].

Besides that, women's personal development in education tends to be influenced by the family environment. By investigating the enrolment rate of the elementary school in China's rural area, Hannum finds that the acquirement of girl's education opportunity is more likely to be affected by family income level. It means that the improvement of average family income level can promote gender equality in education. It would be reinforced by a higher level of women's productivity in the labour market [15]. Filmer claims that the relationship between the gender gap in education and wealth unevenly distributed is positive: the more uneven

wealth distribution, the larger the gender gap in education [16]. Yuan elaborates a similar point. She claims that the change in income distribution can influence education gender equality significantly as well [17]. A larger income distribution gap harms promoting education gender equality. Smaller income distribution has a positive effect on it. Gao and Hu believe that the low-income level in the family is the main reason for gender gaps in education in China's rural area. However, it is not changeless and it would change with the improvement of family income level, vice versa [18].

From the perspective of women's bargaining power, the increase in the number of educated women can improve their bargaining power at home due to their increased contribution to family income and family caring. According to Klasen, and Wink, if women's bargaining power at home is weak, the total investment of a family on children's human capital tends to be less, which can decrease the aggregate productivity level and impede the technology growth of the economy [19].

Besides that, according to World Bank reports in 2001, the gender gap in education impedes the development of women and has a negative effect on men and children through the lack of knowledge of HIV perspective and poor child-care perspective [10].

3.2 Promoting gender equality in education: family dimension

Compared with personal development, promoting gender equality in education influences women's family status indirectly. In the short run, the increase in the number of educated women would improve the productivity level of a family, which majorly shows on higher family income level and more available labour force. Based on that, Li investigates the influence of family background (the education level of parents, father's occupation, etc.) on the boys' and girls' opportunity of acquiring education. She claims that although boys and girls benefit from the improvement of family development, girls gain more from it, which would help promote gender equality in education. It is a positive loop of increasing the number of educated women [20]. Zheng finds that the economic development level itself can not explain the gender gap in education. Compared with boys, family environment and neighborhood would affect girls' education level more, especially mother's education level, and the number of siblings, and the enrolment rate of peers [21]. Kalmijn, van de Werfhorst believe that the gender structure of siblings is the reason for gender discrimination in the family, which means the appearance of male siblings would decrease women's educational opportunities [22].

In the long run, promoting gender equality in education would increase human capital investment in the family, eliminating poverty in intergenerational transmission. Before that, it is necessary to consider the increase in human capital from the fertility side. Promoting gender equality in education decreases aggregate population growth by decreases in fertility. This decline leads to a positive feedback loop in the economic growth [23-25]. Lagerlof argues fertility would fall when couples share an equal education level since they will concentrate on the quality of the well-being of their children instead of the number of children. Mortality also declines, while it is a relatively small decrease compared with the larger decline in fertility. Thus, the net effect of promoting education equality is a decline in fertility, inducing a decline in population growth, and an increase in income level, which can jointly promote a more stabilized balanced growth path [26]. Blackden et al. believe that promoting gender equality in education would increase human capital investment on women's next

generation. The improvement of women's education level would significantly decrease children's fertility rate and mortality rate [14].

Bloom and Williamson investigate the economic growth in East Asia and find that fertility transition is one of the important channels. They think the high level of fertility raises the number of the young labour force, which would improve economic development [5]. While nowadays, most East Asia countries have started their industrial transformation, the proportion of labor-intensive industries has declined compared with the 1990s, and these countries have started the demographic transition to low fertility and low mortality.

Besides that, Galor and Weil also point out that women are prone to invest more in child-care since the increase in women's relative wage pushes up the price of child-care, which is proportionally more than the increase in the wage of the household level [25]. This is also confirmed by Stotsky, who claims that women have a relatively stronger preference on investing in the human capital of children. Stotsky also claims that women have a stronger preference towards investment in children's human capital and savings, while at the same time, women tend to be less risk-averse, which means they invest more in productive projects [27].

Hence, firstly, promoting gender equality in education would lead family concentrate on children's quality instead of children's number by lowering fertility. Secondly, it would give mothers more power to decide the amount of investment in their children by improving women's family status.

Besides that, promoting gender equality in education can improve economic growth through the fertility channel and human capital investment channel. Women's labour market participation is also one of the channels. Cavalcanti and Tavares find that the increase in women's participation rate in the labour market would lead to a higher demand for public service, which would relieve women's burden of caring for children [28]. What's more, with lower fertility, women tend to participate in the labour market more, which would further promote gender equality in the labour market.

According to Zheng, after the reform and opening-up policy in China, women's participation in the labour market has decreased with the higher level of economic growth. She claims it is a rational choice of women, based on the change in family and social environment [21]. Women decide to devote themselves to rearing children and arranging housework, which is also discussed by Lam et al., claiming that due to the spread of hygienic knowledge in the 19th century, women's household work is valued by society, and they choose to arrange housework instead of working outside [29]. Based on the trends demonstrated by Fig.2, besides that the gender gap in labor market participation rate would still be large in the future all over the world, the trend of women's labor market participation rate is downward in both developing countries and developed countries.



Figure 2. Labor market participation rates by genders and income levels. Source: ILOSTAT, ILO modelled estimates, July 2018.

To avoid further reduction of women’s participation in the labor market, public service needs to be improved to substitute the family’s labor requirement. Greenwood, Seshadri, and Yorukoglu point out that the improvement of public service and household appliances enables women to freely participate in the labour market by freeing them from the housework’s burden [30]. Also, promoting gender equality is necessary to help women better decide whether they would participate in the labour market. Corresponding policy and labour system towards enabling women better handle jobs and housework world further encourage women to participate in economic activities. According to Revenga and Shetty, the investment in public hygiene and education has a negative relation to women’s unpaid housework. They even propose that women’s housework needs to be socialized and paid systematically in order to stress the underestimation of society towards women’s traditional work [31].

3.3 Promoting gender equality in education: aggregate economic dimension

According to Li’s investigation in Sweden, there is a positive relationship between the economic development level and gender equality level [32]. Since Sweden is one of the most gender-equalized countries in the world, its gender equality in education has been promoted at a high level. Hence their policy majorly focuses on social welfare and the labour market. While it is not feasible for other countries to jump into this step without promoting gender equality in education firstly. Morley believes that higher education is still a luxury for women in the education market in low-income countries, and women’s high-level development in society is impeded. Women’s voice of chasing for rights, knowledge, and equality is buried [33]. What’s more, Chisamy’s survey in the rural areas of Bangladesh and Malawi reveals that people in these regions believe women are inferior to men in intelligence, personality, and future development. Even women get the same marks in the examination as men [34]. Hannum’s tracking studies in northwest China also get similar conclusions: during the compulsory education period, although girls’ average academic behaviour is superior to boys’, family and neighborhood’s expectation to boy is still higher than girls, which even suppresses girls’ passion and enthusiasm towards education [15]. Women’s potential skills and talents are restrained not only by the limited chance of acquiring education but also by people’s attitudes towards gender discrimination. In Fig.3, we can see that the out of school rate of girls is higher than that of boys in developing regions in 2018.

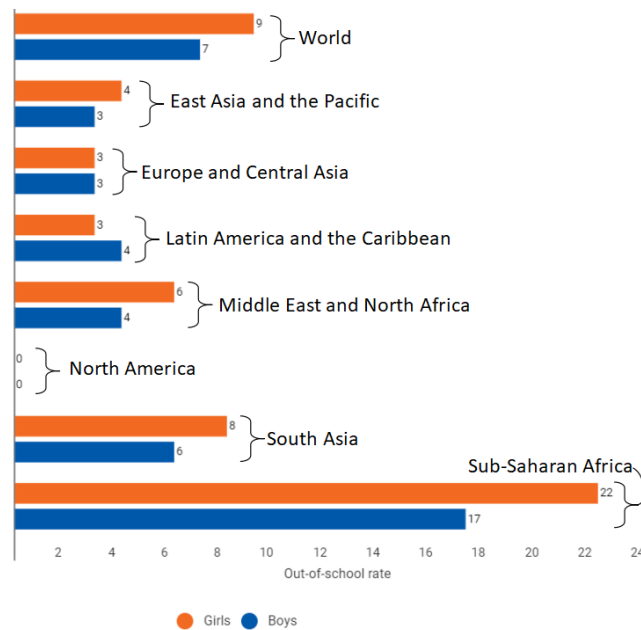


Figure 3. Out of school rates in children by genders in 2018. Source: UNESCO Institute for Statistics global databases, 2019

Many literature have claimed that gender gaps in education have a negative effect on economic growth and found that gender discrimination in education can be costly from the perspective of education, which majorly shows a slower economic growth and a lower income level [9][35, 36]. A better economic environment and a more steady economic growth path can be achieved with an exogenous improvement on women's access towards education, which is also confirmed by Lagerlof and Klasen, claiming that the poverty trap caused by gender inequality slows down the economic growth [24][26]. Sun uses province-level panel data in China and concludes that a higher level of gender equality in education would improve economic growth through a higher return on human capital and higher return on physical capital [37]. What's more, Wang points out that although economic growth would promote gender equality, it is not true that gender equality would be promoted in every aspect [38]. Poverty and low-income level is not the key of generating gender inequality, which means that eliminating gender inequality should not only rely on economic growth and needs more targeted policies based on cultural and systematic difference. Macroeconomic policies have two sides effects on gender equality. The positive side is that it would promote gender equality by increasing income level, gender equality in education and public service. The negative side is that the structural transformation of the economy does not have a positive effect on women. Instead, the increase in labour market participation comes from the increased number of job opportunities in low income, and low skill required manufacturing sectors, which is not comes from gender equality. Boserup also propose a similar idea: when the economy further transforms into the capital intensive economy and technology-intensive economy, the trend of women's participation in the labour market tends to decrease [39].

Wang points out that compared with promoting gender equality in basic education, higher education is not the primary investigated object of eliminating poverty and gender inequality, which might be the future research direction due to the high level average economic development of the world. Hence, promoting gender equality would relieve this negative effect to some extent, and it is a long-run process. Although its economic benefit might not show signs in the short run, it would stabilize the long-run economic growth path [38].

4. CONCLUSION

In summary, this study discusses the importance of promoting gender equality in education from three dimensions of gender dividends: Personal development dimension, family development dimension, and aggregate economic dimension. This study believes that promoting gender equality in education would improve economic development through the three channels above, from indirect to direct, from the micro level to the macro level.

On the other hand, does economic development promote gender equality in education? This is an ambiguous question. Firstly, economic growth improves a family's income level, which would relieve the constraint on investing human capital. Second, as 3.3 discussed, the increase in women's participation in the labour market does not mean an increase in women's job quality and income level. In some countries, the economic transformation leads women to engage in low-skill required work, which would further enlarge the gender gap in education. A similar point has been discussed by Seguino. Her research on export-oriented and middle-income countries claims that the significant economic growth in these countries has a positive relationship with the gender gap in income [40]. This result is temporary since the greater demand and smaller supply of female labour force would increase women's wages. With the optimizing of economic structure, the narrowing gender gap in education would encourage women to engage in high skill required job and stimulate women's potential talents, which would then speeding up the economic transforming process and boost economic growth. What's more, persistently promoting gender equality in education would improve economic development by improving the entire population's human capital, especially for developing countries. The decrease in fertility rate with the increase in the number of educated women would lead to a proper population age structure. Hence the negative effect is temporary and promoting gender equality would improve economic growth in the long run unambiguously.

This study proposes two directions for future researches. First, concentrating on the short-term effect and long-term effect of promoting gender equality in education among countries that are experiencing transformation in economic structure. Since the gender equality problem in these countries is most complex and ambiguous. Relevant policies need to be further revised to improve women's social status. The proportion of educated women needs to be improved. While it does not mean educated women have to work outside to prove their economic value, women's unpaid housework needs to be acknowledged by society. Second, establishing models towards the effect of different children's gender structure on parents' economic decisions. Family is an important pivot to connect individual and aggregate levels. Parents' preference towards the children's educational opportunity subject to family income budget constraint would impact gender equality in education directly.

REFERENCES

- [1] World Bank. World development report 2012: Gender equality and development (The World Bank, 2011)
- [2] A. Benavot. Education, gender, and economic development: A cross-national study. *Sociology of education* (1989): 14-32
- [3] C. Piras. The gender dividend: capitalizing on women's work. Inter-American Development Bank (2011)
- [4] Z. Shi, T. Zhang. Gender Dividend: A New Perspective for Understanding Social and Economic Development. *Journal of Zhongnan University of economics and law* 03 (2020): 61-70, 159
- [5] D.E. Bloom, J.G. Williamson. Demographic transitions and economic miracles in emerging Asia. *The World Bank Economic Review* 12, 3 (1998): 419-455
- [6] R. Lee, A. Mason. What is the demographic dividend? *Finance and development* 43,3 (2006): 16
- [7] Z. Shi, Y. Yang. Demographic dividend, human capital resource re-development and economic development. *Study and Practice* 05 (2013): 15-22
- [8] Y. Yang, H. Xiang, R. Huang. "Selective Two-child" policy and the demographic dividend of Hubei Province. *Journal of Zhongnan University of economics and law* 05 (2014): 3-8, 15, 158
- [9] M.A. Hill, E. King. Women's education and economic well-being. *Feminist Economics* 01,2 (1995): 21-46
- [10] World Bank. *Engendering development* (The World Bank, 2001)
- [11] R.E. Lucas Jr. On the mechanics of economic development. *Journal of monetary economics* 22, 1 (1988): 3-42
- [12] B. Esteve-Volart. Gender discrimination and growth: Theory and evidence from India. (2004)
- [13] J.L. Plank-Bazinet et al. Women's careers in biomedical sciences: implications for the economy, scientific discovery, and women's health. *Journal of Women's Health* 26, 5 (2017): 525-529
- [14] M. Blackden et al. Gender and growth in Sub-Saharan Africa: issues and evidence. *Advancing Development* (2007): 349-370
- [15] E. Hannum, P. Kong, Y. Zhang. Family sources of educational gender inequality in rural China: A critical assessment. *International journal of educational development* 29, 5 (2009): 474-486
- [16] D. Filmer. Gender and wealth disparities in schooling: Evidence from 44 countries. *International Journal of Educational Research* 43, 6 (2005): 351-369
- [17] Q. Yuan. Income and Income Distribution on Educational Gender Equality: An Empirical Research on the Provincial Panel Data From 2002 to 2016. *Journal of Shandong Women's University* 02 (2019): 34-41
- [18] J. Gao, P. Hu. A Study on the Influence of Family Background on Gender Inequality in Rural Education. *Journal of Southwest Petroleum University (Social Science Edition)* 17, 05 (2015): 57-63
- [19] S. Klasen, C. Wink. Missing women: Revisiting the debate. *Feminist Economics* 09, 2-3 (2003): 263-299
- [20] C. Li. Gender Differences in Educational Attainment: Impacts of Family Background on Educational Attainment of Men and Women. *Collection of Women's Studies* 01 (2009): 14-18
- [21] Z. Zheng. Progression of Women's Status in Health, Education and Employment Reflected in Census Data. *Journal of Shandong Women's University* 04 (2020): 1-8
- [22] M. Kalmijn, H.G. van de Werfhorst. Sibship size and gendered resource dilution in different societal contexts. *PLoS One* 11, 8 (2006): e0160953
- [23] G.S. Becker, G.S. Becker. *A Treatise on the Family*. Harvard university press (2009)

- [24] K. Bardhan, S. Klasen. UNDP's gender-related indices: A critical review. *World Development* 27, 6 (1999): 985-1010
- [25] O. Galor, D.N. Weil. The gender gap, fertility, and growth. *National Bureau of Economic Research* w4550 (1993)
- [26] N.P. Lagerlöf. Gender equality and long-run growth. *Journal of Economic Growth* 08, 4 (2003): 403-426
- [27] J.G. Stotsky. Gender and its relevance to macroeconomic policy: A survey. (2006)
- [28] T.V.V. Cavalcanti, J. Tavares. Women prefer larger governments: Growth, structural transformation, and government size. *Economic Inquiry* 49, 1 (2011): 155-171
- [29] T. Lam et al. REACHing Vietnamese-American Women: A Community Model for Cervical Cancer Screening. The 130th Annual Meeting of APHA (2002)
- [30] J. Greenwood, A. Seshadri, M. Yorukoglu. Engines of liberation. *The Review of Economic Studies* 72, 1 (2005): 109-133
- [31] A. Revenga, S. Shetty. Empowering Women Is Smart Economics-Closing gender gaps benefits countries as a whole, not just women and girls. *Finance and Development-English* 49,1 (2012): 40
- [32] S. Li. Study on Gender Equality Policy From the Perspective of Social Policy in Sweden. PhD dissertation. Harbin Institute of Technology (2019)
- [33] L. Morley. Gender equity in Commonwealth higher education. *Women's studies international forum*. 28, 2-3 (2005)
- [34] G. Chisamya et al. Gender and Education for All: Progress and problems in achieving gender equity. *International journal of educational development* 32, 6 (2012): 743-755
- [35] K.J. Forbes. A reassessment of the relationship between inequality and growth. *American economic review* 90, 4 (2000): 869-887
- [36] S. Klasen. Low schooling for girls, slower growth for all? Cross-country evidence on the effect of gender inequality in education on economic development. *The World Bank Economic Review* 16, 3 (2002): 345-373
- [37] L. Sun. An Empirical Study of A Linkage Between Equality in Education and Economic Growth. Zhejiang University, MA thesis.(2008)
- [38] A. Wang. The Front of the Relationship between Gender Inequality and Economic Growth. *Economic Perspectives* 06 (2014):113-123
- [39] E. Boserup. *Woman's role in economic development*. Earthscan (2007)
- [40] S. Seguino. Gender inequality and economic growth: A cross-country analysis. *World Development* 28, 7 (2000): 1211-1230