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A Review of the Impact of FDI on Skill Acquisition

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Abstract

Foreign direct investment (FDI) is an important force that promotes the economic growth and social development in developing countries, and it is also an important factor that affects skill acquisition of local residents. Based on the recent literature, this paper systematically summarizes the impact of FDI on individual educational attainment. The conclusion shows that whether FDI could promote individual's skill acquisition, depends on the job opportunities and wages, as well as conceptual influence that FDI brings to the host country. This paper provides a reference for the long-term impact of FDI on the human capital accumulation, and indicates the available direction of related topic.

Key words: FDI; Skill acquisition; Labor market; Concept

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1. INTRODUCTION

As the main investment method of multinational enterprises, FDI has played an important role in the economic growth and social development of developing countries. Through transferring industrial production activities to the host country, FDI provides necessary financial and technical support for economic growth of the host country. For example, as the world's largest developing country, China's rapid economic development cannot be separated from the historical opportunity of deep integration into globalization (Branstetter and Lardy, 2008). After the implementation of the reform and opening-up policy, local governments have gained greater administrative discretion over local economic development with the decentralization of administrative power. The fiscal decentralization system based on fiscal contract has also stimulated the enthusiasm of local officials to promote economic growth (Qian and Roland, 1998). In the background of regional competition, local governments have significantly strengthened the pursuit of FDI (Xu, 2011). According to statistics from the United Nations Conference on Trade and Development, as shown in Figure 1, China has achieved rapid economic growth after 1992, and FDI inflows into China has grown rapidly at the same time. With China's accession to the WTO in 2001, China's economic growth and the FDI inflows into China ushered in a peak again. The entry of multinational companies provided Chinese local companies with objects for learning, and produced positive technology spillover effect within cities and industries (Wei, 1996).

Except for bringing technological progress to the host country, FDI also increase the employment demand in the local labor market, and promote the development of the labor market in the host country. The impact of FDI on the labor market is not only manifested in the increase in total employment, but also change the structure of labor demand through technological progress shock, which means the increasing proportion of skilled labor (Lipsey, 2004; Goldberg and Pavcnik, 2007). Meanwhile, the entry of multinational enterprises has increased the labor market's competition for skilled labor resources, making high-productivity enterprises willing to pay higher wages (Helpman et al., 2010; Johansson and Liu, 2020). While it also means that FDI increase the wage gap between skilled and unskilled labor, and enlarge the wage inequality. Feenstra and Hanson (1997) find that the wage inequality is related to the inflow of foreign direct investment that

occurred in Mexico in the 1980s. Due to the outsourcing business activities brought by multinational companies, the demand for skilled labor has increased and elevate the proportion of relative wages for skilled labor, which is consistent with the fact found by Lipsey and SjÖHolm (2004) in Indonesia's manufacturing industry.

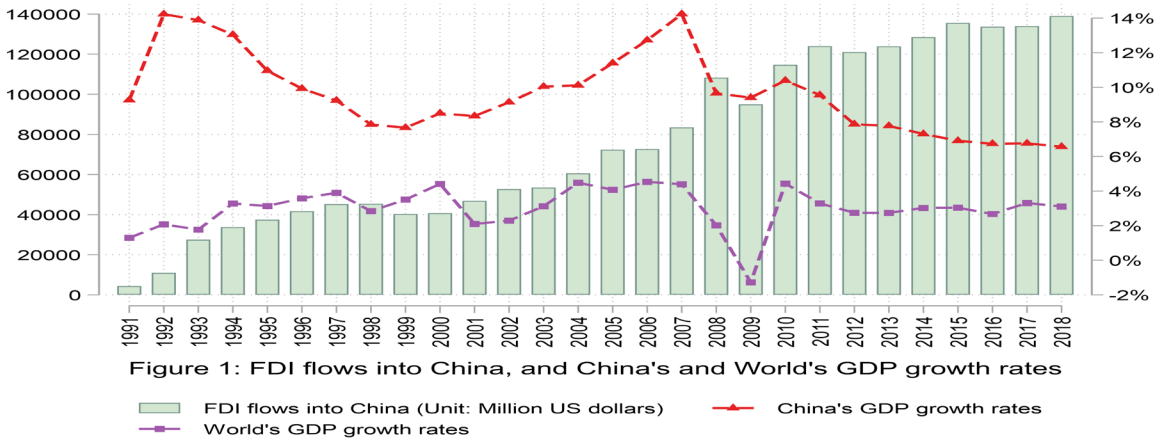

Figure 1
FDI flows into China, and China's and World's GDP growth rates
Source: United Nations conferences on Trade and Development

Similar with the positive effect of FDI, human capital is also an important input resource in the economic growth. After the 1950s, the world economy has undergone a great divergence, and the emergence of human capital theory has opened up new ideas for explaining modern economic growth. We still take China as an example, after the implementation of compulsory education for nine years in 1986, the education attainment of China has greatly improved compared with that before 1985, as shown in Figure 2. The average years of schooling for age groups from 15 to 19 increases from 6.06 years in 1970 to 10.23 years in 2010. To analysis the variations in different stages of education, we find that the raise of years of secondary schooling makes the biggest contribution for the the increase of human capital in China. Li et al. (2013) calculate that the growth rate of China's human capital stock increases from 5.11% in the period 1985-1994, up to 7.86% in the period 1995-2007. Similar studies also show that the level of human capital is an important factor in promoting economic growth in developing countries.

A quantity of studies find evidences that trade liberalization has a significant impact on the human capital and skill acquisition of the host country. Specifically, there are two channels for the effect. First, through industry and technology transfer, FDI effectively promotes the diffusion of knowledge and raises human capital stock in the host country. For instance, Leininger (2007) find that the frequent movement of employment between enterprises is the reason that advanced technical knowledge and management experience of FDI enable to spread among Chinese local enterprises. Second, FDI makes the opportunity for developing countries to join the global value chain, and stimulates human capital investment of the host country, through the increase of job opportunities and the raise of wages, thereby promotes the level of human capital in the host country. This paper mainly discusses the impact of FDI on skill acquisition of the host country through the second channel.

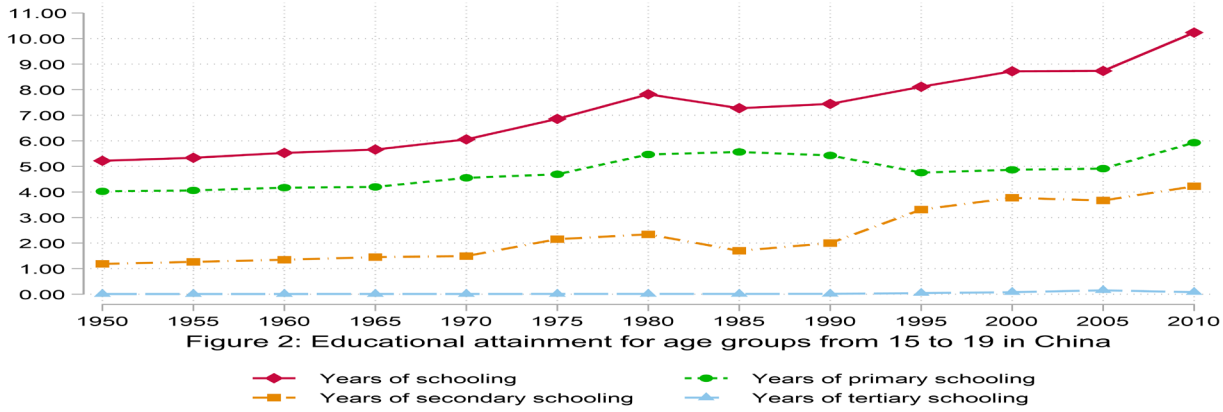

Figure 2
Educational attainment for age groups from 15 to 19 in China
Source: Barro and Lee (2013)

According to the existing research, there is uncertainty about the impact of FDI on the host country's skill acquisition. The reason is that the purpose of human capital investment is to maximize the utility of life for individuals, which depends on the expense and benefits of receiving education (Becker, 1962 & 1993). If the expected revenue of human capital investment is over than the expense, rational individuals should choose to increase human capital investment. What we should emphasize is, the expense of human capital investment includes both the economic cost and opportunity cost of going to school, the latter equals to the salary income that we could get from working in the enterprises. The analysis for the impact of FDI on the human capital investment of the host country should be spread from the impact on the labor market of the host country, through the transfer of industries and technologies by multinational companies, and the conceptual shock from the source country of FDI. This paper systematically analyzes the job opportunity channel, wage channel and concept channel brought by FDI, and possible impacts on the skill acquisition of the host country respectively. It is insightful to understand the impact of FDI on the human capital and the channels on skill acquisition, and provide suggestions for promoting human capital accumulation and economic growth.

2. JOB OPPORTUNITY CHANNEL

As mentioned above, the transfer of industrial production activities by multinational companies through FDI to host countries creates employment demand impact on the local labor market, whereas it does not mean an increase in employment opportunities absolutely. If multinational enterprises entry the host country through mergers and acquisitions, or they compete with local companies, FDI probably makes a crowding out effect on local employment. Davis and Harrigan (2011) find that FDI may lead to the disappearance of some local job opportunities and increase the vulnerability of high-wage jobs. The impact of the labor shock could be uncertain on the economic status of local families, and individuals may be worried about whether be educated, because of their expectations for the future have changed and magnifies unknown risks by the shock. For most residents, under the crowding-out effect, it reduces the expected benefits of education and makes them less willing to go to school.

In another case, FDI will have a positive impact on the employment demand of local labor market, which reflects in the increase of job opportunities. Baldwin (1994) study the impact on domestic employment of OECD countries after joining the international trade system, and find that the increase in imports has caused a negative impact on the labor market, especially for unskilled labor, while the overall employment raises by the growth of exports, which exceeds the negative effect of import substitution. Chen and Ku (2005) examine the impact of FDI on Taiwan's manufacturing employment and find that, although FDI slightly reduced the labor demand for local employment, due to benefiting from the prominent comparative advantage, it promotes the expansion of Taiwan's exports indirectly, and creates more employment demand. In general, the impact of FDI on local employment is positive. Karlsson et al. (2007) find that FDI has a positive impact on employment growth in China, which is closely related to the company characteristics, industry and market opportunities of multinational enterprises. Rong et al. (2020) also show that the increase in FDI significantly promotes the growth of expected employment of Chinese residents, and the effect is stronger in regions with greater flexibility of labor market. While the growth of job opportunities does not mean that it has a positive impact on the skill acquisition of local families. It also depends on the specific requirements of job opportunities brought by FDI.

Usually, the job opportunities created by FDI will increase the working hours and family income of local residents, as well as the growth of human capital investment on children. Through India's tariff reform shock, Edmonds et al. (2009 & 2010) find that the shock significantly increases the education attainment of children and reduces the phenomenon of child labor. The reason is the increase of job opportunities makes family members more likely to get jobs, thereby reducing the probability of poverty. In addition, the raise of expected income is also an important factor for the increase of human capital investment on children.

Nevertheless, if the increase of job opportunities brought by FDI is not technology-neutral, it may have a different impact on skill acquisition. For example, if industries in host countries are restricted to unskilled industries, due to the comparative advantage of labor costs under the international division of production, FDI may take more employment demand for unskilled labor, which push up the opportunity cost of receiving education, and weaken residents' willingness to invest in children's human capital. Atkin (2016) study on the boom of Mexico's manufacturing exports in the 1990s, and find that the employment shock generated by FDI leads to a significant increase in the dropout rate of local schools. The new added jobs have lower requirements for academic qualification and skill requirement, hence it increase the opportunity cost of going to school, particularly, it is obvious for 16-year-olds at the age of graduation from junior middle school.

If multination enterprises have a gender preference in the growth of job opportunities, it also has dubious effect for individuals' skill acquisition. Le Brun et al. (2011) find that during Mexico's industrialization, the increasing job opportunities in manufacturing industry raises the educational schooling for children in the

primary education stage, while it reduces the educational opportunities for older girls. The reason is that export processing companies usually prefer to hire married women for the stability of employment, and when adult women in the family increase their working hours, older girls have to replace the role of caring for the family, which increases the dropout rate of older girls.

The above research shows that the impact of FDI on the job opportunities of the host country's labor market has a mixed effect on skill acquisition of local residents. The specific effect depends on the amount of new job opportunities and the structure of skilled and unskilled labor demand. If the new job opportunities are taken by technology-neutral and without obvious gender preference, it is likely to increase local human capital investment for all children, and reflect in the improvement of skill acquisition of the host country.

3. WAGE CHANNEL

Besides the job opportunity channel, the wage channel is also an important channel for FDI to affect the skill acquisition of the host country. Generally, the labor wage provided by foreign enterprises is higher than that of local enterprises in the host country, because multinational enterprises have a higher level of technology and capital intensity, and prefer to hire highly educated and skilled labor (Lipsey, 2004). Johansson and Liu (2020) also find that FDI inflows into China not only provides higher wages for highly skilled labor, but also take a spillover effect on the local state-owned enterprise labor, while the impact is limited to skilled labor. According to the theory of human capital investment, the raise of wages for skilled labor will encourage individuals to be increase investment in human capital, in exchange for higher wages in the future. However, if the resources of local skilled labor are limited, the impact of skilled labor demand brought by FDI reduce the proportion of skilled labor among local enterprises in the host country, and it may lead to a decline in average level of wages (Aitken et al,1996).

Although the entry of FDI probably raise the level of wages, the impact of household income growth on individual education investment decisions still be uncertain. One situation is that when education is a normal commodity, FDI will the increase of children's education investment and encourage students to stay in school to continue their studies, through raise the level of family income. Edmonds et al. (2009 & 2010) find that the increase of family income in India makes children more likely to receive more education, and when the family faces mobility constraints, in order to reduce family expenses, children may participate in work and avoid going to school, the effect is especially obvious on girls. On the other hand, the raise of wages may disrupt the original rhythm of family's life, which causes children to reduce school time or even drop out of school to take care of housework (Le Brun et al., 2011). Otherwise, if the wages are unskill-biased, it may cause the raise of the opportunity cost for education, and stimulate individuals to abandon their studies and enter the labor market prematurely, while the premature stagnation of human capital may limit their employment options and increase the risk of unemployment and wages decline in the future. However, Atkin (2016) think that people who give up their studies and choose employment are likely to be impatient or credit-constrained students. The individuals make rational decisions based on the knowledge that the future income may fall.

Furthermore, the difference in the return rate on education between skilled and unskilled labor brought about by FDI is an important reason for the widening income gap. Glaeser and Lu (2018) shows that in urban areas of China, the increase of schooling of one year could bring 8.36% premium of hourly wage. Figini and Görg (2007) find that the impact of trade opening and FDI inflows on wage inequality may be non-linear. Wage inequality in developing countries will rise with the increase of FDI firstly, when FDI further increases, the level of inequality will decrease. Lu et al. (2019) believe that the liberalization of FDI leads to the expansion of wage decline and the reduction of labor income share. Anyway, if the skill premium increases the income gap, the impact may reflects in the human capital investment on the next generation, which resulting in educational inequality and intergenerational transmission of human capital (Chetty et al., 2014a & 2014b). Card et al. (2018) study the impact of intergenerational transmission of human capital after the unequal expansion of public schools, and find that the school choice of white children is highly correlated with the quality of local schools. Nevertheless, due to the lower mobility of black families, their children cannot response to the shock of school quality improvement similarly, which resulted in the intergenerational transmission of human capital.

The above research shows that, through the increase of family income, the raise of wages brought by FDI could take the positive effect on the investment in children's education. Due to the raising opportunity cost of continuing education, individuals probably choose to abandon their studies and enter the labor market, which has a negative impact on skill acquisition. Therefore, it is necessary to analyze whether raising wage are skill-biased. If FDI pay higher wage for skilled labor enough, it shold increase the expected return on education, and promote human capital investment and increase individuals' skill acquisition.

4. CONCEPT CHANNEL

Finally, we discuss the role of concept channel in the impact on education attainment of the host country brought by FDI. In fact, besides economic factors, the

cultural concepts held by parents also have an important impact on their decision on children's human capital investment. At present, most empirical studies on cultural concepts adopt epidemiological approach, through investigating the influence of the culture and concept of the source country of immigrants, or their family members and descendants. Becker et al. (2020) use the historical event that the Polish border was redrawn after the Second World War and lead to large scale immigration, study the impact of the shock on the human capital investment of the descendants of forced immigrants, They find that the people and their descendants with family history of forced immigration will have an extra year of education, and have a higher tendency to complete secondary or tertiary education, which proves that the experience of forced immigration lead to the preference from material wealth to liquid assets through conceptual transition of Polish families. Similarly, traditional Chinese culture also affect parents' educational concepts, which reflects on human capital investment and educational acquisition of their children. Mocan and Yu (2019) find that under the influence of traditional Chinese culture, people believe that the year of the Dragon will bring good luck and success, the number of marriages two years before year of the Dragon and babies born in the year of the dragon have a significantly increase. Parents have higher expectations on the children born in the year of the Dragon, hence they invest more economic resources and time on the education and health investment of the children.

The above studies provide supporting evidence for understanding how concept affect skill acquisition. Is it possible for FDI affecting the host country's human capital investment and skill acquisition through the concept channel? Although there is not enough empirical evidence available, some literatures show that the conceptual impact of FDI may affect education preferences and gender equality of local residents, thereby influencing the human capital investment of the host country.

First, FDI may affect parents' educational preference for their children, in other words, the importance of children's education attainment for them, which reflects in the human capital investment on children. Figlio et al. (2019) find the evidence that children from the immigration country where emphasis on long-term target have better educational performance in reading and math tests, attendance rates, etc., and their parents are be influenced by the culture of the source country to provide better educational opportunity for their children. It reflects that under the influence of the cultural concepts of the source country of immigrants, parents pay more attention on the education of their children, and transmit concepts to their children through family education.

Second, FDI may increase the human capital investment for girls by improving the concept of the gender equality on local residents. Blau et al. (2011) study that among American immigrants, the female immigrants come from the source country where has a higher female labor participation rate, their average working hours are significantly more than the female immigrants come from the source country where has a low labor participation rate. And the gap do not disappear with the time after immigration. There is no significant difference in the labor supply on immigrant men, which reflecting the effect is mainly achieved by influencing the status of men and women. In a following study, Blau et al. (2020) also find that under the influence of the concept of gender equality from the source country, the individuals will be more equal in the distribution of housework time, regardless of male or female immigrants. On the contrary, if immigrants come from countries that prefers gender inequality, their families follow the previous practices of gender inequality in housework of the source country, and the influence will also be reflected in the second generation of male immigrants.

Influenced by cultural traditions, Chinese families have a preference for boys. At the same time, male labor usually has a comparative advantage in China's labor market. Therefore in the families with many children, boys often obtain more resources for education, and girls' human capital investment subjects to crowding-out effect (Lei et al., 2017). Tang and Zhang (2017) find that the multinational enterprises in China could improve women's gender equality in the workplace. If the concept of the source country of FDI pays more attention to gender equality, the enterprises will increase the proportion of female employees and female managers. The effect will also spread within the industry and cities. This evidence also shows that, through improving gender equality, which raise job opportunities and promotion space of female employees for girls, FDI could raise parents' expected return on their education, and increase human capital investment for them.

5. CONCLUSION

Based on the summary for relevant literatures, we find that FDI has a mixed effect on the skill acquisition of local residents of the host country, which depending on the job opportunity, wage and concept channels, respectively. FDI usually significantly promotes the increase of job opportunities and raise the level of wages. However, if the shock on labor market is skill-biased or gender-biased, it would be uncertain on the skill acquisition of local residents. If new job opportunities and wage are biased towards unskilled labor, it will increase the opportunity cost of education for individuals, thereby reducing the probability of human capital investment and skill acquisition.

At the same time, the conceptual influence brought by FDI affects the residents' skill acquisition is also valuable. Specifically, FDI could increase the human capital investment on children by strengthening the concept of education preference and gender equality of local parents.

In general, the impact of FDI on the skill acquisition of the host country is still uncertain, especially the concept channel, which is only a little evidence and worthy to be discussed further. Moreover, several studies find that parents in rural areas in developing countries are unwilling to live in cities; they may strategically limit the human capital investment on some children, so their children will stay with them voluntarily when they are older (Jensen and Miller, 2017). Could FDI eliminate similar negative concept? It is also worth paying attention in the future.

REFERENCES

Anne, L. B., Helper, S. R., & Levine, D. L. (2011). The effect of industrialization on children's education: The experience of Mexico. *Review of Economics and Institutions*, *2*(2), 1-34.

Baldwin, R. E. (1994). The effects of trade and foreign investment on employment and relative wages. *OECD Economics Studies*, *23,* 7-54.

Barro, R. J., & Lee, J. W. (2013). A new data set of educational attainment in the world, 1950-2010. *Journal of Development Economics*, 104, 184-198.

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, *70*(5), 9-49.

Becker, G. S. (1993). Nobel lecture: The economic way of looking at behavior. *Journal of Political Economy*, *101*(3), 385-409.

Becker, S. O., Grosfeld, I., Grosjean, P., Voigtländer, N., & Zhuravskaya, E. (2020). Forced migration and human capital: Evidence from post-WWII population transfers. *American Economic Review*, *110*(5), 1430-1463.

Blau, F. D., Kahn, L., & Papps, K. L. (2011). Gender, source country characteristics, and labor market assimilation among immigrants. *Review of Economics and Statistics*, *93*(1), 43-58.

Blau, F. D., Kahn, L., Comey, M. L., Eng, A. R., Meyerhofer, P. A., & Willén, A. (2020). Culture and gender allocation of tasks: Source country characteristics and the division of non-market work among US immigrants. *NBER Working Paper*, No.26931.

Brian, A., Harrison, A., & Lipsey, R. E. (1996). Wages and foreign ownership: A comparative study of Mexico, Venezuela, and the United States. *Journal of International Economics*, *40*(3), 345-371.

Chetty, R., Hendren, N., Patrick Kline, Saez, E., & Turner, N. (2014a). Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States. *Quarterly Journal of Economics*, *129*(4), 1553-1623.

Chetty, R., Hendren, N., Patrick Kline, Saez, E., & Turner, N. (2014b). Is the United States still a land of opportunity? Recent trends in intergenerational mobility. *American Economic Review*, *104*(5), 141-147.

David, A. (2016). Endogenous skill acquisition and export manufacturing in Mexico. *American Economic Review*, 106(8), 2046-2085.

David, C., Dominisoru, C., & Taylor, L. (2018). The intergenerational transmission of human capital: Evidence from the golden age of upward mobility. *NBER Working Paper*, No.25000.

David, F., Giuliano, P., Özek, U., & Sapienza, P. (2019). Long-term orientation and educational performance. *American Economic Journal: Economic Policy*, *11*(4), 272-309.

Davis, D. R., & Harrigan, J. (2011). Good jobs, bad jobs, and trade liberalization. *Journal of International Economics*, *84*(1), 26-36.

Edmonds, E. V., Pavcnik, N., & Topalova, P. (2009) Child labor and schooling in a globalizing world: Some evidence from Urban India. *Journal of the European Economic Association*, *7*(2-3), 498-507.

Edmonds, E. V., Pavcnik, N., & Topalova, P. (2010). Trade adjustment and human capital investments: Evidence from Indian Tariff reform. *American Economic Journal: Applied Economics*, *2*(4), 42-75.

Elhanan, H., Itskhoki, O., & Redding, S. (2010). Inequality and unemployment in a global economy. *Econometrica*, *78*(4), 1239-1283.

Feenstra, R. C., & Hanson, G. H. (1997). Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras. *Journal of International Economics*, *42*(3-4), 371-393.

Glaeser, E. L., & Lu, M. (2018). Human-capital externalities in China. *NBER Working Paper*, No.24925.

Goldberg, P. K., & Pavcnik, N. (2007). Distributional effects of globalization in developing countries. *Journal of Economic Literature*, *45*(1), 39-82.

Jensen, R. T., & Miller, N. H. (2017). Keepin' 'em Down on the Farm: Migration and Strategic Investment in Children's Schooling. *NBER Working Paper*, No. 23122.

Johansson, A. C., & Liu, D. (2020). Foreign direct investment and inequality: Evidence from China's policy change. *World Economy*, *43*(6), 1647-1664.

Lee, B., & Lardy, N. (2008). China's embrace of globalization. *China's Economic Transition: Origins, Mechanisms, and Consequences* (pp.633-682). Cambridge University Press.

Lei, X. Y., Shen, Y., Smith, J. P., & Zhou, G. S. (2017). Sibling gender composition's effect on education: Evidence from China. *Journal of Population Economics*, *30*(2), 569-550.

Leininger, J. (2007). Recent compensation and benefit trends in China. *China Business Review*, *34*(4), 28-31.

Lipsey, R. E. (2004). Home and host country effects of FDI. In R. E. Baldwin and L. Alan Winters (Eds.), *Challenges to globalization*. University of Chicago Press.

Lipsey, R. E., & SjÖHolm, F. (2004). Foreign direct investment, education and wages in indonesian manufacturing. *Journal of Development Economics*, *73*(1), 415-422.

Mocan, N. H., & Yu, H. (2019). Can superstition create a self-fulfilling prophecy? School outcomes of dragon children of China. *NBER Working Paper*, No.23709.

Paolo, F., & Görg, H. (2007). Does foreign direct investment affect wage inequality? An empirical investigation. *World Economy*, *34*(9), 1455-1475.

Qian, Y. Y., & Roland, G. (1998). Federalism and the soft budget constraint. *American Economic Review*, *88*(5), 1143-62.

Rong, S., Liu, K., Huang, S., & Zhang, Q. (2020). FDI, labor market flexibility and employment in China. *China Economic Review*, *61*, 101449.

Tang, H. W., & Zhang, Y. F. (2017). Do multinationals transfer culture? Evidence on female employment in China. *CESifo Working Paper Series*, No.6295.

Wei, S. J. (1996). Foreign direct investment in China: Sources and consequences. University of Chicago Press. *Financial Deregulation and Integration in East Asia, NBER-EASE*, *5*, 77-105.

Xu, C. G. (2011). The fundamental institutions of China's reforms and development. *Journal of Economic Literature, 49*(4), 1076-1151.