

# A Literature Review on the Impact of Using the Internet on Educational Investment

WANG Yang<sup>[a],\*</sup>; FENG Yang<sup>[a]</sup>; LIN Jie<sup>[a]</sup>

<sup>[a]</sup>School of Economics, Central University of Finance and Economics, Beijing, China.

\*Corresponding author.

Received 21 August 2021; accepted 25 September 2021

Published online 26 October 2021

## Abstract

This paper summarizes the factors of educational investment and the possible mechanisms of using the Internet on educational investment. From the existing research, the influencing factors of educational investment could be summarized as three aspects, which are the economic conditions, the structure of the member, and the cultural concept of the family. The main channels of using the Internet influence educational investment are economic mechanism and conceptual mechanism. This paper deepens the understanding of the impact of using the Internet on the development of society and households, and it is helpful to analyze the phenomenon of the intergenerational transmission of human capital, and provides research basis for promoting the development of the Internet and improving households' welfare.

**Key words:** Educational Investment; Internet; Human capital

Wang, Y., Feng, Y., & Lin, J. (2021). A Literature Review on the Impact of Using the Internet on Educational Investment. *Canadian Social Science*, 17(5), 55-60. Available from: <http://www.cscanada.net/index.php/css/article/view/12334>  
DOI: <http://dx.doi.org/10.3968/12334>

## 1. INTRODUCTION

Educational investment is an important expenditure in the households' consumption. It is a considerable investment related to the level of human capital and the quality of life for households, and it also has a significant effect on the future of descendants. With the economic development

and the improvement of residents' living standards, people pay more and more attention to education investment. In the current era of the Internet, distance education, online teaching and other learning methods not only provide more choices for residents, but also have a profound impact on individual learning habits and educational concepts. It is also of great significance to study the impact of Internet use on educational investment. This paper systematically collects relevant literatures on educational investment and using the Internet, and summarizes the main influencing factors of educational investment, as well as the mechanisms of using the Internet on educational investment, which provides a valuable reference for related research.

In the rest of this paper, the second section sorts out the main influencing factors of households' educational investment, the third section further analyses the impact and the mechanism of using the Internet on the decision of educational investment, and the fourth section makes the conclusion for this paper and provides the suggestion for related research in the future.

## 2. INFLUENCING FACTORS OF EDUCATIONAL INVESTMENT

Educational investment is the main source of human capital investment. As a special capital relying on human beings, it is systematically introduced in the theory of human capital by Schultz (1961) initially, and it is widely regarded as an important input factor to promote modern economic growth (Becker, 1962; Mincer, 1958 & 1962; Johnson, 1970). Furthermore, the difference of human capital between peoples are leading to the widening of income gap and class differentiation (Mincer, 1974; Becker, 1975; Li and Ding, 2003; Zhang, 2006; Luo and Li, 2007). Yang et al. (2015) construct a OLG model and find that poor families invest less in early education restricted by family budget, resulting in a lower stock of human capital for the children from poor families in

the stage of compulsory education and limiting their participation rate in higher education, which enlarges income gap between peoples from the families with different economic conditions. Glaeser and Lu (2018) estimate the impact of human capital on urban wages in China and shows that each additional year increase 8.36% of hourly wages in the average. Zhang et al. (2005) observe that the return rate on educational investment in China's urban areas ascends rapidly from 4.7 percent in 1988 to 11.5 percent in 1999, which benefits from the rise of the non-state sector in the mid-1990s. Similar evidence shows that the gap in human capital would be reflected by the differences in the return rate on education in the labor market, and it has a significant impact on employment opportunities and career development for households.

Becker (1962 & 1993) thinks that individuals weigh costs and benefits when making decisions on human capital investment, in order to maximize their utility or welfare under budget constraints. If the expected income is larger than the cost, it would be rational to increase human capital investment. When households invest in education, the cost of making decision includes the expense of receiving education and the income of giving up entering the labor market, which is an opportunity cost for the latter. In contrast, the benefit of education includes getting better job opportunities, higher wages, better cultural literacy, and the improvement of the quality of life and children's education (Li and Zhang, 2020). As the subject of making decision for individuals' education investment, families have several impacts on the preferences and decisions of education investment influencing by economic conditions, the structure of the member and cultural concepts.

First of all, the economic conditions of families have a considerable influence on the budget constraints and affect the feasibility of human capital investment (Li et al, 2015). Le Brun et al. (2011) find that in the process of industrialization in Mexico, the increase of employment in manufacturing sector raises the average year of primary education for children; due to the arrival of export processing enterprises significantly increases employment opportunities in the local labor market, and enable children to continue their studies. Edmonds et al. (2009 & 2010) survey the impact of India's tariff reform in 1991 on the allocation of time for children in participating in labor market and going to school, and finds that their enrollment significantly increases lower the probability to become child labor, due to the tariff reforms have increased employment opportunities and reduced the degree of poverty of local families. However, they also notice that when families face poor constraint, children might choose to drop out of school to save money and go to work to support the family, which is more significant for girls. It is obvious that the economic condition limit the educational expenditure and the development of children.

Secondly, the structure of family members would

affect the allocation and decision of educational resources on human capital investment, such as family size and the number of brothers and sisters. Karbownik and Özek (2019) study the influence of birth sequence and family background by comparing the academic performance of children from the same family. In relatively less rich families, older children with better academic performance have a positive spillover effect among younger children, while young children with good grades have a negative spillover effect on older children in relatively rich families. They believe that older children in less rich families tend to play an exemplary role, nevertheless there is a sense of competition among children in relative rich families. Le Brun et al. (2011) find that the increase in family income significantly raise the school enrollment of children, while it also decreases the chance to education for older girls on account of lack eligible female to manage affairs and take care the family, due to female adults get more opportunities to work. Older girls are usually the best alternatives, they might reduce the frequency to go to school or even drop out of school to take care of housework and young family members. Lei et al. (2017) find that in the families of several siblings with a higher proportion of girls in rural China, boys occupy more resources and impede educational investment of girls, due to limited family budget constraints and traditional preference for boys. Zheng and Lu (2017) also find that similar phenomenon. These evidences show that the structure of family member is an considerable factor on educational investment.

Finally, the cultural concept of family members also influences the individuals' decisions of future generations on educational investment through some ways such as family education and special experience. Becker et al. (2020) find that the forced immigrants under the influence of the Polish border was redrawn after the WWII. They prefer to invest more on the education for themselves and their descendants, which reflects in the schooling years and the tendency to complete secondary and higher education. Dahl et al. (2020) study that the traditional cultural beliefs of immigrant might affect their decision of human capital investment for their children. They find that parents might restrict their daughter's educational investment for the reason of the identity, even it would reduce her post-immigration benefits., which is especially among Muslim families.

In addition, several studies also finds that there is a significant trend of intergenerational transmission of human capital due to family background, mobility and concept. Card et al. (2018) study the impact of the expansion of public school on the intergenerational transmission of human capital, and find that the children from white families tend to enter better schools through ways such as migration. Jensen and Miller (2017) observe that in rural areas of developing countries, parents are less willing to live in cities and wonder children accompany

and take care of themselves when they are old, then they might strategically limit educational investment for some of their children in order to prevent all of them from migrating to the cities. Similar phenomenon is common in the rural of China. Li et al. (2014) find that most of the income gap between the children from high-income and low-income families could be explained by the differences of education level, work experience and other characteristics. Qi (2016) studies the intergenerational income transmission of male and finds that the factor of education could be explain 36% of intergenerational income transmission in urban areas and 26% in rural areas, which indicates that the difference in children's educational opportunities caused by family background is an important factor for the transmission of intergenerational income. Zou and Ma (2019) find that the educational attainment of parents has a positive impact on their children's education. The evidences above show that the difference in family background turns into the inequality of human capital stock of descendants through educational opportunities and investment, which combines the signals of labor market to form income inequality and class solidification further.

### **3. THE IMPACT AND MECHANISMS OF USING THE INTERNET ON EDUCATIONAL INVESTMENT**

The Internet was invented in 1969, and widely used around the world as a new information and communication technology rapidly. The emergence and application of the Internet are profoundly changing society and production according to maximizing the transmission, improving the utilization and achieving a reasonable allocation of information resource. According to the 45th Statistical report on the Development of China's Internet (China Internet Network Information Center, 2020), as of March 2020, the number of Internet users in China has reached 904 million, and the Internet penetration rate has reached 64.5% already, which has been the largest country of using the Internet in the world undoubtedly. The development of Internet technology promotes economic and social transformation, and bring the distance of individuals closer. Due to the versatility of the Internet, it takes revolutionary changes to the production of society and the lifestyle of households.

For instance from the macro perspective, the Internet enhances the accuracy on the prediction of macroeconomy (Liu and Xu, 2015), stimulates the improvement of technology-driven TFP (Guo and Luo, 2016), promotes the integration of supply-side and demand-side and the innovation of commercial mode (Feng and Chen, 2016), reduces the costs of international trade and increases the growth of international trade by providing new ideas for the reengineering of traditional enterprises (Shi, 2016),

and alleviates the information asymmetry and raise higher requirements for financial supervision (Li, 2015). From a micro perspective, the Internet influence decisions on consumption and investment (Liu and Ma, 2017; Yi and Zhou, 2018), increase financial accessibility and alleviate credit constraints effectively (Yin and Zhang, 2018), and improve the probability of purchasing commercial insurance for households (Yang et al., 2019).

On the contrast, there are few studies on the relationship between using the Internet and educational investment, which should be further concerned. At present, the mainstream literatures mainly focus on the digital divide and its impact on social stratum differentiation. The digital divide refers to the inequality caused by differences in the opportunities of using the Internet (Dimaggio and Hargittai, 2001; Dimaggio et al., 2004), which is the opposition between the rich and the poor on information (Haywood, 1995). Yang and Xu (2017) find that mothers using the Internet increase family investment on education, while the effect is significantly only for urban families, and insignificant for urban migrant workers and rural families, which means that the gap of human capital would be further enlarged caused by the digital divide.

There are several mechanisms for the impact of using the Internet on education investment, we mainly divide into three mechanisms, which are economic mechanism, conceptual mechanism and social mechanism respectively below.

Economic mechanism refers to using the Internet increases the wage of individuals and reduced income inequality, especially for those with high school degree and above (Zhao and Zhou, 2019). Owing to education is usually a normal commodity, the raise of parents' income would increase educational investment for children and ensure them to study in school available. Moreover, females have a higher preference on educational investment for children, the increase of income is beneficial to increase female status in family and invest more in children's education (Le Brun, et al., 2011).

The Internet reduces the searching cost for job (Kuhn and Mansour, 2014), increases flexible and diversified working methods, which creates more employment opportunities effectively, especially for females (Herr and Wolfram, 2012; Mao and Zeng, 2017). However, the increase of job opportunities has uncertain effect on educational investment. The increases of employment opportunities and wage both raise the economic income of families, and then add educational investment through income effect. At the same time, the increase of employment opportunity also push up the opportunity cost of continuing education for children, sometimes parents might reduce educational investment and force children to enter the labor market earlier by maximizing family's utility. Jensen (2012) observes the impact of increasing employment opportunities on females' marriage and

fertility decisions according to the randomized trials on helping young females to employ at outsourcing industry in rural India, and finds that these females choose to postpone marriage or fertility significantly and enter the labor market and receive school education or on-the-job training instead. The export expansion leads to an rising demand for employment after China joins to the WTO, Zhang (2015) finds that the growth of non-agricultural employment opportunities significantly reduces the probability of entering high school and college for students, especially men and urban youth. The reason is the jobs created by export expansion are mainly concentrated in low-and middle-skilled jobs, which increase the opportunity cost of education for the individuals with the degree below senior high school. Similarly, Atkin (2016) presents that the increase of manufacturing export in Mexico at 1990s brought a shock for labor market and led a significant increase on local dropout rates. He finds that the expanding employment in export industries only requires low academic degree, which raises the opportunity cost for students to stay in school rises accordingly, especially for the group of 16-year-old who graduate from junior middle school. In addition, we should notice that the increase of wages and employment opportunities might disrupt the original pace of life, which should be paid more attention. E.g., if adults add working hours and are busy to manage family's affairs, they do not have enough time to look after children, which might cause older children spend less time in school or even drop out of school to take care of housework (Le Brun et al., 2011).

From the perspective of conceptual mechanism, using the Internet influence households' subjective perception and cultural concept, which reflects on the attitude of educational investment for children. Initially, the Internet creates more job opportunities and raise the level of wages, which might reflect the subjective evaluation of residents' satisfaction with expectations, the expectation of income changes and the improvement of living conditions, so as to enhance their happiness (Luo, 2006). It leads households to pay less attention on material wealth (Zhou and Sun, 2017) and shift the preference to spiritual assets and raise the investment on human capital for descendants (Becker et al., 2020). Furthermore, using the Internet might change parents' recognition on children's education, or bring a close parent-child relationship, which encourage parents to spend more resources and energy on children's education (Figlio et al., 2019). Gould et al. (2020) study parents' influence on children's human capital and show that there is a significant causal relationship between the intensity of parent-child relationship and children's human capital. More time parents spend with their children, children's human capital are higher. This study helps explain why parents with higher education levels are more willing to spend time with their children. Mocan and Yu (2019) survey how the traditional concept that

parents wish their children have bright future to affect the decisions on the human capital investment for the children born in the Dragon year. They find that under the influence of Chinese traditional culture's belief that the Dragon year represents good luck and success, parents have higher expectations for the children born in the Dragon year, which reflects in that the parents input more economic resources and energy to children's education.

In addition, using the Internet increases the access to information and social frequency for families' members, which promote them to participate in capital market investment through social interaction, which might raise educational investment for children through the asset appreciation mechanism (Meng, 2014). Guo and Liang (2014) find that families with contact usually transmit stock market information through social interaction and network, and promote the participation in the stock market. Similarly, Zhu et al. (2014) show that information channel and social interaction could reduce households' information cost, and increase the probability of entering the stock market under the influence, which provide possibility that using the Internet might influence educational investment on children according to the asset appreciation mechanism.

---

#### 4. CONCLUSION

---

This paper comprehensively summarizes the main influencing factors of educational investment, and the impact and three mechanisms of using the Internet on the decision for educational investment. From the content of this article, we know that the factors that affect educational investment are mainly economic conditions, the structure of the member, and the cultural concept of the family. Generally speaking, children come from the families with better economic conditions, lower sex ratio among siblings, and pay more attention to mental pursuit have more resource on educational investment.

This paper also summarizes the influence and mechanisms of using the Internet on educational investment. According to the existing research, the impact of using the Internet on educational investment is uncertain. On the one hand, households receive more information for employment and stock market, or subjective attitudes on education on the Internet, which is helpful to increase economic income according to rising wage and asset appreciation and raise the preference on children's education. On the other hand, the existence of digital divide might lead to further differentiation on educational investment between the rich and the poor, especially it worse social mobility by the transmission of human capital. Therefore, the impact of using the Internet on educational investment is worthy to research further. We suggest that the government should adopt positive measures to eliminate the adverse effects of digital divide as far as possible, and play the positive role

of the Internet in promoting economic development and social equality, so as to help more families and children to achieve a better life.

## REFERENCES

- Atkin, D. (2016). Endogenous skill acquisition and export manufacturing in Mexico. *American Economic Review*, 106(8), 2046-2085. doi:10.1257/AER.20120901
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70(5), 9-49. doi:10.1086/258724
- Becker, G. S. (1975). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press, Chicago.
- Becker, G. S. (1993). Nobel lecture: The economic way of looking at behavior. *Journal of Political Economy*, 101(3), 385-409. doi:10.1086/261880
- Becker, S. O., Grosfeld, I., Grosjean, P., Voigtländer, N., & Zhuravskaya, Ekaterina. (2020). Forced migration and human capital: Evidence from post-WWII population transfers. *American Economic Review*, 110(5), 1430-1463. doi:10.1257/aer.20181518
- Card, D., Dominisoru, C., & Taylor, L. (2018). The intergenerational transmission of human capital: Evidence from the golden age of upward mobility. *NBER Working Paper*, No.25000. doi: 10.3386/w25000
- Dahl, G. B., Felfe, C., Frijters, P., & Rainer, H. (2020). Caught between cultures: Unintended consequences of improving opportunity for immigrant girls. *NBER Working Paper*, No. 26674. doi: 10.3386/w26674
- Dimaggio, P. Hargittai, E., Celeste, C., & Shafer, S. (2004). From unequal access to differentiated use: A literature review and agenda for research on digital inequality. *Social Inequality*, 355-400.
- Dimaggio, P., & Hargittai, E. (2001). From the 'digital divide' to 'digital inequality'. *Working Paper series No.15*. Princeton University.
- 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. doi:10.1162/JEEA.2009.7.2-3.498
- 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. doi:10.1257/app.2.4.42
- Feng, H., & Chen, Y. (2016). Research on platform business model innovation: Based on a time-spatial correspond analysis under internet environment. *China Industrial Economics*, 3, 99-113. in Chinese
- Figlio, D., Giuliano, P., Özek, U., & Sapienza, P. (2019). Long-term orientation and educational performance. *American Economic Journal: Economic Policy*, 11(4), 272-309. doi: 10.1257/pol.20180374
- Glaeser, E. L., & Lu, M. (2018). Human-capital externalities in China. *NBER Working Paper*, No.24925. doi: 10.3386/w24925
- Gould, E. d., Simhon, A., & Weinberg, B. A. (2020). Does parental quality matter? Evidence on the transmission of human capital using variation in parental influence from death, divorce, and family size. *Journal of Labor Economics*, 38(2), 569-610. doi:10.1086/705904
- Guo, J., & Luo, P. (2016). Does the internet promote China's total factor productivity? *Management World*, 10, 34-49. in Chinese
- Guo, S., & Liang, P. (2014). Social interactions' information channel and household stock market participation: An empirical study based on 2011 Chinese household finance survey. *Economic Research Journal*, 49(S1), 116-131. in Chinese
- Haywood, T. (1995). *Info-Rich—Info-Poor: Access and exchange in the global information society*. London: Bowker-Saur.
- Herr, J. L., & Wolfram, C. D. (2012). Work environment and optout rates at motherhood across high-education career paths. *NBER Working Paper*, No.14717. doi: 10.3386/w14717
- Jensen, R. (2012). Do labor market opportunities affect young women's work and family decision? Experimental evidence from India. *Quarterly Journal of Economics*, 127(2), 753-792. doi:10.1093/qje/qjs002
- Jensen, R., & Miller, N. H. (2017). Keepin' 'em down on the farm: Migration and strategic investment in children's schooling. *NBER Working Paper*, No. 23122. doi:10.3386/w23122
- Johnson, T. (1970). Returns from Investment in Human Capital. *American Economic Review*, 60(4), 546-560.
- Karbownik, K., & Özek, U. (2019). Setting a good example? Examining sibling spillovers in educational achievement using a regression discontinuity design. *NBER Working Paper*, No.26411. doi: 10.3386/w26411
- Kuhn, P., & Mansour, H. (2014). Is internet job search still ineffective? *Economic Journal*, 124(581), 1213-33. doi:10.1111/ecoj.12119
- Le Brun, A, Helper, S. R., & Levine, D. I. (2011). The effect of industrialization on children's education: The experience of Mexico. *Review of Economics and Institutions*, 2(2), 1-34. doi:10.5202/rei.v2i2.31
- Lei, X., Shen, Y., Smith, J. P., & Zhou, G. (2017). Sibling gender composition's effect on education: Evidence from China. *Journal of Population Economics*, 30(2), 569-550. doi:10.1007/s00148-016-0614-z
- Li, J. (2015). Thoughts on internet finance. *Management World*, 7, 1-7+16. in Chinese
- Li, R., Du, Z., He, Q., & Gong, Q. (2014). Rich dad, poor dad and offspring income inequality. *China Economic Quarterly*, 14(1), 231-258. in Chinese
- Li, S., & Ding, S. (2003). Long-term change in private returns to education in urban China. *Social Sciences in China*, 6, 58-72+206. in Chinese

- Li, S., & Zhang, Y. (2020). Human capital theory and its return rates in education. *Peking University Education Review*, 18(1), 59-79+189-190. in Chinese
- Liu, H., & Ma, W. (2017). Social interaction and family capital market participation in the internet era. *Studies of International Finance*, 3, 55-66. in Chinese
- Liu, T., & Xu, X. (2015). Can internet search behavior help to forecast the macro economy? *Economic Research Journal*, 50(12), 68-83. in Chinese
- Luo, C. (2006). Urban-rural divide, employment, and subjective well-being. *China Economic Quarterly*, 2, 817-840. in Chinese
- Luo, C., & Li S. (2007). The human capital, the characteristics and the inequality in income of industries. *Management World*, 10, 19-30+171. in Chinese
- Mao, F., & Zeng, X. (2017). Whether internet use promotes women's employment: an empirical analysis based on CGSS data. *Economic Perspectives*, 6, 21-31. in Chinese
- Meng, Y. (2014). Cognitive abilities and household portfolio choice. *Economic Research Journal*, 49(S1), 132-142. in Chinese
- Mincer, J. (1958). Investment in human capital and personal income distribution. *Journal of Political Economy*, 66(4), 281-302. doi:10.1086/258055
- Mincer, J. (1962). On-the-Job training costs: Costs, returns, and some implications. *Journal of Political Economy*, 70(5), 50-79. doi:10.1086/258725
- Mincer, J. (1974). *Schooling, experience, and earnings*. Columbia University Press, New York.
- 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. doi: 10.3386/w23709
- Qi, S. (2016). The intergenerational income transmission trends in China and the role of education. *Statistical Research*, 33(5), 77-86. in Chinese
- Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, 51(1), 1-17.
- Shi, B. (2016). Internet and international trade: Empirical evidence based on bilateral and bidirectional hyperlinks data. *Economic Research Journal*, 51(05), 172-187. in Chinese.
- Yang, B., Wu, X., & Yi, X. (2019). Internet usage and household commercial insurance purchases: Evidences from CFPS. *Insurance Studies*, 12, 30-47. in Chinese
- Yang, J., Lai, D., & Qiu M. (2015). What kind of education policy can reduce income inequality? *Economic Research Journal*, 9, 86-99. in Chinese
- Yang, P., & Xu, Y. (2017). Digital Divide and Inequality in Household Education Investment. *Peking University Education Review*, 15(4), 126-154+188. in Chinese
- Yi, X., & Zhou, L. (2018). Does Digital Financial Inclusion Significantly Influence Household Consumption? Evidence from Household Survey Data in China. *Journal of Financial Research*, 11, 47-67. in Chinese.
- Yin, Z., & Zhang, H. (2018). Financial Availability, Internet Finance and Households' Credit Constraints: Evidence from CHFS Data. *Journal of Financial Research*, 11, 188-206. in Chinese.
- Zhang, C. (2015). Middle-education Trap? Export Expansion, Employment Growth and the Individual Decision of Education Investment. *Economic Research Journal*, 50(12), 115-127+157. in Chinese.
- Zhang, J. (2006). Human Capital Return and Income Disparity: 'Mathew Effect' and Its Implication. *Economic Research Journal*, 12, 59-70. In Chinese.
- Zhang, J., Zhao, Y., Park, A., & Song, X. (2005). Economic Returns to Schooling in Urban China, 1988 to 2001. *Journal of Comparative Economics*, 33(4), 730-752. doi:10.1016/j.jce.2005.05.008.
- Zhao, J., & Zhou, D. (2019). Effects of Internet Use on the Wage of College Graduates. *Chinese Journal of Population Science*, 1, 47-60+127. in Chinese.
- Zheng, X. & Lu, X. (2017). Is It Good to Have A Brother For A Female? A Study on Gender Discrimination in Family Human Capital Investment. *China Economic Quarterly*, 17(01), 277-298. in Chinese.
- Zhou, G., & Sun, P. (2017). The Effect of Internet Usage on Chinese Residents' Happiness: Evidence from CFPS. *Nankai Economic Studies*, 3, 18-33. in Chinese.
- Zhu, G., Du, Z., & Zhang, L. (2014). Guanxi, stock market participation and stock return. *Economic Research Journal*, 49(11), 87-101. in Chinese.
- Zou, W., & Ma, Z. (2019). Family background, intergenerational transmission and educational inequality. *China Industrial Economics*, 2, 80-98. in Chinese.