

Spatial-economic development: the effect of urbanization on education in China, c. 1890-present¹

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Abstract

Over the past decades, spatial differences in general, and the urban centres as cores in educational development and modernization, has attracted a wide scholarly attention. Yet, the various academic disciplines have worked more or less in isolation on sub-parts of this topic such as consumer theory, political science, sociology, and history. In the case of China, the fragmentation in this field has been aggravated by the government policies regarding, which added an additional dimension to the relation between urbanization and education.

In this paper we make a first start by systematically discussing the relation between urbanization and education in the various political periods. We find, first, with the exception of the 1949-1978 period when research was dominated by political scientists, academic fragmentation has persisted. Second, the reform period, in terms of both definition of urbanization and topics of research, the reform period was rather a resumption of the path set in during the Republican period after the 1949-1978 interlude.

1. Introduction

Human capital is widely recognized as an important driver of regional economic development; therefore, it is instructive to investigate the spatial differences connected to schooling and learning (see e.g, Koscińska and Herbst, this volume). One major spatial component affecting education concerns the urbanization. With cities often being the centers of learning and educational modernization, urban education figures in various academic debates ranging from urban economic growth and the job market, to the essential supply of social services in cities, and urban-rural relations, and migration.

In this paper we will discuss the relation between the urban-rural spatial differences and education in China. China is a particularly interesting case study for various reasons. First, urbanization has historically drawn significant government attention as urban areas are not only seen as mainly administrative areas (contrary to Europe where they had many additional function), but also as drivers of economic modernization and development. Second, for

centuries its education system was dominated by a civil examination system with a curriculum based exclusively on humanities. Only since the late 19th centuries more practical topics such as mathematics, technology, languages, economics and physics were included. In this process, cities were the frontrunners. Third, it experienced a political period (ca. 1949-1979) during which the, government regulated, relation between urbanization and education reversed with more educated persons moving to the countryside. Finally, over the past decades Chinese economic and urban growth has been spectacular leading to a return to the traditional, pre-1949, role between urbanization and education.

In this chapter, above-mentioned massive changes that occurred over time and across regions (urban-rural) directly relate to the theme of this volume, the connection of Historical and Regional Studies in a multidisciplinary way. This chapter further elaborates on this topic by studying urbanization (as a driver of knowledge based development of cities and regions) from the angle of both History and some of the social sciences that are present in Regional Studies (like sociology, economy). Yet, the role of the various fields varies considerably by time period. In order to analyze these issues, in the following Section we discuss the construct of urbanization, something that varies over time and among academic disciplines. In sections 3-5 we deal with Republican China, 1949-1979, and the Reform period respectively. We end with a brief conclusion.

2. Quantifying urbanization

2.1 The historical dimension

Many studies have tried to quantify urbanization, mostly by defining cities as settlements with a certain number of persons (often 5,000, 10,000, or 40,000) living together. Partly, this quantification was related to the desire to de properly define the concept and partly to create an historically and/or geographically comparable indicator. But this definition goes beyond mere academic interest since, as we will show below, it directly affects individuals by i.a. allowing migration, offering job opportunities, and supplying social care.

Examples of scholars involved in quantifying urbanization are the historian Chandler (1987), the political scientist Modelski (2000, 2003) and the economic historian Bairoch (2003). Chandler used censuses, travel reports, and other direct and indirect information to include cities bigger than ca. 20,000 before 1850 and cities bigger than 40,000 afterwards. Modelski (2000; 2003) updated Chandler's work by including more data as well as applying theories to predict population of missing cities. An example of such a theory is Zipf's law which, when applied to cities, states that city sizes in a country follow a so-called Zipf distribution thus

allowing to predict city sizes.² He focused on cities above 10,000 (ancient times) to 1,000,000 inhabitants (modern times). A third key scholar involved in quantifying urbanization is the economic historian Bairoch (1988) who, just like the previous authors used various sources, but used a more eclectic approach. Indeed, as argued by Brezis (2008), “when the data did not exist, he found a way to collect or construct it”. He constructed a series of cities of 5,000 inhabitants and higher for the period before 1850. Finally, nowadays, such urbanization data are published by the United Nations as *World Urbanization prospects*. In this publication the definitions of what entails a city are much more detailed, and vary strongly over countries. Yet, in general it boils down to population clusters above 2,000 to 100,000 persons depending on the country involved.

Above discussion on population sizes of cities clearly shows that both by region, field, and time period, urbanization is viewed differently. Yet, arguably, the most influential has been Paul Bairoch. His work has been modified a great many times for various countries (see e.g. Malanima, 2009). This is also the case for China where, even though studies have been abundant (e.g. Skinner 1977; Cao 200a-b), most have been conducted by economic historians for the pre-1949 period. The main problem they faced was to identify a city. In China, most scholars agree on 2,000 inhabitants and higher for the pre-1900 period. In a recent study, Xu *et al.* (2018) provided trends by region between AD 1100 and 1900. Based on this definition, the urbanization ratio of Inner China kept stable between 1776 and 1893 at around 7%. During the early stage of the 20th century, the total urbanization in China increased rapidly and approached 13% in 1918. After 1918 growth must have been rapid as well. Being for cities with 2,500 inhabitants or higher, the urbanization ratio at the end of the 1920s was 34% (Xu, 1930), for 1933 32% (Ouyang, 1936), and for around 1936 the China Yearbook arrived at 28% (Sun, 1946).

2.2 Urbanization in New China

Especially sociologists objected to this image of city size as a measure of urbanization since many people, who were counted into urban population, were actually farmers. According to an official investigation of cities and towns along main railway lines in the 1930s, with the exception of Chongqing city and Guiyang city, farmers accounted for more than 70% of the urban population in all cities in Guizhou and Sichuan province. Even in Guiyang city, the capital of Guizhou Province, more than 60% of the population consisted of peasants (Yin and Li, 2009).

This criticism on Republican urbanization rates led, after the establishment of New China in 1949, to a change in the statistical dimension of urbanization by excluding the farming population. Since 1958, the Hukou (household registration) system divided the whole population into agricultural and non-agricultural population. Those who held farmland were designated agricultural and were excluded from certain social benefits. For example, they could not migrate to urban areas unless they had an urban spouse. Hence, prior to 1978-1982 when this system was relaxed, the strict Hukou system and the existence of communes almost completely separated agricultural and urban population causing the officially reported urbanization ratio to be much lower than in previous decades. Nevertheless, during 1949-1960, because of the labour demand in industrialization, the share of non-agricultural population increased fast and pushed the urbanization ratio, thus defined as the share of persons with an urban hukou, from 10.6% (Bai,2003) to 20% (Zhao,1988). But this upward tendency was interrupted by the Great Famine that struck around 1960. Due to the lack of food, the government had to cut down urban population and many laborers, who had come to the cities from rural areas, were sent back. Hence, in 1966 the urbanization rate was only 17.9%. The share of urban population further stagnated when, from the second half of 1960s to early 1970s, due to national security reasons, the government implemented a strategy for the development of the hinterlands. Many urban students and staffs were sent to rural areas to perform labour (Wang, 2001). These two factors, combined with lower fertility rates in the cities caused by the one-child policy, caused the urbanization rate to decline slightly to 17.6% in 1977.

After 1978 urbanization resumed its upward trend, which lasted to the present. First, the institutional barriers such as Hukou system became more flexible and returned the possibility of rural-urban migration. Stimulated by more, and better, job opportunities created by the fast-growing economy, there even was an absolute decline in the rural population. A second reason for this resumption of urban growth is a change in the official definition of urban population. Since the 3rd population census in 1982, as was the case before 1949, all people living in urban areas were once again defined as urban population, i.e. including farmers. As for the definition of urban areas, it remained based on administrative divisions but became now continuously expanded (National Bureau of Statistics of China, 2008; see also Table 1).

This return of the practice of including the agricultural population in cities in the urbanization statistics, met with the same criticism as was the case in the Republican period with various scholars arguing that rural laborers who migrated to urban areas should be counted as agricultural population.³ These scholars considered officially reported urbanization of nearly 60% in 2017 as nominal urbanization with real urbanization not being more than 45%.⁴

Table 1. Urbanization ratio of new China

	Note	Urbanization ratio
1776	Population >2,000; including farmers living in city	7%
1851	Idem	7%
1918	Idem	13%
1933	Population >2,500; including farmers living in city	32%
1958	Population > 2,500. Only those who had non-agricultural Hukou included	16.2%
1966	Idem	17.9%
1977	Idem	17.6%
1986	All residents living in political centres of governments at all levels or other independent areas such as industrial and mining areas, science parks, research institutions, higher education facilities, the headquarter of farms, and forest farms with more than 3,000 residents; including farmers living in city	24.5%
1995	Idem	29.0%
2001	Idem, with as additional criterium a population density of 1,500 or above.	37.7%
2009	Idem as in 2001 with the addition that now also towns and suburban regions with links to cities are included.	46.6%
2017	Idem	58.5%

Source: Xu et al. (2015); Ouyang (1936); China Compendium of Statistics 1949-2009; National Bureau of Statistics of China (2008); China Statistical Yearbook 2017

3. The pre-World War II effect of urbanization on education

Traditional China was famous for its civil examination system based on Confucian canons. However, the military defeats in the Opium Wars in the mid-19th century created a so-called Westernization movement that strove for modernization in industry and education. This resulted in accelerated industrial and commercial growth. Economic historians argue that the resulting urban labour demand attracted a large scale of inflow of people to urban areas (e.g. Skinner, 1977). Other scholars (e.g. Chi, 2001) added that, after 1930s, because the government became increasingly weaker, refugees, who wanted to escape from famines, disasters or wars also accounted for a large proportion of rural-urban migration.

This increasing urbanization affected educational development in various ways. First, via educational funds, which were initially depending on donations of businessmen, missionary organizations, as well as self-payment by the students (Lu, 2011). The opening of treaty ports, and concessions by the Chinese government to foreign countries, caused many missionary schools to be funded and established in urban areas. Some educationalists (i.e. Zhu, 2009; Wang, 2013) who researched the development process of modern education in China looked favourably onto these missionary schools. Their external funding meant free educational opportunities to children of poor families, especially in elementary and female education. In addition, they introduced more flexible teaching methods and more practical courses related to modern sciences and technology. Hence, they were deemed to be the promoter of China's modern education reform and the pioneer of modern female education.⁵

A second factor driving the relation between urbanization and education, and mostly researched by sociologists, concerns the availability of potential students. Indeed, urbanization was at least partly driven by better job and income opportunities for the migrants. This population inflow in cities contributed significantly to the expansion of educational resources in urban areas, especially in relatively higher level of education and private education. Taking Nanjing as an example, among all primary schools established by the local government of Nanjing, local students only accounted for 52% of the total number of pupils in 1930. Around 15% of them came from other regions of Jiangsu Province. The other approximately 30% of graduates came from other provinces. However, in private general secondary schools only 17%-20% of students were locals (Nanjing Education Bureau, 2010). After the 1930s, as pointed out above, refugees started to account for a disproportionate share of rural-urban migrants causing a large injection of low skilled and cheap labour into urban areas leading to a further decline in the share of locals in urban schools (Liu,2009).

A third channel in which urbanization affected education, and often voiced by economists, concerns the creation of a completely new and Western-type education system. The Chinese

system of education moved, from the late 19th century onwards, slowly away from the traditional “civil examination system” based on Confucian canons to a more modern system. This shift was a long and relatively slow process that, however, dominated in cities because the development of modern industry and commerce created different requirements regarding the knowledge and skills of the labour force. According to contemporary curriculums recorded in *Zhongguo Jindai Xuezhishi Shiliao* (Zhu, 1983), in urban schools, the courses suitable for urban industrial and commercial development were dominant. But in lower developed regions, even though many traditional schools were required by the government to update their curricula to that of modern schools, most of them did not make that change due to the lack of teachers and teaching equipment. The resulting gap in quality between urban education and rural education pushed even more people to send their children to schools in urban areas. This effect was aggravated by various government policies, which, even though designed to support and encourage the development of modern education over-all, were nevertheless mostly directed at cities.⁶ Though educationalists felt very excited of this substantial progress in the development of modern education, sociologists and economists argued that the scale and structure of education developed faster than the demand arising from economic growth. Especially in pre-1949 China, in some fields, the job market became saturated within a short period. For example, according to the statistics recorded in the first education yearbook of Republican China, there were totally 553,986 teachers and staffs in all primary schools in 1930 but the number of graduates from secondary normal schools in 1929 and 1930 combined was 580,304 (Wang, 1934), i.e. new graduates of only two years outnumbered the total number of existing staff members. The shortage had been replaced by over production.

4. The 1949-1979 period

For the first phase of the New China period, the debates on the relation between urbanization and education changed fundamentally, driving the debate away from historians, sociologists and economists to contemporary political scientists. First, as discussed in Section 2, the definition of urbanization gave way from the static historical variant to a more flexible hukou-based system. Second, the government’s goal moved away from balancing educational training and economic demand to one with the sole focus on enlarging the industrial base. The first five-year plan (1953-1957) set that urban areas should be developed as bases for implementing the national industrialization strategy and the primary function of cities should be production. All new industrial projects in the first five-year plan were distributed among 120 cities and especially among 18 key cities (Kirkby, 1985) resulting in a strong urban demand for skills.

Yet, because of the resulting fast expansion of urbanization (Cao and Chu 1990), the government decided in 1955 to decentralize industrial productive units to small cities in order to take full advantage of existing infrastructures there.

Third, migration during 1949-1979 experienced ups and downs. In order to ensure the smooth progress of those large-scale industrial projects, the government transferred economic surplus from rural areas to urban areas via so-called price scissors. Agricultural products were forcibly sold at a low price causing the farmers to become poorer. At the same time, the food supply for urban residents was guaranteed by the government. Likewise, they benefited from many other social welfare benefits such as health security (Liu and Wu, 2006). The large gap of living conditions between rural and urban areas attracted many rural migrants. The decentralization of industrial projects from 1955 was beneficial to them because they did not need to move far away from their hometowns. Consequently, the development of urbanization speeded up after 1955. During 1957-1960, the net increase of the urban population was 30-40 million and the workers of industrial enterprises more than doubled (Cao and Chu, 1990). The year 1958 was the peak of migration from rural areas and contributed at least half of increase of the urban population during that period (Kang, 1966).

Urbanization required more education, hence the expansion of education was also included in government's strategy. The first step was to increase the scale of education, while the second step was to modernize higher education to match the demand from industry. Indeed, from 1951 to 1953, 3/4 of all universities were converted to exclusively technological universities (The editorial office of China Education Yearbook, 1984).

Despite the rapid growth of education, still only around 30%-40% of junior secondary school graduates had the opportunity to move forward to senior secondary schools. After graduation from senior secondary school, the possibility to enter higher education was only 5% (Gu, 2009). Consequently, a large number of secondary school graduates left the education system and had to be settled in various economic sectors. Unfortunately, notwithstanding its fast growth, the development of urban economy was not big enough to offer so many job opportunities. The urban situation was aggravated when, after 1960, there was a large famine striking the entire country making it increasingly difficult for rural areas to supply cities with sufficient food. For both reasons, the government had to reduce urban population and increased the restriction to rural-urban migration via Hukou system. Not only the possibility of migration from rural areas to cities was reduced, but also a large number of educated young students, staff members and managers of government agencies and state-owned enterprises in cities were moved to rural areas (known as the "rusticated youth" program). The de-urbanization did not

stop at the end of the Great Famine because the Cultural Revolution followed swiftly and lasted until 1978. Especially during 1966-1972, 41.8% (7.15 million) of secondary school graduates in urban areas went to rural regions with the aim of increasing rural production and lowering pressure on the cities. In addition, secondary and higher education was severely limited. During 1966-1970, regular higher education even stopped recruiting altogether (see Figure 1). Since 1969, the economy started to recover gradually and higher education resumed again. The increase was mainly contributed by industrial sectors with a growth rate of 30.6% (Xi and Jin, 2006). The development of urban economy offered good opportunities for those educated urban youths who had been sent to the countryside for working in 1960s to return to urban regions (Gu, 2009).

Figure 1. Number of higher education students (10,000 persons)



Source: China Education Yearbook ca 1949-1981

Even though this debate has mostly been studied from a policy point-of-view, in recent times economists, sociologists and educationalists have joined the debate as well by focussing on the situation of many students caused by the rusticated youth project. Li, Rosenzweig, and Zhang (2010) found a negative relationship between years sent down and years of education. Giles et.al (2015) argued that this was caused, in addition to the direct impacts of not attending school for several years, by the delay in schooling increased the opportunity cost of continuing in school because “children were older, prior learning depreciated with time out of school, and returning students faced increased competition for placement in the educational system because of accumulated cohorts of students competing for a limited number of slots”. This negative

effect was mitigated if their parents were cadres. For example, Zhou and Hou (1999) argued that, after being sent-down, children whose parents were cadres returned to cities earlier than children whose parents were not cadres and, in addition, were usually sent to better rural locations. Furthermore, these children had a background more conducive to self-study, which increased their chances of passing the college entrance exam. Finally, some of their parents might even have been able to directly influence college admissions decisions during the period from 1972 to 1977 when such decisions were based on political, rather than academic considerations.

5. The Reform period

In many ways, the migration in post-1978 reform period signalled a return to the pre-1949 patterns. First, increasingly people with agricultural hukou were allowed into urban areas. Second, after 1978, improved agricultural productivity due to the establishment of Household Contract Responsibility System⁷ freed up more rural labourers to go to urban areas for non-agricultural job opportunities. Third, the development of self-employed and private economy, and the boom of infrastructure construction in urban areas, absorbed plenty of these rural labourers (so called *Nongmingong* 农民工) and pushed up urbanization ratio. In below discussion on the effects of these urban developments on education, we might distinguish two types of migration, i.e. active migration where a person moved between locations, and government-induced migration, which mostly consisted of administrative changing regions from rural to urban without a person physically moving to another region.

Active migration

The large share of migrants actively moving to urban areas strongly affected education. First, due to the limit of urban educational resources, most public primary and secondary schools gave priority to local urban students. Only if there were still seats left after all local students were enrolled, children of migrant workers could access these schools at the cost of high extra fees. In certain large cities, some schools with relative poorer quality of education were created mainly for accommodating children of migrant workers. Some educationalists found that these students felt ignored or discriminated against by teachers and fellow students because of their rural family and educational background (Yuan, 2011). It was even common that, if an urban school, opened up to children of migrant workers, an outflow of local students would occur because many urban students and their families were reluctant to stay in a same school. Hence,

according to educationalists, migrant children experienced a “ceiling” in upward social mobility by means of education (Xiong, 2015). The government allocated special funding for alleviating these problems, however, were mainly focused on how many and what proportion of children from migrant families was absorbed in urban schools. The educational results and whether they could adapt to the new environment after they entered urban schools were ignored. Moreover, these children were allowed to stay at urban schools only until the end of senior secondary schools. If they wanted to go to universities, attending the entrance examinations was only possible in the registered residence recorded in their Hukou. Taking Shanghai as an example, it is shown that this kind of educational institutional inequality might lead to a reproduction of social classes (Zhang, 2012).

Second, the large number of migrant families also led to a discussion about the distribution of educational resources between rural and urban areas by sociologists. Yao (2017) found a linear relationship between the level of urbanization and the number of schools and students at the compulsory education stage in both urban and rural areas of Ningxia Province. During 2002-2014, the whole number of schools as well as the number of pupils per school expanded in urban areas. Yet, the increase in the number of schools was far outpaced by demand causing a serious shortage of educational resources (Li, 2013). On the contrary, the number of schools and students in rural areas decreased fast. Hence, for rural children the average distance to schools increased.

Third, there were also a large proportion of children of migrant workers that did not move to cities with their parents.⁸ They got educated in rural areas and were taken care of by their grandparents or other relatives. There is a large debate on the effects on their education. The majority of scholars, mainly educationalists, felt that leaving children in rural areas under the care of others had obvious negative effect on the quality of their education. For instance, Ye et.al (2006) found that these students got worse examination results compared to what they got before their parents left them to work in the city. Yet, economists and demographers disagreed with the assessment that leaving children in the countryside while their parents were going to the city to work, inevitably led to negative impact for the left-behind children. For example, Hu (2012) showed that income sent back to rural areas by migrant workers improved the education status of left-behind children. Likewise, Duan and Yang (2008) found that the enrolment ratio of left-behind children was higher than those children who moved together with their parents to the city. Giving a more nuanced picture, Zheng and Wu (2014) combined both the advantages and disadvantages and found that the absence of the father and the mother had different effects on the education of children. Using a Probability-Proportional-to-Size

Sampling among primary school students in the 4th and 6th grade and junior secondary school students in the 1st and 3rd grade in Gansu, Ningxia, Yunnan, Sichuan, and Guangxi Provinces in 2006 and 2008, he found that the positive effect of a father moving to the city generating more family income exceeded the disadvantage caused by the lack of companion and effective supervision of the child in terms of education. But if a mother left the children to work in the city, the net effect was the reverse. This reverse effect was partly caused by, generally speaking, women earning less than male labourers. In addition, if the mother left to the city, more often the father had to play the role of decision maker, who, it is argued, attached less value to, especially female, education. In case of both the mother and the father leaving, most of children lived together with their grandparents. Most existing research related to inter-generation education is from psychological or pedagogical perspective (e.g. Huang and Chen, 2007) and tends to agree that, though grandparents had more parental experiences, more spare time and patience, intergenerational education did more harm than good because of the low education level, outdated educational experience, and indulgence towards their grandchildren. These arguments are often supported by the fact that children who were raised up by grandparents had a higher chance at worse examination results and suffered some psychological problems such as being self-centred, psychological fragile, have poor self-control and being introvert.

A fourth effect of urbanization on education of active migrant workers concerns decision-making within the household. Some sociologists compared the decision-making difference between different generations of migrant workers and show urbanization had a different influence among different groups. Xia and Chu (2014) made a binary logistic regressive analysis on a database obtained from an investigation of more than 1,000 rural households in north Anhui province. Their research showed that the younger generation of migrant workers (born in the 1980s and 1990s) were more willing to settle in cities compared to their parents. Their prime motivation was to pursue better education for their children. Yang (2007) explained that well educated labourers, contrary to past generations, had steady, sustainable, and higher income. They faced fewer institutional barriers to rural-urban migration and could promote and help many other family members, relatives or even neighbours to move to urban areas.

As a fifth effect, consumer theorists researched the impact of urbanization on education from the perspective of consumer decision-making. Yu (2015) performed a field investigation in Qingdao showing that migrant workers, who had never enjoyed the benefits of education, found it difficult to correctly value education. Their decision to educate their children thus depended on external factors such as following urban residents' high educational investment

rather than economic maximization. It caused irrational investment in the field of education (Niu 2017). The comparison between the high educational cost and low economic return made the idea of the uselessness of study became increasingly popular in rural areas. In addition, He (2014) found that, influenced by urban lifestyle and consumption fashion, hedonic, conspicuous and competitive consumption spread in rural areas and the changing expenditure structure squeezed educational investment. Moreover, government's efforts of activating the rural consumption and real estate market stimulated this kind of irrational consumption. In addition, expenses related to marriage and social network increased as well. All these were heavy financial burdens for migrant families and weakened their capability to invest in education.

Government-induced migration

In addition to migrant workers who actively participated in urbanization, many people were urbanized by the government. Along with the expansion of cities, more and more rural areas were merged into cities as new districts and these habitants obtained a non-agricultural Hukou. In addition, because of the government's desire to increase the urbanization ratio, and to concentrate farmlands in order to stimulate large-scale farming, it became customary that scattered farmers were forced to move to a certain resettlement area (usually in rural-urban fringe zones) and live in high-rise buildings, which also could receive urban status. By doing so, with more and more population pouring in, both the urban population and the urban area expanded.⁹ Economists criticized that the fast urbanization pushed by land conveyance and concentration was only an illusion of urbanization because without the support of industrial development, peasants who were simply accumulated by the government could not get enough non-agricultural job opportunities.

Many scholars paid attention to these peasants who became urban population due to loss of farmlands as well to the education of their children. Different with "active migrants", these people were not outsiders, but only recent urban people. They got some compensation from the government hence seemed to have temporarily a better economic situation. But unlike active migrants who stepped into cities with good preparation, clear plan, and support offered by their farmlands in their home town, these other migrants were thrown into urban areas without any preparation and way of escape. Liu (2009) made a survey in a new district of Huainan city in Anhui Province, which was changed from countryside to an urban district in 2005. More than 80% of land was expropriated by the government. Of course, farmers got either cash or a job as compensation, however 70.8% of people were not satisfied with the

compensation. Ultimately, 55% of these landless peasants had to survive by being manual labourers or engaging in small business. Since their stable income from farmland had fallen away, they were forced to spend more time on working thus they had less time to take care of their children. Losing their guarantee for survival (i.e. farmland)¹⁰, 63.7% of them considered education as the only way out for their children. They began to pay more attention to their children's education. They were willing to invest but, once they felt that their children were not promising in study, they would stop their support and let their children enter the labour market. But Yao's (2008) comparative research showed this phenomenon only happened many years after a region was urbanized because the preliminary mission for peasants, who had just lost their farmland, was to adapt to new life style and new methods for making a living. So, initially they spent less money and time on the education of their children.

6. Conclusion

In this study, we assessed the connection of Historical and Regional Studies in China using the effect of urbanization on education as a case study. Three threads run through this paper. First, for estimating urbanization, it depends very much in which academic field or political situation the author is placed. Second, because of the significance of the government in the whole history of urbanization, we need to make connections with policies or political perspectives. Third, the different effects of urbanization on education are discussed in various academic fields, including history, education, sociology, and economics.

During the 1890s-1930s, the development of modern urban economy brought more educational funding and more migrant students. More important, it promoted the educational transition from an education system dominated by the civil examinations based on humanities to modern education emphasized modern technology and sciences. However, the structural imbalance of the modern economy led to the uneven development of different type of schools and different specialties. Hence, discussions about overproduction of students started, which was aggravated by refugees due to the wars in the 1930s/1940s.

In the period 1949-1979, the situation changed fundamentally. Before the 1960s, the government's strategy of rapid industrialization was a dominant factor. The large demand of modern industrial sectors led to a boom of educational specialties related to mining, mechanism, constructing, and manufacturing. Yet, during 1960s-1979, due to economic stagnation, de-urbanization became the main focus of the government. Access to urban education, especially higher education, became severely restricted. Though some people returned to urban areas,

gradually since early 1970s, political factors still continued to have a strong effect on education by regulating access of rural migrants.

The reform period was in many ways a return to the situation of the pre-1949 period. Generally speaking, the new requirements in labour market, the awareness of the significance of education and increasing income helped promoting the expansion of education. But too many other factors, i.e. the tough situation of left-behind children, land-deprived peasants, children of migrant workers, the more and more huge gap between rural and urban education caused by population mobility, the labor market saturation and consequently class solidification, made the final results more complicated.

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² That is, the second largest city in a country has about half the inhabitants of the largest city, the third largest city about one-third, etcetera.

³ The 6th census in 2010 showed that 49.68% of total population lived in urban areas. However, the demographic data published by The Ministry of Public Security recorded only 34.17% were nonagricultural households. The National Bureau of Statistics acknowledged that around 1/3 of urban population consisted of migrant rural workers and their family members. They engaged in nonagricultural production and lived in urban areas but did not have the same access to social welfare and public service as urban households. Some of them migrated between urban areas and rural areas regularly. Some scholars have argued that this part of population was only semi-urbanized (see e.g. Li, 2013).

⁴ In 2017, 42.35% of population had non-agricultural Hukou (See National Bureau of Statistics of China, 2017). This implied much lower real urbanization. Yet, there were also scholars arguing for different ways to estimate urbanization. For example, Li (2010) argued for calculating urbanization based on the occupational structure where the total non-agricultural population made up the urban share. If adopted, urbanization should be more than 60% because, at that time, many people with agricultural Hukou made a living in urban areas or worked in the secondary and tertiary industries in rural areas.

⁵ Besides educationalists, also economic historians noticed the role of educational funds. Yet, they mostly focused on modern factories in urban areas, which also started apprentice education to train labourers. See e.g, Wang and Xue, (2016). On average the number of apprentices in Beijing made up roughly 25% of the industrial workforce (Gamble, 1921).

⁶ For instance, in order to cultivate more teachers for modern education, the government offered tuition exemption and subsidies to normal school students as well as a priori guaranteed jobs.

⁷ This system gave farmers the right to make independent decisions on the use of a small piece of contracted land. The production and management were entrusted to individual farming households through long-term contracts. During the contract period, the farmers paid taxes to the State and keep all the other produce for themselves. The system caused a steep increase in agricultural productivity.

⁸ According to the statistics of the 6th census in 2010, there were totally 69.7 million left-behind children. Among them, 61 million were in rural areas. Left-behind children counted for 28.52% of all rural children (Duan et al, 2013).

⁹ During 1990-2000, urban land expanded by 90% and the urban population increased by 52%. In the following 10 years, the urbanization expanded at a lower speed, but Urban land increased by 83.41% (Huang, 2016).

¹⁰ Before being landless, 47.2% of the peasants believed that, if their children could not continue move forward in education, their survival still could be guaranteed by farmland.