

# Education—a Key Factor in Economic Emergency (full version)

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## 1, Introduction

Economic development of a country requires a range of favorable conditions available at a certain moment. Education is one of them and investment in education should be counted as part of overall investment for the economic takeoff of a country. The connection between education and economy was established by Theodore Schultz in his seminal works *The Economic Value of Education* (1963) and *Investment in Human Capital: The Role of Education and of Research* (1971). Since Schulz's conceptualization of "human capital", the pertinence of education to a country's economy has been generally recognized. Richard Easterlin pointed out that a state of underdevelopment in a country's mass primary education would severely hinder the transfer of technology from advanced countries and thus delay the economic development.<sup>1</sup> Daniel Headrick blamed the underdevelopment of the tropical countries on the fact that under the colonial rule the investment went only to physical but not the human capital.<sup>2</sup> In contemporary official discourses of almost all developing countries that envision a future of emergence we can always find a special mention of education as an indispensable requirement for economic success. However, the construction of an educational system for an emerging country is not without problems both on the conceptual level and in its actual implementation process. It is then of great importance for us to look into the education question if we wish to have a thorough understanding of the mechanism of the related educational and economic development. In this respect the route that China has traversed might offer some helpful indications as to the direction and the obstacles to educational development and I believe the lessons the Chinese case provides may well be relevant to Africa as well.

An examination of China's experience in the past three decades of education planning and reforms shows that policy makers in the field are often confronted with a number of important questions about the nature and the structure of educational system that a country should answer in its effort for a strong economic and social development. Notably the following problems should be appropriately addressed before an efficient educational system could be installed

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<sup>1</sup> Richard A. Easterlin, "Why Isn't the Whole World Developed", in *The Journal of Economic History*, 41(Mar. 1981), pp. 1-17

<sup>2</sup> Daniel R. Headrick, *The Tentacles of Progress* (New York, 1988)

to provide the type of human resources a fast growing economy in the present world will require as one of the essential facilitators of development.

- How to define the objective of national education for the country that evidently has multiple goals in its social and economic progress?
- What are the main actors in providing education and what is their respective role in the funding and the management of a high performing educational system?
- What are the social and individual values that could be explored and exploited for a concerted effort to realize high quality education?
- How to mobilize and allot necessary and sufficient resources for the instruction of the young population?
- How to elaborate an educational program that corresponds to the fast changing social-economic environment of an emerging country? What are the essential measures to improve the quality of education?
- What would be the sociological impact of education on the distribution of wealth and social mobility in a society? How to ensure universal access to education resources to eliminate discrimination and inequality?

## 2, Reorientation of Education

The adoption of a new economic policy designated as “reform and open-up” in the late 1970s by a new team of political leaders in China is now a much studied historical event, given its world-changing results. What is less well known is the fact that at the same time the new leadership launched a vast reform and development program for the education system of the country. The new education policy proposed and adopted in a national conference was in fact part of an overhaul of the country’s governance after the disastrous Cultural Revolution. However, the significance of the reform in educational system went beyond a simple rectification of the system as it was presented at the time. It prepared for the economic future of China, through the position it took within the ambitious new economic program of the country. The authorities after Mao in Beijing proposed a new objective for the Chinese education which had in the previous age been entirely oriented towards ideological instruction. The policy change geared education to economic development which was and is still seen as the ultimate mission for the nation’s educators. This shift of emphasis brought about a sea change among the Chinese young generation because the first measure of the new policy was the reinstatement of the national enrollment examination for higher education known as GaoKao which remains the engine of the whole educational system in China. In 1977, year one of the Chinese education reform, millions of young and not so young rushed to the examination rooms all over the country because they saw the enrollment to higher education

through examination as the only way to escape poverty and to move upwards in a stratified society. Before the state began serious investment in education, the incredible urge to study stimulated by the Gaokao already drew young people to classrooms and textbooks. When, a couple of years later, the economic expansion started and foreign investors put in physical capital in Chinese market, the human capital was already there to match as the result of education reform effectuated a few years earlier especially in the form of a social mobility mechanism.

It should be noted that the highly publicized new education policy did not lead to immediate and significant increase in public spending in the sector because at the initial stage of China's economic restructuring more urgent needs were felt elsewhere for investment and investment in education was deemed as only capable of producing indirect benefits for economic growth and then judged as a sector that could wait. Despite constant calls from educators and experts state investment in education in those early years of Chinese economic reform remained on a relative low level. The expenditure on education in China in 1978 and 1979 took up 6.07% of the total state budget, compared with 5.63% in the period 1966-1977, i.e. the ten years of the destructive Cultural Revolution. If we take into consideration the growth in terms of national wealth in these years, the increase would appear even less important. During 1966-1977, 1.86% of the national income was spent on education and this figure reached 2.09% in 1978-1979. In the previous ten years 1966-1977 expenditure in education corresponded to 1.10% of the gross output value of Chinese industry and agriculture, while in 1977 and 1979 spending in education was equivalent to 1.12% of that output.<sup>3</sup> When we think of the fact that during these ten years before the reform a large part of Chinese schools were virtually closed and university instruction was first completely shut down and then only maintained on a minimal scale, the timidity of investment increase for education in the post-Revolution years is all the more evident. The reticence on the part of the policy makers to carve a sufficiently large budget share for the education sector is not limited to China. Education is a domain that is not able to produce immediate growth figure for a poverty-stricken country. This characteristic, often dubbed as the time lag of education profit, tends to draw scarce national resources to more urgent construction tasks, for example industrial infrastructure.

The solution to this problem requires a balanced sharing of financial burden between major actors of the education: the state, the employer and the family. Since the state cannot engage important resources for education, the two other major actors in the education efforts are called upon to make more significant contribution. The instruction fee system of the time in China was designed in such a way as to channel household resources to the primary and secondary school education and to concentrate the precious state investment on the key

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<sup>3</sup> cited in Marianne Bastid (1984), "Chinese Educational Policies in the 1980s and Economic Development", *The China Quarterly*, 98, pp 189-219.

higher education. Though China pronounced its commitment to education development very early on, it began its free education program for all children quite late both in legislation and in installation. It was not until 1986 that the sixth Chinese People's National Congress, in its fourth plenary session, passed the first law for a 9 years obligatory and free education with, nevertheless, a proviso that the law was to take effect gradually according to the financial and material conditions of each region. The country had to wait for the tenth People's National Congress in 2006 to see finally a new bill that commit public monies completely to cover the cost of the 9 year free education for Chinese kids. The total exemption of all registration fees for primary and lower-secondary schools was realized only two years later in 2008. At the same time Chinese higher education remained free of students' charge for quite a long time, in fact from 1949, the founding of the People's Republic till 1989 when tuition was for the first time installed in Chinese colleges in an experimental way. It was in 1996 that all Chinese colleges and universities began to charge full tuition fee on their freshmen. So during the time when Chinese economy was poised to take off, Chinese family was required to pay for primary and secondary schools for their children but not for the college education if their children succeed in becoming college students through the difficult Gaokao. This apparently paradoxical arrangement found its rationale in the fact that young people with basic schooling would have relatively easy access to an expanding labor market, bringing returns for the education investment of the family, while the state was ready to pay for the training of much needed cadres and engineers to begin the transformation of its rustic industries. The relatively small scale of the Chinese higher education at the time rendered the funding a realistic project. Only in later years with a different economic situation, the respective burden of Chinese education for family and the state has finally been reversed through several steps of reform. The state is now financially responsible for the 9 year basic national instruction and the family, if they wish to send their kids to college, has become a major source of revenue for Chinese universities. Given the huge size of the Chinese population, we can well understand that during the first stage of its development it was the Chinese family that shouldered a considerable share of national education spending. Another actor that put in important efforts in educating the young and adult generation was the employers with their on-the-job training programs. The employers were by definition primarily concerned with cost-efficient management of their investment and were not interested in education per se. However when important investment was decided on physical equipment it would soon be apparent that without skilled and well trained operators, in other words the human capital, the capital invested in material would not become productive. In the absence of such workforce readily available on the labor market, employers had to provide the training for their workforce.

The necessity for this kind of job training was felt in a particularly acute way in some special economic zones, for example the Shenzhen Special Economic Zone which had been, before its change to this status, a rural area lacking elementary infrastructure and education facilities. Its only advantage was its geographical location with easy access to the neighboring Hong Kong. The local and the immigrated population, basically peasants, from whom the new factories drew their manpower, did not possess the industrial and professional skills required for the modern manufacture. It was then up to the employers to provide necessary training for the workers and employees to enable the industrial installations to properly function and also to fill new jobs that required skills and knowledge unknown to the rural population: clerking, sales, business services, financing and international trade. The local government took the lead in creating adult education and training and then through the impetus of the regional government enterprises gradually played a more and more important role in providing and financing career training and adult education. Between 1980 and 1995, 2.1 million workers in that economic zone received a job-related training for a total of 2.5 million workforce.<sup>4</sup> In the Shenzhen zone there have established two types of institutions that provide education and training for adult workers: education/training centers that are job-related and designed for employees of a corporation or a professional sector and education/training centers that are community-oriented and more general in instruction content. The first type of the training is generally financed by the firms that need the skilled workers and the second type is often supported by the local community as a community service necessary to draw investors. But in many cases firms would also pay for the participant employees in the second type of training centers in the form of partial or total subsidies if the training is judged as essential to the job exercised by their employees. In the Shenzhen case the division of education charge among main actors appeared to be in a well-balanced and complementary manner. Most of the workers coming to seek job opportunity in Shenzhen had already received differing levels of formal schooling which guaranteed an entrance level of work competence for the different employers (for a sample of 4002 employees in the zone, 19.1% had lower-secondary general education i.e. 9 years' schooling, 34% had upper-secondary general education, i.e. 12 years, 20.4% had vocational/technical education, 8.5% had junior college education and 15.2% had four years' university education) The local government then is motivated to offer a supplementary education opportunity in order to optimize the investment environment. As for the employers, they expect a highly efficient performance from their employees by providing a job related training. This constitutes a diversified education system where the state-funded free schooling, the on-the-job training installed by corporations and tuition-based education paid by the

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<sup>4</sup> Jin Xiao and Mun Tsang (1999), Human Capital Development in an Emerging Economy: The Experience of Shenzhen, China: Research Note. *The China Quarterly*, 157, pp 72-114

individual family offer a whole gamut of education opportunities for the young as well as the adult population, training qualified workers as well as elite engineers and high-level managers to meet the diversified personnel needs of a growing economy.

It is to be noted that in Chinese education this structure of burden sharing among the state, the employer and the family was made possible through a quite rational calculation on the part of each party hoping for maximal profit of their financial investment in education. However, beyond the consideration of immediate material benefit, a more profound motif could be perceived in the efforts to promote education in China among those decision makers on all the levels. A motif that has roots in a certain type of social vision fostered by a long cultural tradition.

### 3, Giving priority to education

China is a country of very ancient civilization and since its formative years the Chinese civilization has been principally based on a system of beliefs commonly known as Confucianism which was elaborated from the teachings of a saint living in the fifth century AD. He himself was a teacher and in the social theory he proposed education has been given primary importance. For all the successive Chinese dynasties that adopted Confucianism as state ideology, as most of them did during two thousand years, one of the main state functions was believed to be the education and the cultivation of its people. Most of the imperial governments would set up a public school system from county up to imperial capital to train a literary elite. The cornerstone of this system was the imperial recruitment examination taking place annually to select among the educated prospective functionaries for the state. The famous Gaokao in the contemporary times is largely perceived by the masses as a modern avatar of this time-honored tradition and ordinary people react positively to the opportunity of a better education for their offspring in an almost intuitive way; so entrenched is their belief in the intrinsic value of education. Likewise, government's success is generally measured by the kind of education it provides for the people. In a word, the remarkable expansion of Chinese education in the last three decades has been considerably facilitated by a popular conviction in the value of education in itself and the cultural heritage in China definitively inclines contemporary authorities to make positive decisions in matters of education development. Therefore, in addition to economic necessity, the willingness of all parties to invest in the education is prepared by motifs that are based on a set of traditional values forged in Chinese history: providing the best possible education for children as a moral duty of parents, the priority given to education in traditional political philosophy and the responsibility of the entrepreneurs in terms of personal development etc.. It is to notice that in the mobilization of national resources for education, the effort of family is particularly important, both during the time when government

investment in education was limited by budgetary restriction and after massive increase of public spending in education. In the first decade of the new century the average household spending on children's education takes up 24.1% of the family income and constitutes the first category of family expenses, higher than the housing cost that represents 21.3% of the family budget.<sup>5</sup>

Cultures differ from country to country and we cannot expect to create a tradition overnight. The sensible thing to do in planning a society's development is to evaluate the country's tradition and to tap its potential in a judicious way. Evidently each cultural tradition has elements that would favor progress towards a more developed level for the society. However, with respect to education the intervention of the state seems to be of primary importance. Education should be established as a key factor in the advancement of young people and upward mobility should be assured by certain institutionalized criteria in education. This would send a clear signal to the population about the value of education and people's engagement with education would change accordingly. In a more direct way, the state could organize an information campaign designed to instill the importance of education into the mind of general population. The Chinese government launched, especially in the early years of the reform, nationwide campaigns to promote education in public media as well as through its formidable propaganda machines. As we have pointed out earlier, education as an investment could not create economic benefits in short terms and it is then necessary to stimulate education spending with an argument based on values. An ideal situation would be reached when value conviction is corroborated by economic returns. In fact China is not an exceptional case in this situation, almost all the eastern Asian countries that have known economic miracle sometime in the latter part of 20th century boast a culture that puts high value on education. The change in mentality needs time and often requires an ingenious approach but efforts in this direction are certainly a worthwhile long terms investment.

#### 4, The organization of public education

Given the size of China, it is perfectly understandable that its public education could not be organized and managed in a uniform way. The guiding principle for the central government has always been a diversified participation of public financing, aiming to mobilize local and regional resources to sustain the gigantic education system in China. In fact, though education is proclaimed as a national priority in China, the central government relays a large part of the financing responsibility to local authorities.

Chinese public education falls mainly into two categories: first the basic education that includes pre-school education, primary school, lower-secondary school and upper-secondary school and then the higher education. The middle

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<sup>5</sup> *Shenzhen Wanbao*, 26.01.2007

part of the basic education cycle, i.e. the 9 years of primary school and lower-second school is defined in Chinese law as obligatory and free of charge for the students. All the schools for the basic education are constructed and financed by the local government. The hierarchy of the public authorities from the province down has a scheme of sharing responsibility for different levels of schools in this basic education system. In urban area, the district finances its primary schools and the municipal government will provide budget for secondary schools. What is more problematic is the financing of schools in rural area where the abolition of agricultural taxes and diver fees decided in 2009 has deprived local authorities of sufficient resources to pay their teachers and to maintain the schools. They now rely more heavily on subsidies from the county and the province government.

The higher education in China is organized in a more centralized way. More than two thousand colleges and universities all over the country are divided into two categories: the general higher education and the vocational higher education. More than eight hundred colleges and universities belongs to the first category and more than one thousand and two hundred colleges are classified into the second category. Colleges in the first category offer courses in a standard four years curriculum and the colleges in the second category provide shorter curriculum, usually two to three years. In terms of public financing, the more important difference lies in another categorization for these Chinese colleges and universities. All Chinese higher education institutions have an administrative affiliation and only a small number of them are affiliated directly to central government, the large majority belonging to local governments, provincial or municipal. Of the universities that are administered by the central government, their affiliation is further attributed to different ministries. The most important universities in China are those that belong directly to the ministry of education (75 according to the latest catalogue) and 39 other universities and colleges, mainly specialized in a particular professional and technical field, are affiliated to other ministries of the government, for example military colleges to the ministry of defense.

Parallel to the regular education system, vocational and further education forms also part of the Chinese education system. Those schools are generally supported by state enterprises and public organizations. Though these vocational schools tend to be self-financed by charging fees, the public money is often involved in their operation.

The delegation of financial responsibility to local governments forms a defining feature of Chinese higher education and leads to some important consequences for Chinese universities and colleges. The most significant result is the fact that they are in different financial situations, even though they ultimately all depend on resources from public taxation. The hundred or so universities and colleges that belong to government ministries benefit from



relatively abundant funding from the state budget but more than a thousand Chinese universities and colleges that are affiliated to provinces and municipalities live under a different financial regime. From 1997 on, higher education in China is no longer free and tuition becomes a source of budget revenue for colleges and universities. Even though the level of tuition does not vary significantly since it is regulated by the central government, its weight in the college's budget is not the same. Taken as a whole, the average percentage of students' fee in higher education budget is 24.7% and does not breach the limit of 25% fixed by the education ministry. However the average figure is misleading and tends to hide a more complex reality. For universities and colleges that are supported by the central government, the tuition fee covers 13.4% of their budget while for those that are financed by local governments, the tuition fee from the students makes up 33.2% of their budget. If we take a still closer look at the financial management of regional universities and colleges, we will further find that they are not all in the same situation and that there is an important disparity in those institutions' revenue level. Some regional and municipal universities and colleges are in fact financially better off than those belonging to central government and but many others know more difficulty in their financial management. All depends on the economic development of the region or city where the college or university is located. The regions with a huge public budget tend to devote more resources to their own colleges and universities. This is the case with most coastal provinces such as Zhejiang, Jiangsu and Guangdong. The regions whose economy lag behind on a relatively lower level find it difficult to allot more resources to education, leaving their colleges and universities less supported. The regional difference has an important impact on education opportunity for the residents. The better off regions and cities have abundant resources for the development of higher education and as a result their residents can benefit from a higher rate of recruitment, while in less developed regions college education still remains a scarce opportunity. For example, two in three of the upper-secondary graduates in Shanghai can be admitted to college, while in Nanjing, a city to the north of Shanghai, the current rate of admission for the same age group is 55.3%, which is not the lowest at all on the national scale.

The system of diversified and decentralized funding for Chinese universities and colleges has created a situation that produces successes and problems as well. It makes regional governments keenly involved in the development of higher education and renders the regional prosperity directly accessible to the universities and colleges. The dynamism of Chinese higher education that we witness in the recent years can be largely explained by the active participation of regional governments and by the concerted efforts on the part of the state and the local authorities. It also allows colleges and universities more leeway to raise funds for their development projects. Even for universities that are affiliated to central government, they can still seek financial support from

regional governments if they can convince local officials that what they plan to do would improve the chance of the region in their bid for a better position in economic development. The problems connected with this system are, however, also evident. When the financial status of a college is determined by the level of regional resources, certain degree of inequality between the country's universities is almost inevitable. Since education is a long-term factor in social and economic development, the varying speed of education development in different regions would enhance and not reduce the regional inequality. The Chinese government's recent call for a bigger investment in educational installations in the west of China is mainly a response to this problem.

## 5, Reinforcing links with economy

Generally speaking the Chinese government's commitment pledged at the beginning of reform movement to give education priority in the country's reconstruction has been largely honored and realized in the form of continuous increase in education budget. The part allotted to education in the state's annual budget was augmented from 11070 million yuan in 1990 to 114520 million yuan in 2001 and to 378156 million yuan in 2013. This is only the expenditure by the central government and the decentralized structure of the education funding system means that the regional and local governments' contributions are much higher. In 2013, the threshold of 4% of the GDP devoted to education expenditures was finally reached after years' relentless campaign by activists. The increase in funding has been translated into substantial expansion of the education opportunity for the population. Since the basic education was already well developed prior to the reform period and the decline of birth rate as a result of population control policy means a continuous shrinking of school age population, the increase of students entering primary schools has not been significant both in absolute number and in percentage. In 1990, 97.8% of the school age children attended primary schools; in 2000, the figure was raised to 99.1% and in 2010, 99.3% of that age group were admitted into primary schools. By contrast, the expansion of higher education in China has been spectacular. In 1990, Chinese higher education institutions all together recruited 618,700 freshmen; in 2000, the country witnessed a quantum leap in recruitment and 2,206,100 secondary graduates entered colleges and universities. In 2010, the number of students admitted to higher education institutions was reduced to 2,084,300 as the reaction to the explosive increase of years earlier judged as too fast. Now, the admission ratio for universities and colleges admission is around 26.5% nationwide and more than 30 million people are presently receiving higher education in more than 2200 college-level institutions registered with the ministry of education.<sup>6</sup>

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<sup>6</sup> Data from *China Education and Research Network*, [http://www.edu.cn/jiao-yu-fa-zhan\\_498](http://www.edu.cn/jiao-yu-fa-zhan_498), 2015-2-25.

Is all this expansion of the education system worthwhile in terms of economic development? The answer is positive and the impact of education development on economy has been significant. From 1982 to 2000, the average direct contribution of education to Chinese GDP growth is 2.525% and its indirect contribution is 6.245%. Put together, the education's average contribution to GDP growth is estimated at 8.77% during this decade which was also the time when China emerged as the fastest growing economy in the world.<sup>7</sup>

The consensus about the necessity of education for economic emergency exists unchallenged around the country and the decision makers, both on the state level and for individual's schooling, generally calibrate their spending on education to the expected economic benefit. Both on the part of the state and for individual family the concern for economic returns of their education investment remains very deep. Many recent reports in Chinese media about college graduates unable to uplift their family from poverty after four years' costly tertiary education clearly reflect a general expectation that education should bring economic benefit that should correspond to the sum invested. To remedy the perceived inefficiency of education in terms of economic profit, the education administration has proceeded to reform in two ways. First a substantial reorganization of the educational system is being studied at present and one of the main directions of the future reform is to increase significantly the number of vocational and professional secondary schools and colleges. For post-graduate studies, a quota is set up to redress the balance between professional post-graduate degree programs and basic research degree programs, greatly increasing professional degree programs. The aim is to train more high quality graduates to meet the demand of the R & D development in Chinese industry so as to improve job market prospect for college graduates.

Another approach to strengthen the link with economy is to develop vocational training that functions basically on market principles. The dogma that education must be state-owned was ditched in the early years of the reform and now private schools are part of the education landscape in China. These private schools draw students by their rapid reactions to job market demand and the skills and knowledge taught in private schools are selected according to their market values: trade, foreign languages, accounting, marketing, IT etc.. The vocational/technical education is itself an economic activity with its investment and returns. While still marginal in the country's education system, private schools make up an important supplement to the education system and creates significant number of jobs and considerable profits for the school investors. Now private education in China has created a market that produces a value of around 426 billion yuan per year and some of the education corporations are quoted in stock exchange.

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<sup>7</sup> Shi shixing (2008), *A quantitative study of Chinese education's contribution to economic development*, Productivity Research, 2, pp. 54-60.

## 6 , Programs for excellency

Policy makers in China are well aware that in terms of size, Chinese education is already one of the largest, if not the largest, in the world and the investment in the past three decades have made education accessible to the whole population, urban as well as rural. However, in terms of quality, there is a lot to desire. To be more critical, we can even affirm that the great expansion of Chinese higher education which considerably increased the enrollment ratio for college and university candidates, was achieved at the expense of teaching conditions. Since this expansion was decided during the same period when tuition fees were installed and augmented, complaints were heard around the country that new students were required to pay more for a deteriorated education in college. In addition to the pressure from students and their family for better quality, the education authorities also faced tough international competition since the opening up of the country. All called for reactions to meet the challenge of education quality in the new century.

The government opted for a policy of selective investment. In 1993, Chinese government launched what is called project 211 which chose 112 universities and colleges and gave them priority in investment. These so-called 211 class colleges and universities benefited a much favored share in the state's education budget. Later, this group of 112 colleges and universities were considered too large and in 1998 the Chinese chairman of the time launched a still more elitist project called 985 project which selected 34 universities for intensive investment. The objective of the 985 project is to promote a certain number of Chinese universities to the world class level. These two projects created an hierarchy in the Chinese higher education system and all universities and colleges are positioned in this three layers structure: the first class 985 universities, the second class 211 universities and the rest.

This categorization coupled with budgetary policy has led to profound consequences for Chinese higher education. Billions were allotted to the chosen ones and these happy few, especially in the 985 class, were endowed with huge subsidies and investments from the central as well as the regional governments. In a couple of years, their campuses took on new appearances and state-of-the-art facilities and equipment flew into their laboratories and classrooms, whereas the non-985 and non-211 colleges struggled to find much needed fund to maintain their standing. Applicants for university admission took this classification not as an indication of the financial conditions but as an evaluation of the overall quality. This policy, no doubt elitist in its approach, intended to stimulate competition and emulation among Chinese higher education institutions, thus improving the quality of the whole education system. This intension worked to some extent but inevitably encountered objections from the

unprivileged majority. The decision makers in the field of education, as those in other field, are faced with a tension between equality and efficiency. From this year on the biased funding for the 985 class and the 211 class universities and colleges has come to a stop and the education ministry promised to turn to a more equitable financing scheme, allowing all universities and colleges a fair chance to compete on an even ground.

The project 985 and the project 211 are not a novel approach in Chinese authorities' effort to make better schools. On all levels of the national education system it is a common practice for a region or a city to designate a few institutions as key schools and bestow on them best means to carry out teaching programs. The immediate effect of this selective investment could be impressive, since it could create in relatively short time some excellent schools for the region or the city and new teaching methods and new pedagogical ideas could be first tested there and then generalized in all the other schools. But this approach would soon backfire. The selection of key schools would very quickly become a rigid system and the de facto hierarchy tends to be self-reinforcing, because high-achieving pupils would naturally choose these key schools to study in and with a larger pool of talents, those key schools would not fail to produce impressive scores, justifying their status as top schools of the region. For all the achievements of Chinese education in the last three decades, inequality remains one of its main problems. The highly uneven quality of Chinese education may be an inevitable phenomenon when we take into consideration the size of its territory and the huge number of its population. Having set up a highly uniform school system across this vast land, the central authorities have to delegate a large part of the management responsibility to regional and local governments which might not give the same kind of importance to education. What is more, from the central government down, when there is budgetary effort to increase education investment, the decision makers almost always prefer to concentrate the additional funding to a selected few in order to maximize the desired result. Consequently with respect to evaluation of Chinese education, we have contradictory reports: secondary education in Shanghai is given the very top position in the world ranking according to the PISA study, while harsh criticisms continue to fill pages of Chinese press about the deplorable state in which many rural schools operate. Both pictures are correct. Since most of the schools, apart from the universities and colleges, are required to recruit students from their own community and district, the education opportunity for Chinese kids is in most cases determined by the dwelling location of their family. Though Chinese children now all have access to basic education, they do not receive the same kind of instruction and inequality of the quality is the price China paid for the rapid expansion of its education system. This is of course not an ideal situation for the long term development of the country and Chinese policy makers must come up with new approaches to alleviate the effects of biased investment in education.

## 7, Balancing efficiency with equality

We have seen that education expansion in China of the last three decades has tapped deeply the national resources, both private and public, with remarkable results for the economic development of the country and also providing upwards opportunity for individuals. Yet, the opportunity has not been fairly shared among the population and more and more people are brought to the awareness that at the present stage of social and economic development inequality might be the toughest hindrance for China's future development. Geographically, education resources, both on the high learning level and on the basic education level, are not well distributed, with the coastal regions hugely favored by a concentration of high quality schools there but at the same time there is a much less attractive education prospect for the young people in the inland part of the country. More seriously for the social cohesion, the differentiated education structure with its key school system raises the risk of class division since the better-off families could always manage to send their offspring to the best schools in town and children of the peasants and the workers are barred from quality education by a whole set of invisible barriers. A recent study shows that most of the students admitted into prestigious Chinese universities like Beida and Qinghua are from upper social layers like high-ranking cadres, intellectuals and businessmen. What is called reproduction by the French sociologist Bourdieu is beginning to show its nefarious effect in China. Aware of the economic and social impact of education, more and more voices are heard to denounce the education inequality in China. It is generally acknowledged that the question of prioritization of the education budget should be predicated on the principle of equality since the vertical as well as the horizontal discrepancy in social-economic development of this vast land could be aggravated if the education resources were not distributed in such a way as to favor the less privileged regions and social strata.

In recent years the problem of education inequality has become a much debated topic in China's public discussion and the government is moving towards a more egalitarian distribution of education resources, notably a budgetary policy that favors the western regions of China. There are signs in the current government's pronouncements that indicate new reform measures in the management of education system. The state pledges to invest more in education so as to improve the teaching conditions in less developed parts of the country. More significantly, there is a re-examination of the position of key schools and their recruitment policy. If fully implemented, this would lead to a fairer distribution of resources among all the schools, hence among all the students. A more centralized funding and management system is also under study in order to allow schools in less developed region to have more access to national funding. Some of the long standing practice in Chinese education, for example regional

and local funding, selective investment and privileged recruitment by key universities etc., have been called in question. We would not bet on their abolition but certain adjustments are to be expected as part of an effort to reduce education inequality that has alerted the top leaders of the country.

#### 8, concluding remarks

Education has always played a key role in Chinese society and it has been central in the traditional Chinese values system. It enjoys the highest regard in the population as a moral good in itself and it functions also as a political asset. What is new in the last decades is the fact that the economic benefit that education produces is brought to the fore and emphasized as the most important reason justifying increased investment in the sector. From the initial stage of the economic reform in China, education expansion has been designed and promoted as part of the overall strategy for economic development. If China has emerged as a major economic power in the world, education has been one of its boosters. It is also to notice that education and economy for the last three decades in China have been moving on closely related and highly parallel paths. The way the country organizes and manages its education clearly reflects the method China adopts to organize and manage its economy. The problems, notably the inequality of the education opportunities and the priority to quantitative expansion at the expense of qualitative improvement, are in fact a repetition in the education domain of the problems that plague Chinese economy for quite a while. In the light of what Chinese education has gone through in the last decades, we are convinced that whether the current problems in Chinese education could be solved with success or would remain unsolved or unchallenged will have a deep and profound impact on the future of Chinese economy.

China' development is realized under certain conditions that are evidently unique to China: its size and its cultural tradition etc. However we are convinced that there are some lessons that could be meaningful for other emergent countries as well, especially the way China tried to deal with problems related to investing in education in an initial stage its economic takeoff. Hopefully the Chinese experiences may be scrutinized by other developing countries and they could also profit from a sound education system in their road to economic emergency.