

## Strategic Reforms and Management of Higher Education Expansion in China: Assessing the Socio-Economic Impacts and Policy Implications

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### Abstract

The effects of the reforms to the Chinese system of education are the main topic of this essay. Education plays a significant role in China's overall growth, and in the previous several decades, the country's whole system of learning has undergone significant modifications. Significant resources for labour and innovation have been made available by the expanded influence of educational reforms, which has aided in the advancement of community, political, cultural in nature and economic growth. 2020 started off with big plans for developing higher education in the future. University have since experienced a never-ending whirlwind of doubts and misunderstandings as they adjust to a brand-new set of drastically altered principles and opportunities. This essay traces this journey to provide a record of 2020 events and to make sense of changing situations. As the foundation for expressing viewpoints, we offer our individual circumstances. This study focuses on inequality in society and institutional stratified and offers fresh data on how enrollment growth impacts access to and output from higher education. China experienced the greatest increase in educational institutions globally between 1999 and 2018, with yearly college enrollment rising from 2,949,944 to 9,849,941. Using recently released, private institution-level data as well as locally representative student-level questionnaire responses, we assess this novel and exogenous policy. Enrollment growth had a substantial influence on college quality, reducing resources per person and negatively affecting graduates' career prospects and compensation expectations. During growth, the stratified manufacturing across college institutions tiers and unequal access among high- and low-SES learners continued.

**Keywords:** Chinese Educational System, High- And Low-SES, College Institutional, Personal Situations, Enrolment, Resources, China, Institution-Level, Policy, Graduates', Year 2020 Began, Reforms.

### INTRODUCTION

Similar to almost all of our colleagues, 2020 started out with big plans for creating higher education in the future, swiftly veered off course into an unclear maelstrom of shifts and confusions, and appeared to precipitate a set of drastically rearranged fundamentals and opportunities [1]. This article outlines this journey in order to record 2020 events and make clear how things are changing. It adds to the discussion among three colleagues—an Australian instructor, a senior policy investigator, and a doctorate scholar—who study global educational systems at the University of Tsinghua in Beijing [1, 2]. Travel limitations caused us to be scattered around Jiangsu Province, Beijing, and Melbourne in 2020. Our article is based on conversations, assignments, observations, guidance, [2], instruction, and creativity. The essay makes the basic claim that, in assessing a significant amount of fast transformation, the coming years will both require and afford a significant amount of college and university design. To close the paper, [2], some tentative estimates are made. It is useful to investigate apparent changes, even though these are more creative and debatable flurry than confirmed chances [2, 3].

#### 1.1 Shifting Structures

Clarifying the national foundation of educational institutions has been an indisputable revelation of the "2020 experience." Major institutions, especially in countries where English is the language, have marketed themselves as "international" or

"world-class" for at least 20 years [3]. Nevertheless, economic modelling conducted in 2019 showed that educational jurisdiction had clearly defined limits [2, 3]. This was well demonstrated by the controls that government officials put in place in 2020 [3]. For example, China and Australia closed their borders, leaving university teachers and learners stranded. Governments shut down universities all around the world, separating academics from labs and studios [3]. Governments seized their opportunities to either accelerate or derail the tertiary sector, mostly by modifying current policies and providing incentives for the implementation of brief online courses with a vocation focus. Significantly, [3, 4], governments created previously unheard-of network conduits to allow hitherto "unregulated" distance learning programmes to cross borders and firewalls. Govt power has been reiterated even in highly decentralised systems and unpredictable times. The 2020 resumption of governmental authority will have a significant impact on higher educational institutions [4]. The existential emphasis on safety and well-being added another "locality" or "modality" layer to the well-known academic framework [3, 5]. Authorities interfered to protect institutions' profits, avoiding the destabilising economic arguments concerning public versus private returns [3]. The government's influence was felt even in areas where they had previously shied away from tertiary industries [3, 5]. They demonstrated policy interest in nationalising research, managing research cooperation, reiterating the boundaries for foreign participation, and instructing domestic students in the months that followed, signalling a return to participation [5].

### **1.2 History: Chinese higher learning expansion from 1999 to 2012**

There have been three notable spikes in enrollment in college in the history of Chinese colleges and universities; the two largest ones, in 1958 and 1978, were dwarfed by the phenomenal surge from 1999 to 2012, which is unmatched in the world in terms of both magnitude and speed. In just 13 years, the number of undergraduate freshmen enrolled increased from 1,083,600 in 1998 to 6,888,300 in 2012. The national gross membership ratio more than tripled, rising from 9.76% to 30% [5]. Higher education institutions were created between 1,002 and 2,442. The expansion of higher education in 1999 began as an unanticipated, external national initiative [5]. Higher education around the globe has frequently been influenced by national and international competitiveness, revenue growth, and policy [4, 5]. It is commonly known that the Chinese government launched this drastic growth strategy in reaction to the Asian Financial Crisis in 1997 in order to boost domestic demand and reduce the labour pool of recent high school graduates [5]. The Plan to Revitalise Education in the Twenty- First Century was approved by the State Council on the thirteenth of January 1999, with a goal of 15% higher education enrollment ratio by 2010 [5, 6].

With the aim of raising the quality and degree of growth spurred by the development and expansion of higher education in China, the increasing popularity of the size and quantity of supply has essentially entered an additional phase, i.e., "in order to seek" approach to "shift to greater and stronger" strategy. By providing top-notch educational resources that fulfil the required capacity and level, the current higher education reform aims to improve the quality of talent enhancement [6]. The higher education sector reform now focuses on how to resolve ingrained inconsistencies and issues while raising the standard of education. Change must be continuously pushed by the system due to the complexity and breadth of the talent development, administration, investment, research in science, and personnel reforms, among other comprehensive and multifaceted initiatives [6, 7]. Changes in the task's reform are brought about by the exhibition. Currently, China is approaching a critical phase of developing a prosperous society through the acceleration of economic development reforming and opening up, the significance of raising the standard of higher education and the pressing need for more significant [6].

The fundamental goal and necessary condition for postsecondary education is personnel training. The first criterion used to assess the quality of higher education is the degree of talent training; the fundamental problem is figuring out who should be developed and how to teach people about important subjects. Establishing a talent training facility at the university is vital. All work should be aligned with the development of students' talents [6, 7]. Additionally, scientific research subjects such as heavy light phenomena should be taught in reverse, with an emphasis on enhancing student services. The social obligation of the citizens of the nation, their bravery in pursuing innovation, their practical problem-solving skills, and their cultivation of socialist architects and all-around development.

This essay examines the significant changes in Chinese higher education that have taken place since 1999 and their possible worldwide ramifications [7]. The tenth (2001-2005) and eleventh (2006-2010) five-year plans delineated China's resolve to maintain consistent high growth via the enhancement of quality and the generation of novel ideas and intellectual properties. considerable new resource commitment to higher education are at the core of this shift, which also signifies considerable organisational form changes [7, 8]. China has seen a surge in undergraduate and graduate enrollment of about 30% each year since 1999. Over the last six years, the nation's total number of higher education graduates has nearly quadrupled. Even faster growth has been seen in the total number of enrolled students as well as in newly created classes, almost quintupling [8, 9]. The improvements in these areas were substantially smaller before 1999. The majority of the

extra funding is going towards prestigious colleges and universities, [8], and new academics contracts are very different from the ones that came before them—they don't provide tenure and frequently involve annual publishing targets [9]. The developments we describe below also constitute a larger strategy in China of trying to improve the quality and skills components of its manufacturing procedures through massive increases in educational inputs [8], in addition to a number of other changes in Chinese economic policy. This method seems to be determined more by strategic decisions made at high governmental levels in China than by demand-side indications of job markets that outline potential requirements of workers of different categories [9]. Regardless of the size of the respective job markets, one result to date has been a noticeable increase in the number of people with high educational attainment in various sectors [9, 10]. This has caused significant short-term problems for the workers engaged in these activities in terms of labour absorption and unemployment. These educational initiatives have also had an impact on China's rising inequality [9, 10]. Compared to other low-wage countries at similar or earlier phases of development, China's present educational revolution seems to prioritise higher education over basic or secondary schooling (unlike, for example, India) [11]. We contend that the global educational system may be significantly impacted. We discuss the relative significance of changes in China's labour force by group when compared to the global availability of labour by type or work, the potential effects on the global supply and trade of ideas and idea-related merchandise [9, 10], and the potential effects on educational achievement outside of China through potential globally paper applications and papers [11].

## II. FACTORS AFFECTING HIGHER EDUCATION THE CHINESE CHANGING

The literature currently in publication does not provide a thorough documentation of the changes that have taken place in China's higher education system since 1999, despite the country's estimated 1.3 billion inhabitants [11, 12]. However, the adjustments are noteworthy and seem to have a big impact on the world's and China's economic activities. Below is a list of some of the changes' dimensions.

### 2.1 A substantial rise in the number of students

In the past six years alone, the number of undergraduate and graduate learners in China has roughly doubled. Prior to 1999, there was a steady flow of students enrolling and graduating. There were 830,000 graduates overall from postsecondary education in 1998; by 2005, [12], that number had increased by a ratio of 3.7 to 3,068,000 [13]. Between 1998 and 2005, the number of enrolments (both new and total students) increased even more quickly, roughly quintupling. Figure 1. In comparison to 1998, there were 4.7 times as many new students enrolled in 2005. Compared to 1998, the total enrollment in 2005 increased by 4.6 times [13].

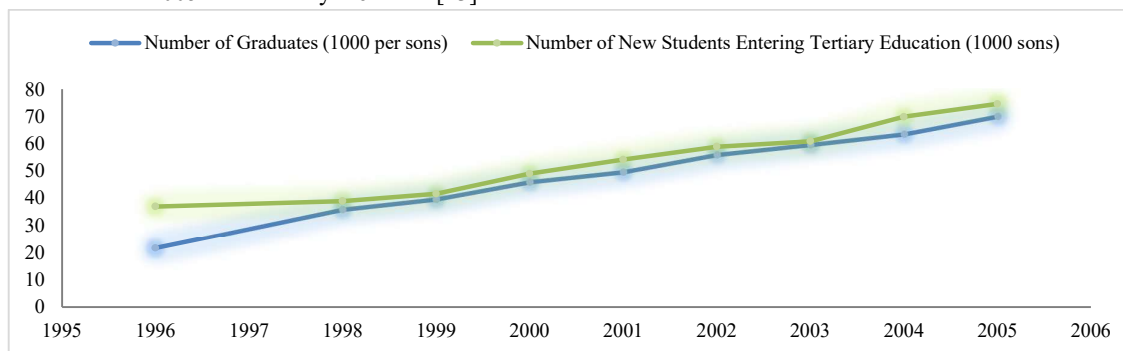


Fig. 1 The total number of graduates as well as learners entering tertiary education in Chinese. [13]

Development of the greatest higher education marketplace for the world is frequently obscured by China's economy's phenomenal 20-year rise [13, 14]. A large portion of China's achievements in many spheres of society, including higher education development, may be attributed to the country's economic might. Given that China's strong economy is driving an unparalleled surge in higher education, this trend is expected to last for a very long time [14]. China's higher education enrollment has already outpaced all other nations, with 30 million students enrolled in 2010 compared to roughly a total of 20 million in the US and 17 million in India, even though the country's GDP is on track to become the largest in the world by 2030 (the United States. Census Bureau, 2012; [14, 15], the University Grants Commissioners, 2012) [14].

Table 1 Enrollment and Higher Education Institution Trends in China, 1949–2010. [15]

Year	Regular HEI's	Enrolments in Regular HEI's	Non-State/Private HEI's	Enrollments in Non-State/Private HEI's	Ethnic Nationality HEI's	Enrollment's in Ethnic Nationality HEI's
1948	210	111,259	-	-	-	
1949	423	115,349	-	-	-	

1955	549	118,416	-	-	-	
1958	1,069	112,256	-	-	-	
1961	1,095	212,298	-	-	-	
1968	1,109	213,696	-	-	-	
1970	1,299	3,19,648	-	-	-	
1975	1,369	1,16,969	-	-	-	
1979	1,379	1,29,689	-	-	-	
1981	1,398	2,96,879	-	-	11	21,659
1998	1,489	3,19,969	-	-	12	36,169
2001	1,496	4,56,598	-	-	16	141,695
2005	1,596	4,79,654	-	-	18	186,159
2008	1,696	51,54,596	1,098	209,689	19	197,59
2010	1,796	87,54,696	896	597,649	20	269,509

Over the previous 30 years, the percentage of enrolled students who were members of ethnic minorities has been relatively constant, accounting for 6.64 percent in 2010, 5.71% in the year 2000, and 6.9% in 1991. Over the past 30 years, [14], the number of HEIs catering to ethnic nationalities has grown at a moderate rate, and enrollment has followed suit. In addition, the number of foreign students enrolled in Chinese HEIs rose by 410% between 2000 and 2010, from 74,323 in 2005 to 25,636 in 2000 to 130,637 in the year 2010 [15].

## 2.2 Trends in Structural Reform

A number of problems are revealed in the National Plan 2020. We believe that the structural restructuring of educational institutions is one area of vital importance. The focus of this chapter is on higher education, but it's also important to examine the connections that run both ways between the K-12 and higher education systems [15]. Examples of these connections include non-regular higher education programmes, which the Ministry of Education has identified as adult education, technical schooling, skilled worker educational institutions, and corrections work-study schools. The GAO kao, [15], or "national college or university assessment," is one of the major structural improvements that many academics and managers of higher education view as an obstacles in the framework of higher education and training. There's been a lot of talk about how this system seems to drive everything below that level, and how it may be reformatted or improved [15, 16]. Up until high school, a significant portion of the curriculum is devoted to teaching learners how to pass the GAO kao with high marks in order to increase their prospects of being admitted to prestigious universities like Peking University or Tsinghua University. One of the main questions that are frequently posed about the GAO kao is whether or not it is an effective way to evaluate aptitude? On one hand, [16], the answer is frequently in the affirmative because observers from outside China have noticed that Chinese students from Hong Kong, the city of Shanghai, and Taiwan are still performing well on a global comparison tests [16, 17].

The topic of the GAO kao and the function of private educational institutions in China are related. In China, the term "nongovernmental higher education" is more frequently used than "private higher education." The College for Science and Humanities, a private university in Changchun, is one instance of this new type of private education [17]. The current president of a private institution served for a considerable amount of time at a government higher education institution, but he has created a new and distinctive college with a business plan that has allowed him to amass sizable reserves for future growth [17, 18]. This private college does not use the traditional GAO kao procedure for admission.

## 2.3 Higher Educational Financing

The funding of the system is the subject of a second area of development in higher education. The structure that is most frequently utilised in China includes several funding sources for higher education. The authorities channel was the only source of funding for colleges and universities for a long time [18]. The private sector is now growing and is rather active, although it is still very small when compared to the whole higher education system. There is a rising recognition, even among government employees, of various ways to fund postsecondary education by means of a redesigned local, county, [19], and federal tax system. Other increasingly popular means of finance include endowments and donations. In the future, the institution may be able to secure more alternative funding sources through investments made through intellectual rights and technological developments [19, 20]. Thus, a growing trend in Chinese higher education is the multifaceted strategy of creating a revenue stream so that it does not rely just on the Ministry of Educational Affairs or provincial or municipality governments [20].

## 2.4 Continue to advance the reform of teaching and education while working to raise the standard of employee training

The fundamental criterion for evaluating an educational institution is its quality of instruction. Although there has been significant progress in recent years, some institutions continue to adhere to antiquated teaching methods, lack scientific

thinking skills in their curriculum, fail to pique students' interest in academic research, and have limited knowledge bases. Accelerating the reform of teaching is essential [20, 21]. It is necessary to invent new instructional strategies and methods for developing talent. To enhance students' readiness for their future careers and social development, Rucker and Li Xue first emphasise the need to fortify professional instruction by stressing "thick foundation, [22], wide field, wide ability to adapt, strong ability," and to fortify ideologically character education by exemplifying "tree of ideal, strong wanted, brave practice, dedication." The goal of this study is to investigate the scientific foundation, practical capabilities, and ethical and moral cultivating mode [22]. Additionally, it aims to integrate and enhance humanistic quality and encourage intercollege and transdisciplinary cross-cultural learning in institutions of higher learning, academic institutions, and industries through joint education. Two to creative ways and approaches of instruction. Currently, [22, 23], some colleges remain intimidated by their crammed teaching methods, some college courses have challenging challenges, some college classrooms are getting bigger, public courses are attended by multiple hundred people, and engaging conversations are getting harder. Students should be motivated and pushed to think creatively throughout the entire teaching process in order to foster the growth of small class instruction, heuristic, discussion, and classroom interaction [22].

**2.5 Strengthen the capacity for scientific research, social service delivery, and cultural heritage innovation; foster a culture of mutual support; and raise the standard of the structure overall**

In order to implement the advantageous task of improving quality, modern universities now have a wider range of responsibilities. These include scientific research, employee education, four aspects of social programmes, and innovations in culture. Personnel education must be viewed as the central function, and the four functions of organic communication, [22, 23], mutual support, and opening up the possibility of greater development space. In order to enhance scientific research, encourage cooperative invention. In addition to being a crucial strategy for boosting a country's capacity for innovation, [23], collaborative innovation also helps to foster scientific research capacity and the creative talent that must be nurtured. The "cooperation" notion in research in science needs to be reformed in order to break an established and dispersed pattern, play to the advantages of several disciplines and functions, and encourage the organic integration of creative aspects and thorough exchange [23, 24]. The two are to improve training and operations, and increase the scope of social services. There aren't plenty of learners in the social aspects of fundamental education at the university level, so this lesson needs to be filled. Nonetheless, the system for practical education still has to be improved [25], and there are social difficulties among undergraduate students who receive social service training opportunities and outlets [24]. There is also a lack of funds and attention. In addition to the buying goods and services through monetary assistance, tax deductions, and other means [26], the authorities should improve relevant laws and regulations, implement the method of instructing platform construction, and support the development of the social practice of the community.

**III. TO SUPPORT THE SELF-EMPLOYMENT OF UNIVERSITY STUDENTS**

To restructure college and university talent development programmes. Even at the current rate of entrepreneurial activity, China will have over 45000000 college graduates by 2020, and at least millions of them will pursue business. Their degrees and propensities for entrepreneurship are essential to the future growth of our nation [26]. As long as the university upholds its legal autonomy as the foundation of the institution, it should be encouraged to carry out more reforms, develop new approaches to talent development, and mentor more college students on the path to entrepreneur. Universities and college campuses should modify their programmes to meet the demands of the nation's innovative development, create more flexible learning environments and systems, provide additional programmes on entrepreneurial activity, recruit more instructors in this field, set up more training facilities for entrepreneurs, and work to raise the standard of entrepreneurship education offered by these institutions [26]. Two, to strengthen policy support for entrepreneurs. The development of college students' entrepreneurial skills and government assistance are both crucial. The poll indicates that a major issue currently impeding entrepreneurs is a dearth of venture capital backing. Due to the current funding rules' low quantity, complicated procedures, and lack of certainty, many eligible students are choosing not to apply [27]. Friends and family to lend. Industry and business, taxation, social insurance, and other groups should better take on the role of the policy-making divisions in order to increase the amount of venture capital funding and benefit; furthermore disclosure of information should be increased, authorization and investigation procedures should be streamlined, and operating circumstances may need to be comfortable in order to attract social investments risk [27, 28].

In practically every country on Earth, access to higher education has increased dramatically over the second half of the 20th century. In higher education, the global average gross enrolment ratio increased dramatically from 3% in 1950 to 10% in 1970 and 38% in 2018. Globally, the number of college students increased from 29 million in 1970 to an estimated 141 million in 2006 [28, 29]. The majority of industrialised nations began mass higher learning prior to the turn of the century, but throughout the past few decades, the enrollment of college students has increased significantly in many middle-class and low-income nations [28]. Theoretically and experimentally, it is still unclear how the growth of higher education influences educational disparity in access and production. The body of research on college access offers two

opposing ideas. According to some scholars, [28], expansion is a process of economic and social diversion, sending the working class to second-tier universities while maintaining prestigious schools as the stronghold of the successful [29]. Substantial racial and socioeconomic disparities have persisted for decades despite significant increases in higher education as well as several federal, state, and local college enrollment initiatives. Others maintain that when higher education is included, [29], there will be greater opportunity for lower class pupils to move up the social ladder by attending college. Production, or students' post-college outcomes, is one of the most well-established pieces of evidence in higher education since the original work, demonstrating how college quality considerably improves labour market outcomes and associated social mobility [29, 30]. Nonetheless, scant information exists regarding the impact of policy-mandated, rapid enrollment increases on college productivity, as measured by a college's value-added on graduate school employment and earnings [29].

Information at the student level Data at the student level is provided by the Institute of Economics of Education at Peking University's National Survey on College Graduates' Occupation (NSCGE) [30, 31]. The NSCGE conducted surveys in June of 2003, 2005, 2007, 2009, 2011, and 2013 with a sample consisting of college graduates from all levels of Chinese higher education institutions, representing the entire country. Check out details on the 2003–2009 college major level stratified probability sample [30]. The last two rounds' survey designs remained the same. Like other surveys of college students, the NSCGE used a two-stage stratified sampling approach. Initially, universities were chosen at random among strata according to institutional tiers, type, and geographic location. In the 2003 poll, [30, 31], there were 45 colleges; in the surveys that followed, there were roughly 30 campuses.

Year-over-year consistency exists in the college features within strata. Second, from each sample college, 500–1000 graduates were chosen at random. Because various institutions are sampled in different years, Table 2 gives the number of respondents by surveyed year, which fluctuates. The 18,467 replies in 2003 represent around 1% of the two million graduates [31, 32]. Because only around 4% of students attended elite institutions, these universities purposefully oversampled (lower-ranked colleges were under sampled): 15% of top college students, 10% of elite, 30% of four-year (continuing), 20% of four-year (new), and 15% of three-year [32].

Table 1 Summary Statistics. [32]

	College entire Cohort					
	1999	2001	2002	2003	2007	2009
High SES	19.89%	21.95%	18.96%	17.98%	18.96%	20.99%
On First Generation	24.59%	30.98%	31.54%	29.68%	29.96%	30.69%
Upper	40.96%	42.59%	44.89%	46.89%	50.69%	47.89%
Female	36.65%	32.69%	30.69%	30.96%	35.69%	32.96%
Minority	10.96%	10.90%	11.95%	5.89%	6.29%	8.98%
Age at survey	21.59%	22.29%	21.69%	22.89%	26.59%	26.89%
Initial monthly wage	1026.99	2621.26	2156.69	2524.96	2922.29	2569.36
Initial employment	36%	29%	59%	87%	95%	96%
Initial employment	53%	69%	58%	59%	61%	69%
Initial employment	63%	71%	73%	69%	74%	79%
N	19,591	21,298	16,896	21,649	19,266	18,596

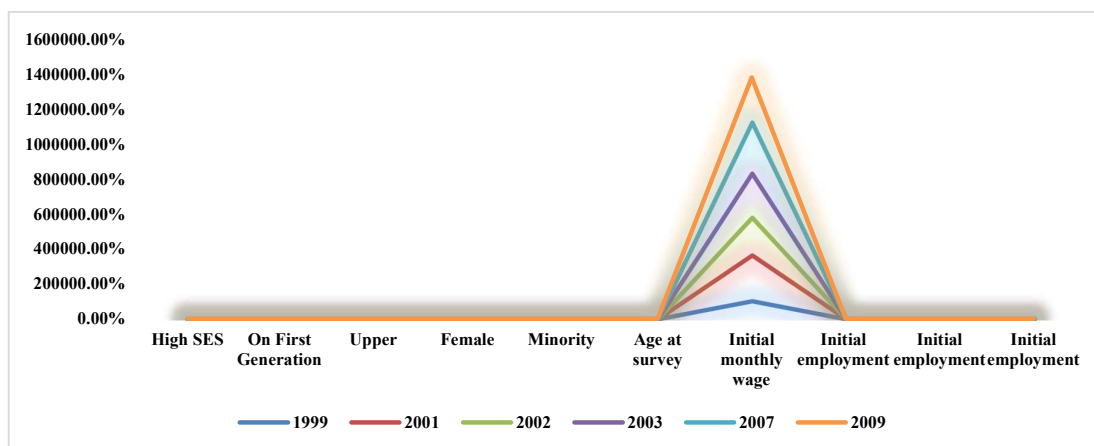


Fig. 2 Summary Statistics.

Fig. 2 displays summary statistics from the student surveys on the student population and the labour market outcomes of enrolment cohorts [32, 33]. Even though sampling weight is not available for analysis, the left unweighted data offer important information on changes in Chinese higher education due to the nationwide representative nature of the sample [33]. The average percentage of high-SES students across all college categories is displayed in the first panel, and it has stayed mostly steady during the growth [33].

Increase the bar for teaching. One is to view the quality of education from a scientific standpoint. The second choice is to go along the route of connotation and characteristic development. Focusing on faculty development is the third strategy [33, 34]. Finally, develop and improve the quality assurance system [35].

#### IV. CONCLUSION

In order to accomplish comprehensive education reform, raise the bar for education services related to social and economic development, and promote the expansion of the national economy, it is critical to step up higher education reform. China is living through a historic transition right now. Taking advantage of this, it ought to start a comprehensive reform of higher education, as it is a prerequisite for deeply ingrained contradictions.

In recent years, China has continued to implement the expansion strategy in an attempt to reduce supply pressures in the labour market. Over the course of the following two years, there is anticipated to be an extra 2 million enrollment increases at the three-year vocational colleges, up from 1.16 million in 2019. 2020 saw an 189,000 surge in graduate school enrollment due to the COVID-19 epidemic. Even though both of these new expansion policies mentioned "qualitative expansion," which implies a number of steps would be taken to ensure that the quality of college and university education does not decline, more research is necessary to ascertain how these policies will affect Chinese higher education. Ultimately, from an international comparative perspective, the lessons that can be drawn from China's rapid expansion in higher education are that expanding enrollment in higher education on its own is neither the most effective way to advance development, nor will it solve the problem of unequal college access. Instead, in the absence of complementary policies and inputs, there would likely be larger SES inequalities in access and lower productivity in college. Furthermore, as higher education expands in both developed and developing countries, the global market for higher education is changing. Particularly, wealthy universities are competing ferociously to attract international students from developing countries. To find out how the rise in enrollment around the world affects supply and demand in the higher education market, more research is needed.

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