

# **The Status of an Economic Reform in China's Higher Education - Is it on a Way to Market Oriented and Decentralization?**

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## **Abstract**

China's higher education changes from a centralized funding system into a multiplex approach, including decentralized funding system. An exemplified change was restructuring on many universities' ownership and financial sources, moved from the Ministry of Education to provincial or regional government. This decentralized process is still under an experimental phase and needs to be evaluated.

This paper presents a part of results and findings from such an evaluation, assigned the Ministry of Education of China. The evaluation focuses on a category of universities in China, called ministry ownership, a heritage from pro-soviet functioned based universities. The intention was investigating how this group was affected by the decentralized process and searching the best options for process adapting.

We used general data both statistics and facts to demonstrate the process outcomes. Also, we compare financial structures of sampled public funded universities in Norway and USA for reflecting on international experiences.

## **Backgrounds**

The financial sources are crucial framework for a higher educational institution's activities and development. For public funded higher education, such framework is frequently a subject for debates and might be changed from time to time. For many, even a minor change might bring the significant impact, particularly for those are traditionally depended on a centralized funding system.

China's higher education is a drastic change from a centralized funding system into a decentralized funding system. An exemplified change was restructuring on many universities' ownership and financial sources, moved from the Ministry of Education to provincial or regional government. This decentralized process brings new challenges for many, e.g. a new territory for university, and for many, less financial sources from the government/state. So the process was not always fully welcome.

Changes make people thinking. These drastic changes are coming with consequences and people are thinking why financial sources from government/state are less and less. The universities seem to have earn own extra money to it going. But, university is supposed to teaching and researching, not running business. While economic reform on higher education is in process. We might ask some basic questions to lead the further discussions:

- Shall the higher education also be a part of free market economic games? The balance of education independence, efficiency/quality and equal opportunity for everyone
- Higher education's historical past, current development and future trend. What is the nature of higher education? Which system is the best, public vs. private, centralized vs. decentralized, national vs. international, self-investment vs. joint-venture? The need of change for policies and laws
- China's higher education: Current status and future perspectives. Is China's higher education on a way toward market oriented and decentralization?

## The data collection and comparison

The current study has used quantitative data and documents, sourced from annually statistic surveys, combined with a comparative analysis. The survey based comparative analysis focused mainly on these particular aspects:

- The universities' financial sources, case analysis from China, Norway and USA
- How universities spend their money in their budget models, different focuses in China, Norway and USA
- Who's paying the financial sources for higher education and how much shall be paid? An analysis on financial sources compared with national GDP levels

An international comparison provides more extensive perspectives on financial issues for higher education. On the other hand, the financial structure for higher education is nationally and economically depended, so every country must have own option, based on its own aspect.

## The change of China's higher education financial sources

China is a highly developing country with heavy restructuring process so there is a need for China to learn multiple experiences. Currently status on China's higher education is illustrated in table I. The private higher education institutions belong to Non-state category and there are 1077 of them already in 2005.

Another definition clarifying is decentralization: Local ministries and agencies represent by provincial government in most cases, so decentralization from Beijing to a provincial government only means the responsibility (e.g. budget) is merely moving from a national level to a regional level [5].

Table I Number of Schools or Institutions of Higher Education in China (2005)

Item	Total	Central			Local			Non-state
		Ministries	Ministry	Other	Ministries	Ministry	Ministry	
		And	of	Ministries	and	of	of Non-	
		Agencies	Education		Agencies	Education	Education	
Institutions Providing Postgraduate	766	370	73	297	396	330	66	
Regular Institutions of Higher Education	450	97	73	24	353	330	23	
Research Institutions	316	273		273	43		43	
Regular Institutions of Higher Education	1792	111	73	38	1431	834	597	250
Universities with Full Undergraduate Courses	701	104	73	31	570	505	65	27
Colleges with Specialized Courses	1091	7		7	861	329	532	223
Vocational and Technical Colleges	921	2		2	702	245	457	217
Adult Institutions of Higher Education	481	17	1	16	462	191	271	2
Private Institutions of Higher Education	1077							1077

### Explanatory Notes on Main Statistical Indicators

**Regular Institutions of Higher Learning** refer to educational establishments set up according to the government evaluation and approval procedures, enrolling graduates from senior secondary schools and providing higher education courses and training for senior professionals. They include full-time universities, colleges, high professional schools, high professional vocational schools and others [13].

Someone might question the originality of decentralization and market process of this development. However, we must be aware of the fact that China has over many years a centralized system, including higher education's funding system. Table II brings a historic overview over funding sources for China's higher education 1950-1985 [13],[15]. Until 1985, the financial sources for China's higher education were fully provided the central government [3]. In fact, this also includes students' accommodations and in some cases, even meals. Compared with table II, table I made a great change

in China's higher education.

Table II Summary of Financial Sources for China's Higher Education 1950-1985

Year	Total financial sources	Total governmental funding	% of Total financial source	Total governmental budgeting	% of Total financial source
1950	56	56	100	56	100
1955	428	428	100	428	100
1960	1362	1362	100	1362	100
1965	741	741	100	741	100
1970	205	205	100	205	100
1975	1032	1032	100	830	80
1980	3458	3206	93	2690	78
1985	7996	7323	92	6237	78

It is understandable that the central government is not able to provide financial sources fully. The development trend is more and more people are taking higher education so the universities are increased both in numbers and sizes. The fundamental question is who is playing the bill? Upon to now, China considered alternative funding sources [4].

Table III presents financial sources and budget model for China's higher education 2006. The state financial source is reduced down to 42% and tuition fee is up to 29%. This is a completely different picture than what it was before 1985.

Table III Financial Sources and Budget Model for China's Higher Education 2006

2006 financial sources	RMB bill	%	2006 Budget model	RMB bill	%
<b>Total financial source (i)</b>	<b>294</b>	<b>100.00</b>	<b>Total expenditure (ii)</b>	<b>259</b>	<b>100.00</b>
1.State financial source total	126	42.86	<u>1.Operating budget</u>	<u>222</u>	<u>85.67</u>
Hereof state financial budget	121	41.09	<i>a) Personnel</i>	103	39.64
2.Private and none-government source	23	7.92	Basic wage/salary	19	7.25
3.Gift and contribution	2	0.66	Additional salary	23	9.03
4.Business income	122	41.65	Other salary	23	8.87
Hereof tuition fees	86	29.18	Employee welfare	5	1.88
5.Other incomes	20	6.92	Social security	22	8.53
			Scholarship	11	4.09
			<i>b) Functional/administration</i>	119	46.03
			Operating budget	31	11.97
			Business budget	17	6.62
			Equipment purchase	26	9.94
			Maintaining cost	11	4.24
			Other expenses	34	13.26
			<u>2.Infrastructure</u>	<u>37</u>	<u>14.33</u>
			Construction cost	4	1.71
			Self-financed	28	10.89
			Other cost	5	1.93
(i) Total financial sources = 1+2+3+4+5					
(ii) Total expenditure = 1 (a, b) + 2					

Combined the information from table I, II, III, we summarize China's higher education development process like this [1],[2],[10]:

- Completely centralized from 1950 until 1985
- Gradually decentralized after 1985, but only first to regional/provincial governments
- Fully decentralized process lately, tuition fee is the important financial sources
- Private higher education institutions are coming and become more

These private higher education institutions are usually fully private without any government support. The only financial sources are tuition fee. These institutions are often created through a self-organized entrepreneurship, spinoff from a market or society need.

However, the challenges to these private institutions are never smaller. They usually have to face many problems in practice, e.g. dealing with bureaucracy for license/location, lack of competence staff, good professors, proper laboratory equipments, and infrastructure, etc.....

Table IV illustrated the number of students in regular institutions of higher education in 2005. The information in table indicates the absolute greatest group is regular undergraduates and college students. It is also interest to notice that students enrolled in specialized courses are larger groups than those enrolled in full undergraduate courses. This means most students are looking for higher education that can offer them some specialized knowledge and competence for their future careers.

Table IV Number of Students in Regular Institutions of Higher Education (2005)

Item	New Enrollment	Total Enrollment	Graduates with Degrees or Diplomas	Degrees Conferred
Total numbers	8710508	26591386	9577154	1636899
Postgraduates	364831	978610	189728	185250
Doctor's Degree	54794	191317	27677	26506
Master's Degree	310037	787293	162051	158744
Regular Undergraduates and College Students	5044581	15617767	3067956	1309692
Enrolled in Full Undergraduate Courses	2363647	8488188	1465786	1309692
Enrolled in Specialized Courses	2680934	7129579	1602170	
Adult Undergraduates and College Students	1930250	4360705	1667889	71170
Enrolled in Full Undergraduate Courses	747196	1611140	555799	71170
Enrolled in Specialized Courses	1183054	2749565	1112090	
Students Enrolled in Internet-based Courses	891046	2652679	759627	23032
Enrolled in Full Undergraduate Courses	408606	1272292	392310	23032
Enrolled in Specialized Courses	482440	1380387	367317	
Employees Enrolled in Graduate Programs Leading to Doctor or Master Degrees	101653	254672		43964
Students Taking Exam Leading to Diploma		203545	94202	
Students Enrolled in Radio and Television Programs		45698	19466	
Classes for Self-learning Programs	317243	737918	199531	
Postgraduate Courses for Advanced Study		88243	69978	
College Preparatory Courses		23663		
In-service Training Courses		1549563	3464440	
Overseas Students	60904	78323	44337	3791

We notice the total number of students in 2005 is approximately 26 millions. We combine budget and expenditures in table III and estimate the higher education expenditure in China is 9960 RMB (1508 USD) per student averagely. The next question is: It this much or little? We can wait us and see other cases first.

### The Norwegian higher education's financial sources

The Norwegian higher education has also been a reformed process. However, the reform was not that drastic as what happened in China. The decentralization process is mainly political than economic, that every university itself can choose one or another form of management structure. Each faculty has more freedom to set up and drop the courses.

Economically, it is a quite plan economy. Almost all the Norwegian universities are public so the financial sources are the government, in fact, the national parliament. Table V shows the Norwegian national parliament 2008 budget for all public universities in Norway and this budget represents over 80% of total financial source for all Norwegian universities. The majority of part of universities and colleges in Norway are public. However, there is few fast growing private higher education institutions (e.g. Norwegian school of management BI) are out there and compete with public

institutions.

Table V Norwegian National parliament 2008 budget for all public funded Norwegian universities

Universities and specialized universities	Basis	%	Teaching	%	Research	%	Total
The University of Oslo	1996	52.80	799	21.10	988	26.10	3782
The University of Bergen	1052	49.70	505	23.90	560	26.40	2117
The Norwegian University of Science and Technology	1585	55.30	613	21.40	671	23.40	2869
The University of Tromsø	771	62.70	189	15.40	270	21.90	1231
Norwegian University of Life Sciences (UMB)	324	60.00	94	17.30	122	22.60	540
The University of Stavanger	467	64.40	192	26.40	66	9.10	725
The University of Agder	480	65.90	202	27.80	47	6.40	729
<b>All universities in total</b>	<b>6676</b>	<b>55.70</b>	<b>2594</b>	<b>21.60</b>	<b>2724</b>	<b>22.70</b>	<b>11993</b>
Norwegian School of Economics and Business administration	162	56.80	69	24.20	54	19.00	285
The Oslo School of Architecture and Design (AHO)	60	57.20	34	32.20	11	10.60	105
Norwegian School of Sport Sciences (NIH)	84	63.20	23	17.30	26	19.50	133
Norwegian Academy of Music (NMH)	117	70.80	39	23.40	10	5.80	166
Norwegian School of Veterinary Science (NVH)	129	57.90	40	17.90	54	24.20	223
<b>All specialized universities in total</b>	<b>552</b>	<b>60.60</b>	<b>204</b>	<b>22.40</b>	<b>155</b>	<b>17.00</b>	<b>911</b>

Norway is a small country so the number of register students annually is relatively stable, but slightly increasing from year to year. Table VI has the information on teaching staff, students and students per teaching man-year. It seems though students are increasing lately, the increasing of teaching staff is even greater, so the students per teaching man-year decreased. This could indicate 2 elements: Better offer (more teachers) to students, more expensive (more teachers).

Norway is also an egalitarianism society so it is very important that everyone has the equal right for things, including access to higher education. In reality, this means: 1<sup>st</sup>: There is no tuition fee for public university or college; 2<sup>nd</sup>: Anyone who is enrolled at university or college can receive a loan from the state to cover living cost during the study period and pay back when you have a job, and you can wait to pay if you do not have a job now.

Table VI Staff in tertiary education and registered students per teaching man-years, by institution<sup>1</sup>

Institution	Teaching staff in full time equivalents	Registered students	Registered students per teaching man-year
1997	12 138	170 527	14
1998	12 305	173 328	14.1
1999	12 674	173 961	13.7
2000	12 956	176 727	13.6
2001	13 237	178 079	13.5
2002	13 752	181 360	13.2
2003	14 431	183 590	12.7
2004	15 182	183 778	12.1
2005, total	15 512	185 001	11.9
All universities	9 281	83 557	9
All specialized university institution	664	5 798	8.7
All university colleges	5 455	94 791	17.4
All university colleges of the arts	112	855	7.6

<sup>1</sup> Private institutions are not included.

Source: Statistics on higher education at the Norwegian Social Science Data service ( <http://www.nsd.uib.no/dbhvev/> )

Combined the information from table V and VI, we can also estimate higher education expenditure on

every Norwegian student roughly and this comes up with 140000NOK (21114 USD). This sounds quite expensive. However, this is absolute expensive estimated and we have to compare with other international data to conclude this is really expensive or not.

We also have the US statistic for total price of attendance of higher education. Table VII has the information about these prices for each category. We chose public 2-year category as the reference and This seems to be the first 2 years of bachelor programs.

Table VII Average Total Price of Attendance of Undergraduate Education: 2003-2004

Student characteristic	Public 4-year		Private not-for-profit 4 year		Private for-profit		
	All institutions \I	Public 2-year	Non-doctorate	Doctorate		Non-doctorate	Doctorate
<b>Total (dollars)</b>	<b>11,300</b>	<b>6,100</b>	<b>10,800</b>	<b>13,100</b>	<b>19,400</b>	<b>26,800</b>	<b>14,900</b>

Source: U.S. National Center for Education Statistics, "Student Financing of Undergraduate. Education 2003-04" NCES 2006-186 (released August 23, 2006). See Internet site <<http://nces.ed.gov/surveys/npsas/>>  
Price of attendance includes tuition and fees, books and supplies, room and board, transportation, and personal and other expenses allowed for federal cost of attendance budgets [14].

### The cost of higher education in different countries

We have now the data from all 3 countries and we can compare these each other. See table VIII. The Norwegian higher education's expenditure is estimated 21114 USD, thus 26% of Norwegian GDP per head.

The Chinese higher education's expenditure is 1508 USD, thus 60,7% of China's GDP per head.

The US price is 6100 USD, or 13,3% and in fact, lowest of all 3.

Table VIII Comparison on higher education expenditure per head (USD)

Country	GDP (WBI 2007 [11])	Expenditure/per head	Percentage
Norway	81111	21114	26,0 %
People's Republic of China	2485	1508	60,7 %
United States	45790	6100	13,3 %

### The results so far

We have now compared relative expenditures on 3 countries and the results seem to be:

China has the highest expenditures per head compared with her own GDP per head. This means it still relatively expensive for Chinese to educate a person to the university or college level. This sounds a little bit paradox that China is the country needs most educated people at the same time it still costs a lot to educate a person in China.

Norway has a relatively high expenditure level, indicates that education expense is high in Norway, though this will not have any practical problems for Norwegians, since everyone has the same right/access to higher education, and everyone enrolled in higher education can receive the education loan from the state, etc. However, the government lately has also required economic indicators for performance reports from universities and colleges.

The USA higher education model is really unlike others, but at same time it is interesting for others to study USA model. It is highly decentralized and financial sources can be many options. It also depends the university's own positioning so this is definitely market oriented economy. The prices for taking higher education are still lowest compared with Norway and China. This means US higher education is running economically efficiently? At least, taking higher education in USA might not necessarily be that expensive for many Americans?

## Conclusions and further discussions

For many working for the higher education, there is one heavily debatable agenda for more and more people, not only for the rectors or deans, but also for ordinary staff members, that is the university or college's funding sources and budget model. Whatever we want or not, we will be involved in this debate anyway, since funding sources determine the future development and budget model decides the amount of spending for next year.

It is therefore necessary to undertake economic analysis of higher education. The higher education in the future might face the same challenges as other industrial products and services, such as automobile or cell phone, more productivity, greater volume, cheaper prices, at the same time great variety of product/service rang, etc.....

The China's higher education economic reform process has decentralized a great part of Chinese university systems. The external and none-governmental financial sources are becoming more alternative for many. Hence, China's higher education is on a decentralized direction. However, the tuition fee seems to be the only vehicle to bring the alternative financial sources. The cost/budget to educate a person seems to be high, compared with own GDP per head.

It was also interested to see Norwegian higher education model: Most universities and colleges are public funded and the budget is decided by the Norwegian national parliament. The detailed level and amount of budget are decided based upon a combined performance measurements, where student recruiting, teaching, research activities and external project assignments from industries are accounted. In a way, the annual budget seems to be business as usual, but with certain and moderate incentives.

Historically, higher education has mainly been a public service, funded public and service partly for the state, partly for the society and people. The economic development and improvement of living standards in the last century has changed this order and readdresses the question for intention and foundation of the higher education. Is higher education still a public service and shall be funded publically [8]? How can higher education services for the people in a best way? Who's paying the major cost of higher education? What is the nature balance of efficiency and equal opportunity for everyone in higher education system?

The authors are not intended to answer these questions, but rather address the questions for further discussions, hopefully, inviting more people to debate on this issue.

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Economic Reform in China: Current Progress and Future Prospects. April 3, 2019 Posted by China Briefing Written by Mark Preen  
Reading Time: 7 minutes. Last December marked the 40th anniversary of China's reform and opening-up policy, which was launched under the leadership of Deng Xiaoping at the 1978 Third Plenum. At this crossroad in China's economic development, we ask which way are reforms heading? China's reform and opening-up. Liberal economists argue that China should adopt more market-based measures, such as by reducing the role of state-owned enterprises and market-distorting support in the economy. Others with a more statist view, argue that China should increase subsidies to strategic industries and protect domestic firms to promote their development. The basic education curriculum in China has experienced several waves of changes since the founding of the People's Republic of China in 1949. These changes usually followed major political and social movements and involved the development and implementation of new curriculum guidelines in the form of teaching syllabi or curriculum standards for all school subjects (Ruan and Jin, 2012). The educational system was rebuilt after 1976 with the introduction of a national college entrance exam in 1977 (fifth wave: 1977-1980; sixth wave: 1981-1984). Decentralization of Educational Management and Curriculum Development: A Case Study of Curriculum Reform in Shanghai and Victorian Schools (1985-1995). Unpublished doctoral dissertation, Monash University. Li, J. (2012). depth, China is seeing increasing pressure from its vast population, limited natural resources, the environment, and its transformation of economic growth pattern. All those have highlighted the pressing need to enhance citizens' quality and cultivate innovative personnel. The future development and great rejuvenation of the Chinese nation are predicated on talents or professionals, and on education. Education should always be student-oriented, with teachers playing a leading role in order to mobilize the initiatives of the students. Healthy development should be the starting point and the basis of all schools' work. It is essential to respect the norms of education, follow the law governing. 7.