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## **RECENT DEVELOPMENTS OF HIGHER EDUCATION IN INDONESIA: ISSUES AND CHALLENGES**

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## **Recent Development of Higher Education in Indonesia: Issues and Challenges**

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### **ABSTRACT**

During the last decades, Indonesia has witnessed a rapid expansion in higher education sector. However, a centralized education system had resulted internal inefficiency, poor initiatives-particularly in research and lack of public accountability in many Indonesia universities. Facing these issues, the government of Indonesia launched a new long term vision and reform covering all higher education institutions (both public and private HEIs). This paper, moreover, aims to outline the main characteristics of the higher education sector in Indonesia and reviews major policy developments. The paper will discuss issues and challenges in the development of higher education in Indonesia, particularly in financing of higher education, accessibility, and the development of research capacities. The reform results considerable challenges for HEIs, particularly in financial matters, though it also offers opportunities in the context of independency and autonomy. After a decade of reform, Indonesia's universities still seek the best format and practices for facing a challenging future.

**Keywords:** Indonesia, higher education, financing higher education, reform in higher education

## **I. Introduction**

Secular higher education in Indonesia has been relatively young in history. It can be traced since the establishment of tertiary schools training indigenous people in medicine and engineering by the Dutch colonial. Before the colonial, education system, including higher education, was an Islamic institution. However, the education progress after independence was very swift. After the endorsement of the very first education Act in 1961, Indonesia higher education has continuously experienced rapid expansion. Moreover, the development of higher education became faster during 1970s to 1990s, when Indonesia was experiencing strong economic growth, fuelled by an oil-price boom and solid non oil and gas export performance. Nizam (2006) recorded that the student population in higher education institutions (HEIs) increased from just around 200,000 students in 1975 to 2.5 million students in 1995. By 2005, there were about 2,300 higher education institutions, consisting of 86 public HEIs and about 2,200 private HEIs, while more than 3.5 million students were educated in these HEIs.

Though this rosy trend gives a good signal, some observers addressed crucial problems behind the growing HEIs. Moeliodihardjo *et al.* (2000), for example, argued that the rapid expansion of HEIs has not been in parallel with appropriate planning and funding mechanisms. Higher education system has suffered internal inefficiency and poor initiatives due to a centralized education system. In addition, the bureaucratic dependency on central authority has made HEIs (particularly public HEIs) unable to respond external changes or get appropriate supports (Nizam 2006). Further, the public HEIs have also lacked the sense of public accountability as, according to bureaucratic structure they are part of the government institution-under Ministry of National Education.

Consequently, the absence of autonomy and of sense as being part of communities has resulted in lack accountability and responsibilities to societies (World Bank 1996). This has had adverse impact on the quality, efficiency, and relevance of higher education in Indonesia. The poor quality of higher education can be seen from the low level of teaching staff qualification, inadequate laboratory facilities, especially in the private HEIs,

and limited library holdings. Meanwhile, low efficiency may take in the form of enrollment period, where a typical undergraduate in both public and private HEIs spend about five to six years to complete their studies, instead of four years required. Moreover, low internal efficiency can also be seen from the low student-teacher ratios of about 12 to 1, limited utilization of physical space, and the low number of student/staff contact hours.

In the public financing issue, it has long been recognized that the government is facing strained resources to support higher education. Before economic crises hit the country, higher education was not being top priority in education policy. It could be understood as the country still struggle to achieve the 9 year compulsory education policy (primary and junior high school). Large amount of resources went to these levels. The crisis, furthermore, has aggravated critical conditions for HEIs, particularly public HEIs relying mostly on the government supports. They have to compete for public resources not only with primary education, but also other social sectors and issues, such as health poverty alleviation and social security.

This recent study is an attempt to outline the main characteristics of the higher education sector in Indonesia and review major policy developments affecting the financial mechanism and the delivery of tertiary education over the last decades. It will pay particular attention to the effective roles of government funding schemes and types of student loan arrangements in the broader setting of policies.

The rest of this paper will organize as follows. In section 2, we will discuss the chronicle of higher education in Indonesia. The evolution of structure and institution of higher education in Indonesia and the types of higher education Indonesia will be part of section 2. In section 3, we will raise several recent issues of higher education in Indonesia. The section will be specifically focused on the access and equality to higher education services. In Section 4, we review several issues related to financing mechanism of higher education in Indonesia. It will include the general trend and composition public expenditure for higher education, the source of fund, and the impact of economic crisis and decentralization on the financing allocation. Lastly, section fifth will be conclusion.

## **II. Overview of Higher Education in Indonesia: Structure, Institution, and Types**

### ***The Evolution of Structures and Institutions***

Indonesia higher education witnessed a very massive expansion of tertiary education in the post independent era. In the colonial period, there were very few higher education institutions in the country. These institutions were, mainly, intended to provide professional training to local people, like medicine and engineering. Academic and research program were not established yet. As the colonial established social stratification, moreover, there were only students from elite groups enrolled in universities. According to rough estimation, it is estimated that only 200 students enrolled in universities in the colonial period (KJPP 2003). In the post independence, the political climate and nationalism spirit aspired that the country at least has one public university in each province. Since then, around 23 new higher institutions were established during 1960s and these institutions covered almost 26 provinces in Indonesia (Nizam 2006). This policy has brought higher education to mass scale.

Another important stage in the period is the enactment of the first education law, Law No 15 of 1961, which also laid the structure of higher education. Under the law, universities have been standardized with division of faculties and more structured with their governance organizations (senates and president of the universities) (Buchori and Malik 2004). It, moreover, spells out the mission of HEIs or what-so-called as Tri Dharma Perguruan Tinggi (Three Pillar of national higher education), namely, learning, research and community service. It, furthermore, encouraged diversification in higher education programs. Before the endorsement of the law, private HEIs roles were not yet recognized as part of national education. By the Law No 15 1961, however, private HEIs along with public HEIs were standardized and being part of national education system. This provision has encouraged private HEIs to flourish around the country.

Moreover, that demand for education is increasing in corresponding to a shift in economy from traditional sector to more modernized one happened during 1970s. Indonesia economy had experienced high economic growth thanks to an accelerating process of industrialization particularly export oriented industry. This process led to mounting

demand for skilled workers, particularly graduates of sciences and technology. Considering that the government could provide only limited support of higher education, by 1975 it took considerable changes in higher education system.

By 1975, the ministry of education through Directorate General of Higher Education (DGHE) established for the first time the basic development framework for higher education. This plan established the roles of HEIs which covers public and private institutions with linkage to regional and national development context. This framework, furthermore, worked as a basic guide to standardize national higher education system. The guide also covered the structure of academic program (undergraduate and graduate), governance and organization, and the roles and responsibilities of faculty members.

A dual system, academic and professional or vocational was also initiated in the same period. According to the framework, academic programs consist of four-year undergraduate degree programs (strata 1-S1), two-year masters level (strata 2, S2) and three-year doctorate program (Strata 3-S3) while profession or vocational programs offer one-to-four year non degree trainings.

These considerable changes taken by DGHE could be argued as the end of European or continental influence in Indonesia higher education system. By the late of 1970s, the government adopted US style system by launching credit system in curricula. By the system, furthermore, a student of three-year diploma program is required to complete 110 to 120 credit units. A student of undergraduate degree (s1), moreover, has to complete 144 to 160 credit units. This significant change could be attributed to the large number of faculty members and bureaucracies studied in the US. Credit system is also more desirable because it monitors student performances easily and reduces length of study. The shift of education system sent a signal that the government emphasized HEI roles in creating skilled workers and responding labor market.

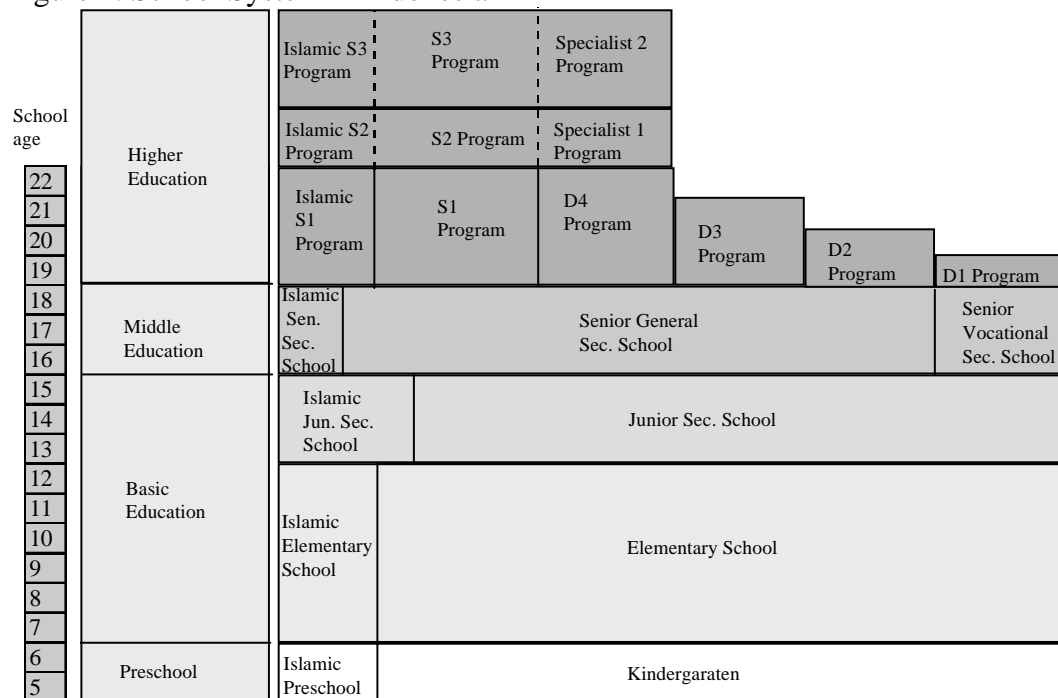
By 2003, the House of Representative endorsed new education law, Law No 20 2003 which also rules the shapes and roles of HEIs. The new law essentially still adopts the

same groundwork for higher education system. However, this new law provides greater autonomy to HEIs than the previous law.

***The Types of Higher Education in Indonesia***

It should be noted that examining higher education system cannot be separated in the context of the whole education system in Indonesia. Figure 1 illustrates the organization structure of the country’s education system. Recently, the organizational structure of the school system can be separated into two streams, namely, the Islamic stream under the Ministry of Religious Affairs (public and private), and the secular stream under the Ministry of National Education (public and private). Basically, these two streams are separated into three levels of education. They are basic education, middle or secondary education, and higher education.

Figure 1: School System in Indonesia



Source: Mohandas (2004)

The preschool at the lowest level is not required to enter the elementary. However, the government makes every effort to encourage parents to send their children into preschool education before entering elementary schools. On May 1994, the President of Republic

Indonesia affirmed this Basic education as Nine-year Compulsory Education. The basic education includes the six years of Elementary Schools and three years of Junior Secondary Schools. Middle or secondary education includes the three years of General Senior Secondary Schools or Vocational Senior Secondary Schools.

The higher education is an extension of secondary education. The Indonesia higher education system consists of academic and professional education. Academic education is mainly designed at mastering science, technology, and research, whereas professional education is aimed more at developing practical skills. The institutions providing higher education are categorized into university, institute, collages, academy, and polytechnic in both public and private sectors.

In addition, a university consists of several faculties conducting academic and/or professional education in several disciplines, technologies and/or the arts while an institute consists of faculties conducting academic and/or professional education disciplines which belong to the same group of professions held. On contrary, a college conducts academic and professional education in one particular discipline. Meanwhile, an academy and a polytechnic are a vocational higher education institution (HEI) that provides professional skills and Diploma degrees. An academy conducts applied science education in one or part of a discipline, technology or the arts, while a polytechnic conducts applied science education in several particular fields.

Based on their status, the higher education institutions (HEIs) in Indonesia can be divided in two groups that are: the Public HEIs and Private HEIs. The Public HEIs are under the jurisdiction of the regulation on state treasury law, education system law, and civil servant law, and they are treated as part of the ministry (government entity). Meanwhile, the Private HEIs are regulated under the foundation and education system law, and they are considered as the business arm for the foundation. Under these statuses, Brodjonegoro (2000) argued that the HEIs have no independency for carrying out their mission as the moral force and become less accountable and less innovative.



There is also a difference in admission process. Admission process in public HEIs is done by national examination for higher education (*Seleksi Penerimaan Mahasiswa Baru*). As seats in public HEIs are limited, a prospective applicant has to compete for specific field nationally. Usually the applicant submits from two to three prospective programs. This system ensures that only those reached the highest score may pass admission process. Compared to Public HEIs, admission in private HEIs is considered to be less competitive. However, as some private HEIs maintain their quality and reputation, admission process to this institution is as competitive as public HEIs.

### **III. The Recent Issues of Higher Education in Indonesia**

#### ***Access and Equality***

As generally found in many places, equality issue in education has become hot debated issue in Indonesia, particularly more intense in higher education. There are several reasons which may explain this. First is a common perception that views higher education as a public good. Second, its functions to train future elite groups who will be important part of development have mirrored HEIs as politico-imperative educational institution. By history, moreover, critical moments in Indonesia political and economic progress were strongly linked to the roles of HEIs. Indonesia independent movement, for example, was mainly prompted by well-educated young Indonesians. Indeed political turbulences of the country were closely related to political activities of universities' students. Therefore, graduates of HEIs carry high social status in society. Third is about job market expectation. Graduates are expected to enjoy well-paid jobs and work in formal sector which is considered as far better-off than informal sector. Therefore there is strong political aspiration which demands that opportunities to higher education should be opened to all groups.

Although higher education has expanded rapidly after the post independence era, the supply growth of HEIs is still unmeet growing demand. Meanwhile the government's ability to expand supply of public HEIs is very constrained with budget, private sector has dominated tertiary education market since the last 20 years. However, most private HEIs in running their institutions rely on financial support of their student so that private

HEIs are quite expensive for those who come from disadvantage family background. As a result, participation rate in higher education has been low for years.

Recent figure gathered through National Socio-Economic Survey (*Survei Sosio-Ekonomi Nasional*) of Badan Pusat Statistik (BPS/Central Statistic Agency) shows that enrollment rate in higher education is quite low in Indonesia. However it is worth to note that Susenas data may underestimate those going to tertiary education. It could be the case since a large proportion of students is from middle-high income household background. Concerning this, some observers have long argued that Susenas data hardly capture fully information on upper class households.

Another issue concerning the data is about demographic mobility. Susenas data very likely does sampling only a student who lives with his/her parents. Moreover, sampling method of Susenas also makes students who live in boarding house (off-campus and on-campus) out of data. This is because in the sampling guide of susenas, a local statistician will not survey a person who lives in boarding house, military barracks and prison. Yet considering its sample size and national-wide coverage, Susenas is the best available data.

By 2006, gross enrollment rate<sup>1</sup> (GER) of tertiary education reached only 12.16%. Figure 2, moreover, illustrates that during 1993-2003 period, GER in higher education tend to stagnate. Economic crisis hitting the country in 1998 seemed to have no strong effect in enrollment rate. Generally low participation rate, furthermore, indicates high inequality in access to HEIs. This presumption is confirmed by figure 3.

According to Susenas, the gross enrollment rate of student from low income family background was around 0.63 percent in 1993<sup>2</sup>. This was far lower than the enrollment

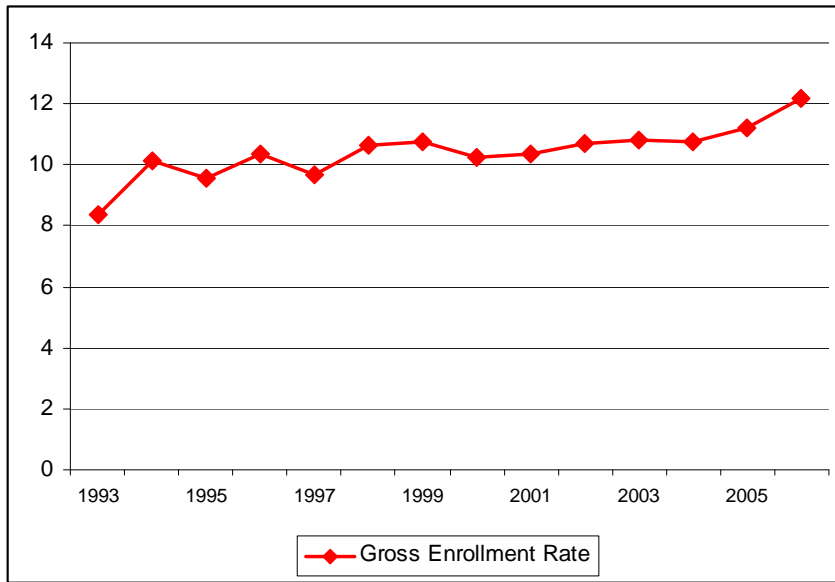
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<sup>1</sup> Gross enrollment rate of tertiary education is the ratio of all tertiary school students to all tertiary school aged person (19-24). The age range (from 19 to 24 years old) is based on Badan Pusat Statistik's (BPS's) definition. Even though this range basically covers only undergraduate aged person and ignores graduate aged person, this approach is still appropriate and convenience considering a very low number of those going to graduate level.

<sup>2</sup> Low income means the 40% lowest of expenditure per capita distribution. In this context, we assume that household expenditure will be a good proxy for household income. Regarding expenditure itself, it is the current household expenditure per capita of the student (total expenditure is divided by the number of household members regardless the age of the members) .

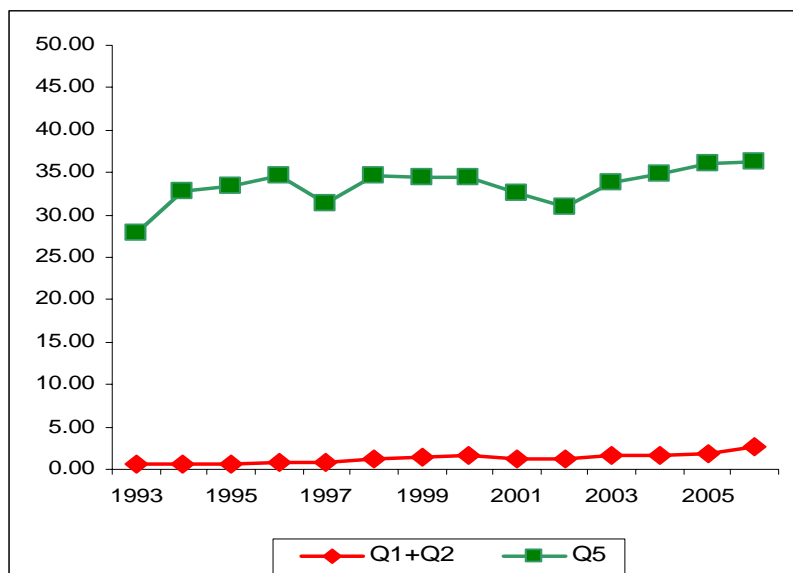
rate of student from the 20 percent highest of income per capita household, (around 27.78 percent in the same year). After more than a decade, the gap has not converged significantly. In 2006, the number of low income student enrolled in tertiary education was 2.67%. This number was still far lower than student from the 20 percent highest income per capita household (around 33.9%).

Figure 2. Gross Enrollment Rate in higher education



Source: National Socio-Economic Survey (SUSENAS) 1993-2006

Figure 3. Gross Enrollment Rate in higher education by income group



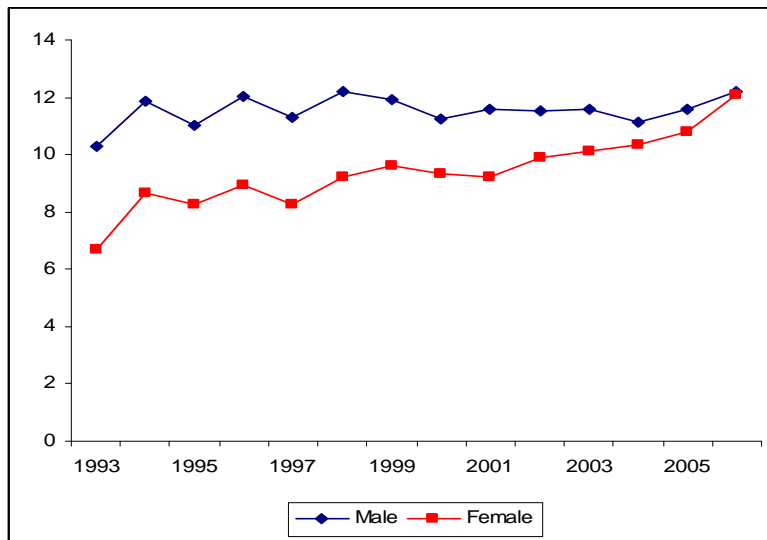
Source: National Socio-Economic Survey (SUSENAS) 1993-2006

Furthermore, we find that gender gap in tertiary education tends to decline in recent years. Trend between 1993 and 2006 shows that the participation rate of females converged with males at relatively fast pace. In 1993, the female GER was 6.7% and by 2006 it reached 12.1% or increased proportionally by 81.17%. Meanwhile male GER in the same period kept up slower than female, increasing proportionally by 18.9% in 2006.

Interestingly, the gap between sexes is relatively lower in the low income group rather than high income group. Figure 3 demonstrates that male enrollment rates from both the low income and the high income groups<sup>3</sup>, averagely, are higher than female enrollment rates. However in terms of progress, female participation grew faster than male between 1993 and 2006. By 1993, female GER from low income family was very small, only 0.46. This was lower than male gross enrollment rate from the same family background, which was around 0.82 percent. Yet after a decade, female participation of this group had grown very rapidly and by 2006 there was, proportionally, six fold increase in the participation rate.

<sup>3</sup> The low income group is defined as the 40% lowest of expenditure per capita household meanwhile the high income group is defined as the 20% highest of expenditure per capita household

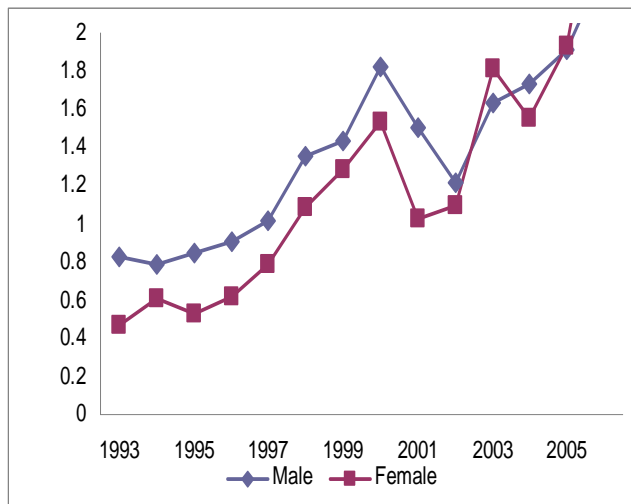
Figure 4 Gross Enrollment Rate in higher education by sex



Source: National Socio-Economic Survey (SUSENAS) 1993-2006

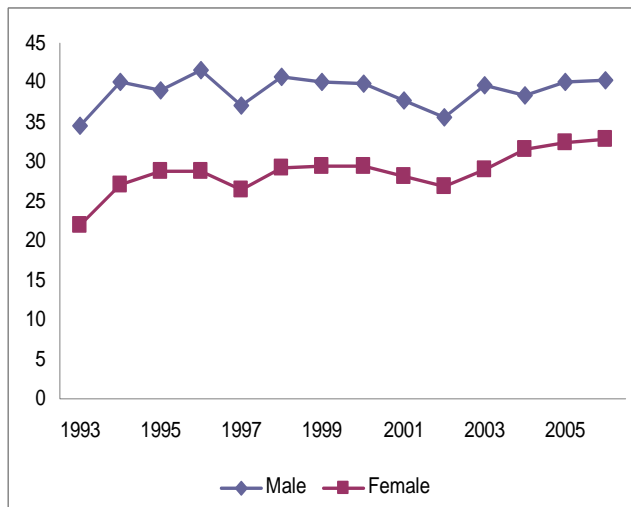
A rapid progress was also achieved by female students of high income group. Within more than a decade, the female GER of high income group increased, proportionally, by 49.3 percent from 22 percent in 1993 to 32.8 percent in 2006. Meanwhile male GER grew, proportionally, slower, 16.6% between 1993 and 2006. Relatively low sex gap in participation essentially supports studies arguing that parents rarely discriminate daughters over boys in getting education, including in tertiary level, though in some cases discrimination against women within household may occur because of, mainly, economic shocks (Oey-Gardiner 1997).

Figure 5. Gross Enrollment rate-tertiary education of the low income student by Sex



Source: National Socio-Economic Survey (SUSENAS) 1993-2006

Figure 6. Gross Enrollment rate-tertiary education of the 20% richest student by Sex

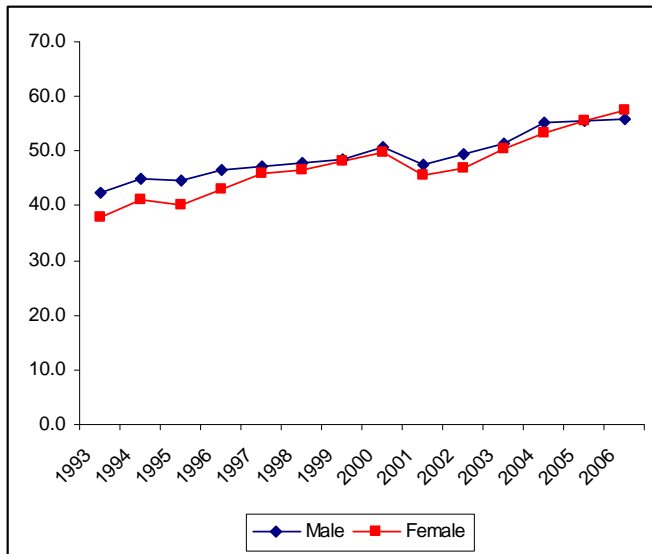


Source: National Socio-Economic Survey (SUSENAS) 1993-2006

Further, some education observers tend to argue that low participation rate at tertiary education is mainly caused by few higher education institutions relative to a growing demand. Though it may be reasonable at first, we must take the argument with caution. Based on our finding, low participation rate in higher education, in fact, is not only spurred by supply-side problems. Low participation rate in secondary education and low continuation rate from secondary education to higher education is also the main reason of low enrollment rate in tertiary level. This suggests that higher education policy to improve access cannot be separated from education policies aimed to other education

levels, particularly secondary education. Figure 7 depicts that enrollment rate in secondary education is far from universal, though generally speaking, there was an upward trend in GER of senior secondary education between 1993 and 2006. In addition, there was no significant gap in enrollment between males and females. Indeed, female participation rate in secondary education, moreover, tended to catch up male in recent years and this may explain relatively swift increase in female participation rate in higher education.

Figure 7. Gross Enrollment rate in senior secondary education by sex



Source: National Socio-Economic Survey (SUSENAS) 1993-2006

### ***Accreditation, Quality Assurances, and Research Capacity***

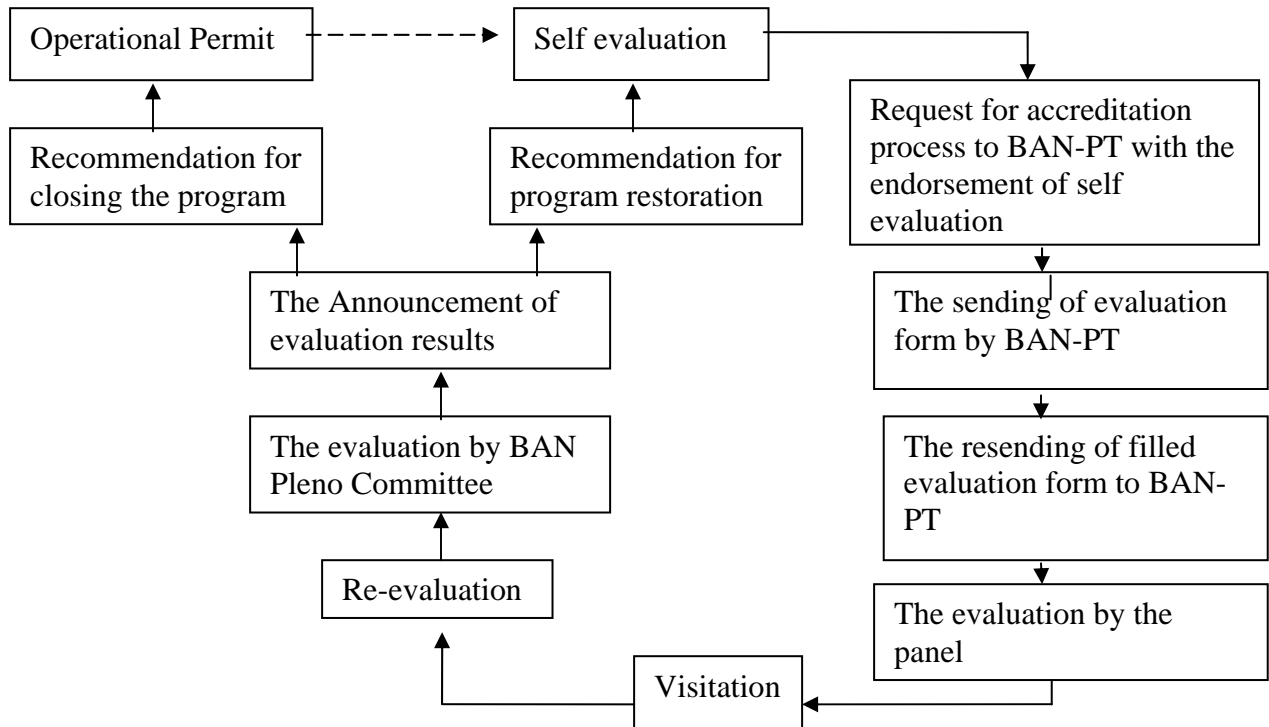
Concerning educational quality, the quality control of higher education institutions is run through external and internal accreditation system in Indonesia. The internal accreditation started to be initiated at some established university, such as University of Indonesia and Gajah Mada University, in the late 1990s as part of good practice process within the university. The quality assurance is internally run and aimed to improve the quality standard of higher education services. Meanwhile, the external accreditation is carried out by the National Education Board for Higher Education (Badan Akreditasi Nasional Perguruan Tinggi, BAN-PT), which was established in 1994 to conduct academic program assessment and evaluation for both public and private HEIs.

Mandated by the National Education Act No 2/1989 and Government Regulation on Higher Education No 60/1999, the BAN-PT is the only accreditation body in the Indonesia higher education system and based on ministerial decree 188/U/1998. The accreditation process was conducted for the first time in 1996, while all programs in HEIs, both public and private, had to be accredited by BAN-PT since 2001.

The BAN-PT carries out several functions. First is to monitor the quality and efficiency of HEIs through the accreditation process in all studies programs of every HEIs in Indonesia. Second is to conduct public dissemination about the accreditation status of study program in HEIs in Indonesia so that the public have a trust on the education quality offered by the HEIs and the quality of those programs can be maintained and enhanced. Third is to give recommendation on the improvement of study programs quality. In order to carry out those functions, the BAN-PT conducts regular quality and efficiency assessment for all HEIs in Indonesia. The assessment covers many aspects, such as curriculum, the quality and quantity of lecturer, student condition, the education facilities and infrastructures, and the management of academic administration, human resource, financial and institutional aspect of HEIs. Through the accreditation process, undergraduate and diploma programs are categorized into four levels from A (satisfactory) to D (unsatisfactory), while postgraduate programs are categorized into three levels: U (excellent), B (good), and T (fair). The figure 8 below describes the flow of accreditation process carried out by BAN-PT.



Figure 8: The Flow of Accreditation Process



Source: BAN-PT

According to BAN\_PT's report, the qualities of many HEIs are still poor. As reported by BAN-PT (2005, quoted from Nizam (2006)), in 2002, for example, of 6,777 programs (60% of more than 11,000 programmes to be assessed), 84% were undergraduate programs (S1), the majority, or around 85% of undergraduate programmes categorized B and C. Furthermore, around 15.73% public HEIs were accredited A, while only 5.26% private HEIs were accredited A. This result indicates that the public universities are considerably superior to private HEIs, further reflecting the role of public HEIs as quality leaders and private HEIs as expansion absorbers.

Further, the low quality of HEIs in Indonesia is caused by the fact that the HEIs system has grown much faster than the improvement of qualification levels of academic staff and staff commitment to do teaching and research activities. Limited fund for education development, as reflected in the poor remuneration of academic staff, has affected to poor working conditions and academic life. As explained by Buchori and Malik (2004), many academic staff in Indonesia public HEIs have commonly not been well paid. It means that

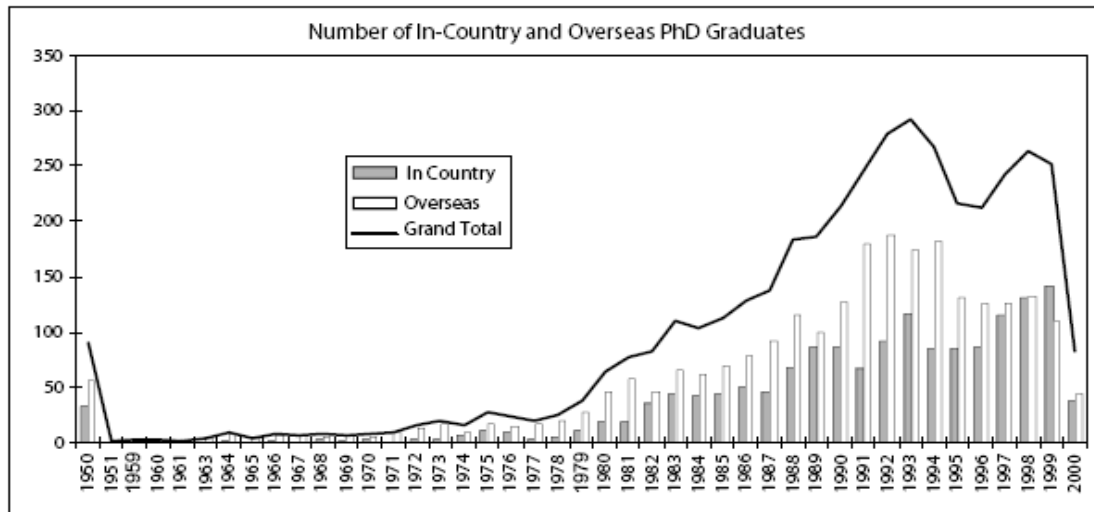
many faculty members dedicate their energy and time to off campus work, or business, including management or teaching at private HEIs, than to work at public HEIs. In the same vein, the condition in the private HEIs was even worst since they have lower proportion of qualified and full time staff.

In addition, the proportions of staff with higher degrees with Masters or Ph.D. also vary significantly across the sectors. As explained by Nizam (2006), before the extensive programme of human resource development aimed to develop research capacity that was supported by the 9<sup>th</sup> World Bank education sector project and took place at public Universities in 1980s, most of university staff did not have opportunity to be trained beyond undergraduate level. In the same vein, Mochtar and Buchori (2004) illustrated that in the public HEIs there were only 8.6% of academic staff hold Ph.D. and 29.2% possess Master level qualifications. This condition was much better than of those in the private HEIs. Furthermore, World Bank (1996) showed that the difference was almost 300%, which there were only 11% of academic staff in private HEIs trained beyond the first degree, compared with 30% in public HEIs. As argued by Welch (1997; 1998), this unpleasant condition was due to few number of HEIs offering graduate programs. Very low salary level, relative to other occupations in other economic sectors, where high degrees are less needed is also the key factor discouraging people to be a lecturer.

Recently, the increased funding from the government supported by donors for the development of human resources has directly generated an increased numbers of academic staffs holding Ph.D and master's degree, the disparity of staff qualification between HEIs across countries remains high. As shown in the figure 9, number of PhDs and master's from overseas and in-country universities increased in last decades. During 1996-2000, for example, the number of PhDs and master from overseas increased by 32% and 40%, while the new in-country PhDs also grew significantly and even surpassed those from overseas by 1998. Nevertheless, according to the *Directory of Doctors 2000* as seen in the table 1, about 75% of PhDs registered worked in the four established public HEIs in Java (University of Indonesia, Institute Pertanian Bogor, Institute Teknologi Bandung and University Gajah Mada), resulting high disparity of staff qualification between universities in the most populated island in Indonesia, Java, and outside of Java,

although this disparity should be placed in the perspective of students which by the fact around 74% of total students enrolled in Java.

Figure 9: the number of new in-country and overseas PhD graduates



Sources: Nizam *et al* (2003)

Table 1: Distribution of Staff with PhD, 2000

Location	Private	Public	Autonomous	Total
Java	333 (9%)	1054(28%)	1420(38%)	2807(75%)
Outside Java	47(1%)	891(24%)		938(25%)
Total	380(10%)	1945(52%)	1420(38%)	3745(100%)

Source: Directory of Doctor 2000

In addition to lower quality of teaching staff, the HEIs are lack of solid system for supporting high-quality study programs and research. Furthermore, the quality of Indonesia HEIs, particularly in the private HEIs is weakening because of the low staff-student ratios. Welch (2006) showed that staff student ratios deteriorated in the last decades. The staff student ratio decreased from 1:6.6 to 1:10.1 in 1980, 1:12.4 in 1990, and 1:13.7 in 1998. In the same vein, the quality of HEIs impaired by low investment and per-pupil spending rates, as reflected in poor facilities and equipment. Welch (2006) stated that the levels of computer equipment and software are “below the performance standard” for the number of students enrolled.

### *Trend and Composition of Public Expenditure in Education*

Even though public expenditure in education, in terms of absolute and percentage of total national expenditure increased in recent years, Indonesia spending on education remains below 20% of total national expenditure as it is obligated by the constitution. Table 2 shows the national public expenditure during 2001 to 2007. This table reveals that both the percentage of national education expenditure to GDP and the proportion of total education expenditure to total national expenditure remained low, although there was improvement in recent years. In 2007, for example, the national education expenditure was only 3.8% of GDP, while it accounted for around 17.2% of total national expenditure.

Table 2: National Public Expenditure (Central+Province+District), 2001-2007  
(in Rp trillion)

	2001	2002	2003	2004	2005	2006*	2007**
Nominal national education expenditures	40.5	48.2	64.8	61.8	74.0	118.2	135.4
National education expenditures (2001 prices)	40.5	43.1	54.3	48.8	52.9	74.9	80.7
Growth real national education expenditures (%)	40.3	6.4	26.2	-10.2	8.4	41.6	7.8
Education Exp. (% total of national exp.)	11.4	14.3	16.0	14.0	13.9	16.9	17.2
National education exp. (% of GDP)	2.4	2.6	3.2	2.7	2.7	3.8	3.8
Total nominal national expenditures	353.6	337.6	405.4	441.8	531.7	698.2	785.4
Total real national expenditures (2001 prices)	353.6	301.8	340.0	348.9	380.0	442.4	468.3
Government size (total exp. As % of GDP)	21.0	18.1	19.8	19.4	19.5	22.4	22.2

Source: World Bank (2007)

Note: \* = preliminary realization of APBN and estimates for sub-national spending,

\*\* = central government budget (APBN) and estimates for sub-national government

Compared to its neighboring countries, the total education expenditures in Indonesia is still relatively low, although economic and demographic differences among countries should also be considered. Table 3 illustrates public education expenditure in Indonesia and its neighboring countries. This table describes that Indonesia education expenditure is almost the same as other developing countries with a similar per capita income. Moreover, while the government size (total public expenditures as percentage of GDP) may influence the size of social sector both in absolute and relative term, the percentage of education expenditure to GDP in Indonesia, after corrected, is considerably lower than of that Thailand. The latest data from World Bank Development Indicators (WDI) shows

that the education expenditure as percentage of total national expenditure in Indonesia, Malaysia, and Thailand are 16.9%, 27.0% and 27.0%, respectively.

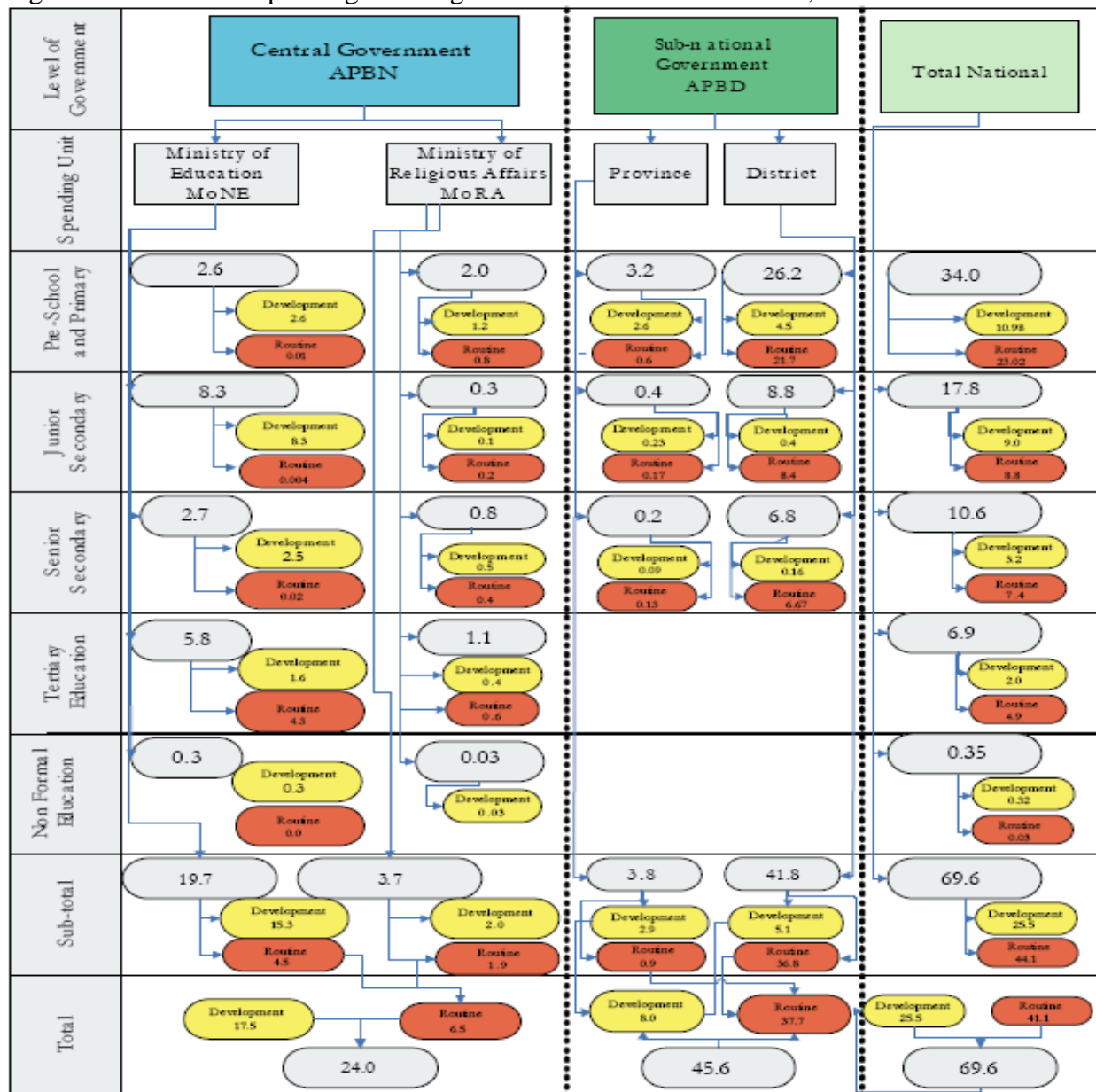
Table 3: Education Public Expenditure in Indonesia and Its Neighboring Countries

	<b>Highest</b>		<b>Lowest</b>	
Education public expenditure % of total expenditure	Malaysia 27.0	Thailand 27.0	Indonesia 16.9	Philippines 16.0
Education public expenditure % of GDP	Malaysia 8.1	Thailand 4.6	Indonesia 3.8	Philippines 3.1
Total public expenditure % of GDP (size of government sector)	Malaysia 29.7	Indonesia 22.4	Philippines 19.6	Thailand 16.8
GDP per capita (constant 2000 US\$)	Malaysia 4,290	Thailand 2,356	Philippines 1,085	Indonesia 906
Population	Indonesia 217.6	Philippines 81.6	Thailand 63.7	Malaysia 24.4
Percent population aged 0-14	Thailand 4.1	Indonesia 3.5	Malaysia 3.0	Philippines 2.8

Source: World Bank (2007)

In Indonesia, the allocation of public education expenditure has been dominated by basic education level. A recent study by World Bank demonstrates education spending per program and level of government in 2004 (figure 10). As shown in the figure, by 2004, the tertiary education only received less than 10%, while the primary education (pre-school, primary school, and junior secondary) and middle or secondary education obtained around 75% and 15% of the total education budget, respectively. In this respect, the government policy seems to focus on provision of basic education for the masses.

Figure 10: Education Spending Per Program and Level of Government, 2004



Source: World Bank (2007)

On higher education, compared to other countries, the resources allocated to tertiary education show a pretty similar figure with other countries in Asia Pacific. Table 4 reveals the public expenditure on higher education of some countries in Asia Pacific. As seen in the table, although it is below of Australia and United States, the proportion of expenditure for higher education in Indonesia is higher than Japan, Republic of Korea, Mexico, and India. However, Indonesia's public expenditure per pupil as percentage of GDP per capita is the second lowest among the countries.

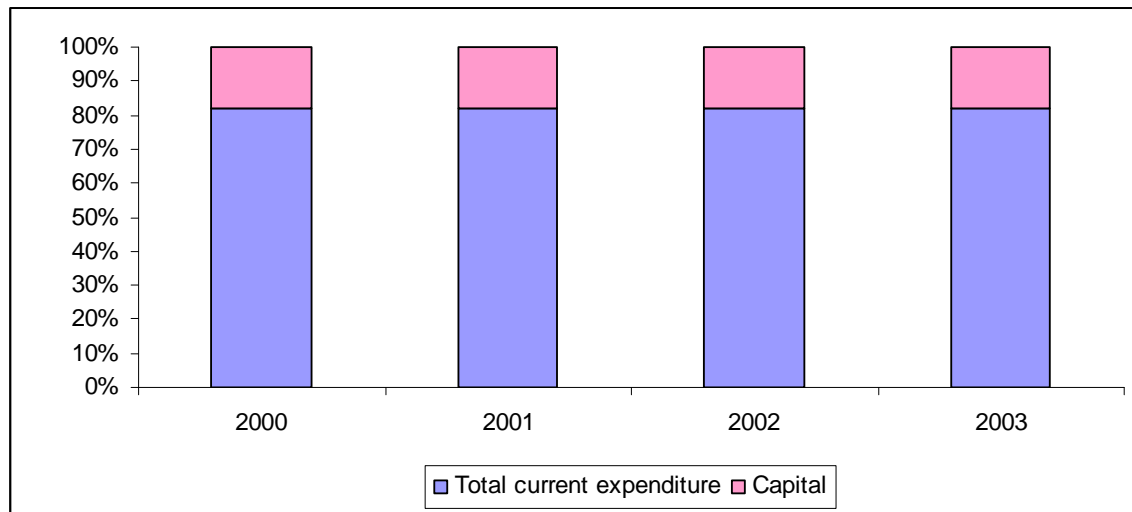
Table 4: Public Expenditure on Higher Education of Some Countries in Asia Pacific

	Australia	Indonesia	Japan	Malaysia	R.o.Korea	Mexico	US	India
Public expenditure per pupil as a % of GDP per capita	22.48	13.27	19.61	93.69	9.34	44.07	26.68	68.57
Education expenditure in tertiary as % of total educational expenditure	23.92	23.16	16.8	34.99	13.6	16.86	26.25	20.09

Source: Fahri (2007)

Regarding expenditure, the large part of the outlay goes to recurrent expenditure, including the salary and non salary for academic and non-academic staff. Figure 11 illustrates the tertiary education expenditure by nature of spending during 2000-2003. Based on this table we can see that in the period of 2000 to 2003, more than 80% of tertiary education expenditure was spent for the current activities expenditures, while the remaining 20% was used for capital expenditure. The capital expenditure, moreover, consists of land acquisitions, university building development, and equipment purchase.

Figure 11: Tertiary Education Expenditure by Nature of Spending, 2000-2003



Source: UNESCO

### ***Student Fees, Student loan, and Scholarship***

Concerning higher education expenses borne by parents and students, they vary greatly and depend on degree taken, study program, status of HEIs, and the location of HEIs. As a consequence of higher education reform and autonomy, public HEIs may now set their own tuition fees level that was previously set by the central government.

Table 5 below illustrates the total higher education expenses borne by parents and students of undergraduate program for academic year 2004-2005. The expenses for higher education covers not only tuition fees, but also other expenses, such as books and other educational expenses and student living expenses including lodging, food, transportation and other personal expenses. In academic year 2004-2005, for examples, the total cost carried by the parents and student of first degree ranged from more than 6.8 million rupiah for the low public HEIs and 20.8 million rupiah for the high public HEIs, while it was about 31 million rupiah for private HEIs.



Table 5: Higher Education Expenses Borne by Parents and Students First Degree, Academic Year 2004-2005 [National currency (Rupiah) converted to US\$ by [2004] purchasing power parity estimate \$1 = Rp2,255]

		<i>Public</i>		<i>Private</i>
		<i>Low Public</i>	<i>High Public</i>	<i>High Private</i>
	Special "One-Time" or "Up Front" Fees			
<i>Instructional Expenses</i>	Tuition	Rp300,000 [\$133]	Rp1,000,000 [\$443]	Rp4,000,000 [\$1,773]
	Other Fees			
	Books & Other Educational Expenses	Rp900,000 [\$400]	Rp1,350,000 [\$598]	Rp2,250,000 [\$997]
	Subtotal Expenses of Instruction	Rp 1,200,000 [\$532]	Rp2,350,000 [\$1,042]	Rp6,250,000 [\$2,770]
<i>Student Living Expenses</i>	Lodging	Rp 900,000 [\$400]	Rp9,000,000 [\$3,990]	Rp10,800,000 [\$4,790]
	Food	Rp3,600,000 [\$1,596]	Rp6,300,000 [\$2,793]	Rp8,100,000 [\$3,592]
	Transportation	Rp315,000 [\$140]	Rp450,000 [\$200]	Rp2,250,000 [\$997]
	Other Personal Expenses	Rp800,000 [\$354]	Rp2,700,000 [\$1,197]	Rp3,600,000 [\$1,596]
	Subtotal Expenses of Student Living	Rp5,615,000 [\$2,490]	Rp18,450,000 [\$8,180]	Rp24,750,000 [\$10,975]
	Total Cost to Parent & Student	Rp6,815,000 [\$3,022]	Rp20,800,000 [\$9,223]	Rp31,000,000 [\$13,747]

Low public: low public tuition, living at home with parents.

High public: high public tuition, living "independent adult".

High private: high private tuition, living in dormitory or shared apartment.

Source: Collected from websites of Indonesia universities, 2005 (Quoted from World Bank (2007))

This high expense would have an adverse effect for students coming from poor family background. To help the disadvantaged students, moreover, the government works closely with HEIs to provide financial assistances schemes in the form of scholarship. Before the recent reform in higher education, scholarship program allocated for students in private HEIs was relatively limited. Yet, a recent policy change increases the allocated fund for scholarship in the private HEIs, though students of the public HEIs are still the larger beneficiaries. Based on our interview with the government official, around 25 % of total government scholarship program is allocated to the student of private HEIs. Yet, instead of giving directly to the related private institutions like what the government does

to public HEIs, the government allocates the fund to Koordinasi Perguruan Tinggi Swasta (Kopertis/the Coordination of Private Higher Education Institution) and then gives the Kopertis authority to allocate the fund among its members. Kopertis itself is a network of private HEIs with private HEIs as its member.

Furthermore, the government offers three types of scholarship that so called: scholarship for the student achievement in academic activities, social safety net scholarship provided as the compensation from oil subsidy reduction, and scholarship for student achievement in sport and cultural activities. However, in principle, all those scholarship schemes are mainly targeted to the disadvantaged student or the poor. The government, moreover, also fully granted the universities to set criteria for recipient students and to manage the distribution of the scholarship to the students. The amount of scholarship itself is around Rp 250,000 per month per student (US\$25) covering the tuition fees and living allowance, regardless the status of universities.

In addition, the universities also cooperate with other institutions, such as private enterprises, foundations, and alumnae association to provide scholarship. Unlike the scholarship from the government, the scholarship from these other institutions have many schemes and criteria. These scholarship programs are not only given to the disadvantaged student or the poor, but also to other student with certain criteria. Tanoto foundation, one of foundation that provides scholarship, for example, targeted their scholarship for a student who is smart and potential to be a leader but faces financial difficulties.

This scholarship is not only granted for undergraduate but also for graduate student. It covers not only tuition fees and allowance but also can be extended to research funding, though case-by-case criteria would apply. For the undergraduate students, for example, the foundation granted Rp 500,000 per month for living allowance given directly to individual student's bank account and up to Rp 3 million per semester for tuition fees charged by the universities. Currently, there have been about 300 undergraduate students and 50 graduate students that received scholarship from Tanoto foundation. These recipient students, however, has remained limited to only 6 public universities.

Parallel to scholarship, the government is now planning to create a student loan program and a voucher program for disadvantaged students that would cover their tuition costs. Actually, student loan once was introduced by the Ministry of National Education in the early of 1980s and what so-called as “Kredit Mahasiswa Indonesia” (Indonesian Student Loan (KMI)). However, high default rate made the student loan program unsustainable. According to our interview with several key persons, the default rate reached 95%. However, there is no available and rigor data which can evaluate the program. By the end of 1980s, the government ended the student loan program.

The failure of KMI was caused by poor administration leading to moral hazard. Many recipient students did not repay the loan after finishing their study. In other side, the banks giving the loan, moreover, did not have good administration to monitor and trace the graduate. On the accounting issue, the banks treated student loan like grant since they thought that it was part of government development program from the central bank, Bank of Indonesia. This poor loan management was recorded as non-performing loan and student loan has been perceived by banking sector as the high risk business. Bad story of student loan program in Indonesia has restrained banks to re-involve into this program.

By 2006, a private education foundation called Sampoerna Foundation redesign student loan program. In designing the program, the foundation cooperates with International Finance Corporation (IFC) and Bank International Indonesia (BII) as creditor. Moreover, the scheme essentially is a risk-sharing mechanism to leverage contributions from the foundation into a portfolio of student loans (IFC 2006). In this program, BII acts as an administer of the program. According to an estimate, the total budget of the student loan program reached almost US\$20 million with half of the fund was supported by IFC.

Based on our interview with the high-rank manager of Sampoerna Foundation, they re-invent student loan. Sampoerna Foundation previously focused only on the scholarship program but now they design the first private-supported student loan. Decision to promote student loan program, moreover, was encouraged by the fact that many potential students who do not have long-term financial difficulties cannot go to college because of

cash-flow problem. Their main financial problem usually is up-front fees which are very large.

The loan itself, is characterized as the loan without any collateral, although the student or their family members, who act as guarantor, is required to be “bankable” (they have job and minimum earning of 40 million rupiah a year). The loan cap provided by the foundation ranges from 10 million rupiah to 200 million rupiah, while the maximum loan which can be given is up to five times of the student or their family member’s net incomes per month. The bank, moreover, charges interest rate by 1.5 per cent a month, with repayment period ranging from a half year to three years.

However, this student loan program is different from a typical student loan program in other countries, particularly in the payment method. The program, moreover, is basically at best described as mortgage loan, in which students or the parents of the students must have to pay the loan regularly in every month after the first disbursement of the loan. In other word, the student loan program of Sampoerna Foundation helps short-terms cash flow problem of students or the parents of students.

Since its first launching in 2007, the number of students getting student loan is around 15 students, suggesting that the program covers very limited recipients. They are still limited to only 35 partner universities of the foundation. This limited recipient is not only due the short period of program implementation, but also due to the institutional or regulation restriction. From the institutional or regulation aspect, banks still perceive student loan program as a very risky loan and there is no strong incentive given from the government or central bank for banks lending money to student loan program.

#### **IV. Recent Major Policy: Higher Education Reform**

Increasing globalization and internationalization pressures, the government has taken number of measures in the last decades to improve the quality, efficiency and relevance of higher education in Indonesia. The first initiative was started in 1994, when the government through DGHE formed the Higher Education Strategy Task Force assigned to develop the strategy for higher education in Indonesia for the next decades. As the

outcomes, the task force introduced *The New Paradigm* for higher education management based on quality, autonomy, accountability, accreditation, and evaluation. This New Paradigm, later on, has significantly altered the mode of individual HEI operation and their overall legal, regulatory, and financial controls.

### ***Structure and Institutional Reform***

As part of the paradigm shift, to strengthen institutional capacity at the center as well as individual universities, the DGHE established the Board of Higher Education (DPT), with three Councils (education, Research, and Development), and the National Accreditation Board for Higher Education (BAN-PT). The DPT has responsibility to provide strategic recommendation and to bridge between the DGHE and external funding bodies as well as between DGHE and the universities that receive the competitive grants. Meanwhile, the BAN-PT is mandated to independently arrange and conduct the accreditation of academic programmes of private and public HEIs. Moreover, BAN-PT is aimed to improve transparency of higher education system in Indonesia, to guide consumers, to guarantee accountability, and to strengthen incentives for individual universities to raise quality standards, efficiency and relevance. Based on the National Education Act No 2/1989 and Government Regulation on Higher Education No 60/1999, BAN-PT is the only accreditation body in the Indonesia higher education system. Furthermore, mandated by ministerial decree 188/U/1998 since 2001 all programs in HEIs, both public and private, had to be accredited by BAN-PT.

Later on by 1999, the government also issued a new government regulation (PP 61/1999) that set down the mechanism to transform state/public HEIs into autonomous universities called “State Legal Entity University “(*Universitas Badan Hukum Milik Negara (BHMN)*). As implementation, the government asked the four most established public HEIs (Universitas Indonesia, Universitas Gajah Mada, Institut Teknologi Bandung, and Institut Pertanian Bogor) to pioneer the transformation. In December 2000, based on government regulations (PP 152, 153, 154, and 155/2000), those four universities formally change to become new public legal entity universities.

After the transformation, the universities are no longer becoming part of government bureaucracy and consequently, they are more responsible to the public rather than to the Ministry of National Education. Similar to reform in Latin America, by creating a “para-market relationship” the government provides operational cost in the form of block grant based on their performances. In addition, university management changes toward more corporate system. Furthermore, in the university transition plans, all staff who used to be civil servants would be transformed to become university employees within ten years. However, as argued by Susanto and Nizam (2004) the inadequate supporting legal and financial measures have hindered the reform to be effectively embedded into the entire system.

### ***Competitive Funding Schemes***

Along with the institutional and structural changing, the New Paradigm has also changed the financial aspect of HEIs. As implementation, the New Paradigm has given the individual public HEIs the power and responsibility to work more as if they were private-sector institution. The individual public HEIs is required to conduct self-evaluation, prepare institutional development plans based on their own particular needs, arrange budget according to their projected resources and priority needs in order to received investment funds from the central government. Furthermore, supporting by monetary loan from the World Bank and Asian Development Bank, the government also initiated several competitive funding schemes as mechanism in allocating its fund to universities.

Before the government launched a new competitive fund scheme which opens opportunities for private HEIs to participate in recent years, there was a large difference in funding mechanism between private and public HEIs. In the past, the government supported very limited funding for private institution. The major cause is the very limited budget allocation from state budget and large publicly funded HEIs which covered in every province in Indonesia. Public HEI relied their major funding source from recurrent and development government budget, meanwhile private HEIs mostly relied on student fees and contribution from external source. Bray and Thomas (1998) estimated that around 87.92 % of the government budget of higher education (around Rp 1.3 billion)

went to public HEIs in period 1995-1996. This allocation funded around 853 students enrolled in public HEIs. For the same period, only 3.8% of funding from both recurrent and development budget went to private HEIs which enrolled 58% of total students enrolled in higher education. The rest of the allocation went to Islamic higher institutions. They, moreover, also show that 30% of total fund in public HEIs was from recurrent budget, 37% from the development budget, 11% from tuition fees and the rest from self-generated source.

The competitive funding schemes firstly implemented by the introduction of the University Research for Graduate Education (URGE) project, in 1994. However the project is limited only to public HEIs. This project was implemented through competitive funding process to develop research capacity for the units conducting post graduate programs.

By 1996, later on, supported by World Bank loan, the DGHE introduced the first special competitive grants through the Development of Undergraduate Education (DUE) project, covering all disciplines, courses and study programmes. This project was aimed to advance the educational quality of undergraduate programs. It is targeted at 17 of the least established public HEIs, which had not acquired major investment in the last 5 to 10 years and most of study programs were not ready to arrange and conduct a program autonomously. The funding for universities was granted in the competitive basis according the proposals from universities. The funding was granted under a block-grant contract and the granted HEIs were required to provide institutional matching funds in the amount of 5% of the total grant. The fund was distributed directly to particular account of the institutions, in order to reduce existing bureaucratic structures. Tadjudin (2007) explained the evaluation of DUE project was more complicated then of those in the URGE projects since the evaluation of education project involved much more qualitative performance indicators than the evaluation of research project. In addition, unlike in the evaluation of research project, there are plenty of aspects that should be evaluated in the education project.

Later on, during 1998-2004 the DGHE introduced the second competitive funding program called the Quality for Undergraduate Education (QUE) project that 80% funded by the World Bank loan. Like the DUE project, this project aimed to enhance the undergraduate graduation. However, unlike the DUE project which was only opened for the public HEIs, the QUE project was opened for the private HEIs as well. The QUE project was an open bidding process based on a proposal submitted by a study programme and the merit of proposal was the most essential aspects for success. The main performance indicators of this project covered the area of leadership, relevance, academic atmosphere, institutional management, sustainability, efficiency and productivity (L-RAISE). Each grant valued about US\$ 1.8 million, which was provided for five-year institutional development programs. Nizam (2006) explained that the project was highly competitive and attracted many applicants as illustrated in the table 6 below. Furthermore, he argued that this funding mechanism has been considered as one of the most significant reform in financing HEIs since it give a sense of ownership and direct accountability to the granted institutions.

Table 6: The Quality Undergraduate (QUE) Funding Project

	<b>Pre-proposals submitted</b>	<b>Selected for full proposals</b>	<b>Selected for site visit</b>	<b>Funded</b>
Batch 1 (1998)	317	45	25	16
Batch 2 (1999)	250	51	27	14
Batch 3 (2000)	249	61	26	16

Source: Nizam (2006)

Pursuing the success of the QUE project, the government made the model as a mechanism in transferring its funding to HEIs. As consequences, the government has introduced several other competitive funding scheme, including the DUE-like project, the Semi-QUE project, and Competitive Funding Programme (PHK). These competitive funding schemes are directed to achieve certain targets as measured by performance indicators that have been decided and made by the grantees. The DUE-like project was introduced in 1999. This project was analogues with the DUE project, except in the source of funding that fully finance by the GOI funds. In the same vein, the Semi-QUE project that was launched at the same time with DUE-like project was also wholly funded



by GOI funds. The idea of this project was same with the QUE-project, with more weight to on the entrepreneurship development. Like the QUE project, the GOI used the L-RAISE criteria in selecting proposal process for the funding. Meanwhile, the PHK project was introduced in 2001. This project was also funded by the GOI in order to continue the quality improvement of HEIs. The project was divided into 4 program categories, i.e: PHK-A1 focusing on the advancement of management capacity and organizational health of units involved in running educational programs, PHK-A2 emphasizing on the improvement of internal efficiency at the departmental level, PHK-A3 stressing on the enhancement of the graduates' skills and competences, and PHK-AB focusing on the ability of departments in developing programs that can compete and applicable in global environment.

In addition, the similar competitive funding scheme was also firstly adopted by the Asian Development Bank in the region when the ADB supported the GOI to launch the Technological and Professional Skills Development Project (TPSDP) in 2001. This project used the same evaluation criteria with the QUE project, with new additional criteria including access and equity, making the acronym of the criteria became LA-RAISE. This project mainly aims to improve the relevance of the learning outcomes and advance the professionalism of the graduates. The project was directed to both public and private institutions, except for autonomous universities. The loan from Asian Development Bank (ADB) was contributed about 80% of funding, while the rest came from the GOI (12%) and institutional matching funds from the HEI (8%).

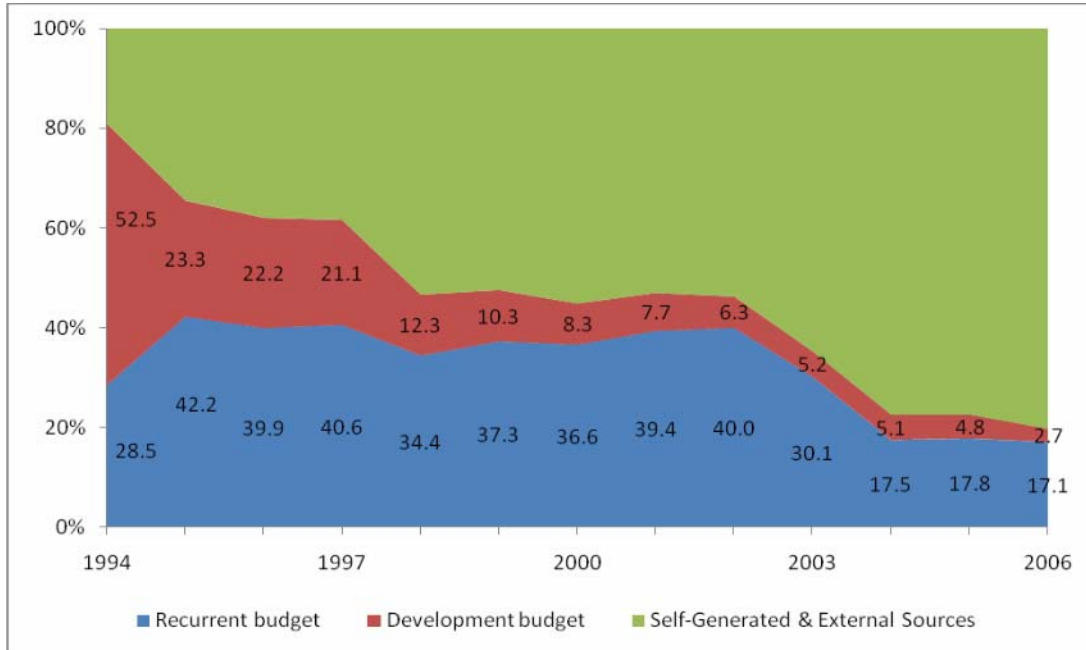
### ***The Reform and Its Impact on Financing: HEI Perspectives***

The Reform, moreover, has brought significant changes in financing mechanism at the HEI level, particularly public HEIs which relied their resources much on the government support. Recent findings show an adverse trend where public HEIs are becoming reliant upon student fees because of the reform. As a result, public universities have responded limited fund by offering professional and vocational programs. In this program, they usually charge higher tuition fees compared to students in academic programs (Welch 2007). In teaching activities, these institutions open new less demanding academic

programs with high tuition fees, and creating new professional and vocational programs. In non-teaching activities, they commercialize institution's infrastructure. These institutions also, as a result of reduced subsidies, increased tuition fee and additional admission fees for regular academic students. For example, in 1998/1999 academic year, tuition fee in the University of Indonesia, one of the HEIs involved in the project, was around Rp 550,000. By 2000/2001 academic year, tuition fee increased almost threefold generally for social sciences. Additional admission fee, even though voluntary, usually is asked in the beginning of academic year, particularly for medical and engineering schools.

In particular case, the impact of financing reform is now strongly felt by HEIs which are involved in the first pilot project of the reform. Those HEIs are *Universitas Indonesia* (UI), *Institut Pertanian Bogor* (IPB), *Universitas Gadjah Mada* (UGM) and *Institut Teknologi Bandung* (ITB). After nearly a decade, these HEIs still seek the best formats and practices. Figure 12 illustrates significant changes in income sources of Universitas Indonesia, one of the most established public HEIs and of HEIs involved in the pilot project. There is a declining trend of the government support to Universitas Indonesia. In 1994, incomes from the government accounted for around 81% (28.5 percent from recurrent budget and 52.5 percent from development budget). In 1999, the trend was reversed; self-generated and external sources begun to replace the government budget which accounted for 46.7 percent of total income. By 2006, income from development budget shrank considerably to only 2.7 percent of the total, meanwhile self-generated and external sources contribution increase to 80.2 %.

Figure 12. Composition of Universitas Indonesia's income sources



Source: Universitas Indonesia dalam Angka 2003

## V. Conclusion

Indonesia's universities have been relatively young in history, although during the last decades we have seen a rapid expansion in higher education sector. However, this development had not been followed by proper long-term planning, vision and good funding mechanism. The universities suffered internal inefficiency, poor initiatives-particularly in research and lack of public accountability. Undoubtedly, these problems have brought negative impacts on quality, efficiency, and relevance of higher education in Indonesia.

Facing these issues, the government through Directorate for General Higher Education (DGHE) has taken major reform in order to improve the quality, efficiency and relevance of higher education in Indonesia. Some key points of the reform are the autonomy of university's governance, funding mechanism, private and public HEIs relationship and curricula content which is set in line with national development context. The reform results considerable challenges for HEIs, particularly regarding financial matters, though it also offers opportunities in the context of independency and autonomy. After a decade

Indonesia's universities still seek the best format and practice for facing challenging in the near future.

## References

- Bray M. And Murray Thomas R (eds) (1998) Financing of Education in Indonesia. Manila: Asian Development Bank.
- Buchori, M. and Malik, A (2004). The evolution of Higher Education in Indonesia in Asian Universities: Historical Perspectives and Contemporary Challenges, pages 249-277, The John Hopkins University Press.
- Davies, Jim (2002). Empirical Evidence on Human Capital Externalities, University of Western Ontario, RBC Financial Group Economic Policy Research Institute Working Papers No 20035
- DGHE (2003). Basic Framework for Higher Education Development KPPTJP IV (2003-2010). Technical Report, Director General of Higher Education Ministry of National Education Republic of Indonesia.
- Fahmi, Mohamad (2007). "Indonesian Higher Education: The Chronicle, Recent Development and the New Legal Entity Universities." *Department of Economics Padjadjaran University, Working Paper in Economics and Development Studies* No.200710 (October).
- International Finance Corporation (2006). Sampoerna Student Financing Facility: Summary of Proposed Investment. Downloaded from <http://www.ifc.org/ifcext/spiwebsite1.nsf/2bc34f011b50ff6e85256a550073ff1c/bfa7100ccf2cdb6f8525719c0055cfcb?opendocument> by June 9, 2008
- Moeliodiharjo, et al (2000), Higher Education Strategy: Implementation of the New Paradigm, background paper for university autonomy.
- Moretti, Enrico (1998). Social Return to Education and Human Capital Externalities: Evidence from Cities, Institute for Research on Labor and Employment Working Papers
- Nizam (2006). "Indonesia: The Need for Higher Education Reform." In *Higher Education in South-East Asia*. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education, 35-68.
- Purwadi, Agung (2001). "Impact of Economic Crisis on Higher Education in Indonesia." In *Impact of the Economic Crisis on Higher Education in East Asia: Countries Experiences*, ed. N.V. Varghese. Paris: IIEP/UNESCO, 61-75.
- Triaswati, N. and Roeslan, F (2003) Senior Secondary Education and Access to Higher Education, Higher Education Sector Study. JBIC-DGHE

Universitas Indonesia (2003) *UI dalam Angka*

Welch, A.R (2006). “Blurred Vision?: Public and Private Higher Education in Indonesia.” *Springer Science + Business Media B.V.* (July).