

Financing Junior Secondary Education in Decentralised Administrative Structures: The Indonesian Example

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Abstract: The decentralisation of educational administration in Indonesia has recently been the focus of much interest throughout the Asia-Pacific region. With its massive population and multi-ethnic social background, Indonesia serves as an interesting example when considering the real impact of decentralized systems on the financing of Junior Secondary Education in developing countries. In this paper, first, the decentralisation scheme and the current financial budgeting system at the school level of junior secondary education in Indonesia are outlined. Second, a quantitative analysis of the unit cost among provinces, districts and schools is detailed. Finally, policy tasks for the further development of decentralised administration will be identified. Even under the former centralised regime, each school or district was operating in a varied way, while it is also true that the process of this diversified financial budgeting was not always a strategic one.

Introduction

The decentralisation of educational administrative systems has been a hot issue in educational policy making, with it being widely believed that decentralisation will lead to greater efficiency in financing. First, a decentralised administrative system can meet the context-sensitive demands that schools and districts face directly. Second, decentralisation will lead to the radical downsizing of bureaucratic systems, especially at the national level. On the other hand, efficiency often comes at the expense of equality; decentralisation may serve to increase the diversity of financial allocation among different provinces, districts, and schools. In other words, decentralisation is accompanied by the risk of ultimately widening the disparity between wealthy and poor areas.

The idea of school choice and education vouchers has strengthened the call for decentralisation. These policies are based on the introduction of the concept of market competition to basic education

(Chubb & Moe, 1990). This line of thinking suggests that if choice among schools or districts is assured to everyone, schools will take extra measures to improve the quality of their education in efforts to attract students. In this situation, the centralised administration system represents a barrier to competition, and therefore to the enhancement of quality and efficiency in education.

Many countries have experimented with the decentralization of the education sector, however it is not yet clear whether decentralised systems make better economic sense than a centralised systems (Eliason, 1996; Kira, 2001; Rodinnelli et.al., 1983). Based on Fiske's (1996) discussion that identified a minimisation of expected negative effects of decentralisation policies, Kira (2001) suggests that the experiences of developed countries such as the US and UK demonstrate the economic merits of the organic combination of decentralised and centralised policies for the enhanced quality of education.

If we apply the idea of decentralisation of education finance to developing countries, the following issues emerge: First, a strong initiative on the part of the central government is often conducive to the realisation of education for all. Japan achieved universal basic education by the public sector under a highly centralised administration system. In Indonesia, it was also a strong central government that contributed to the implementation of compulsory primary education. Second, the private sector may take a significant role in education. In Indonesia, 29.05 % of the junior secondary school students are studying at private institutions¹. In other words, a decentralised administrative structure is not the only alternative to central government control. Third, the limited capacity of and among public institutions leads to their hierarchical stratification, and more importantly, between public and private sectors. The academic, social and economic background of students will be highly differentiated among institutions.

However, the positive effects of the decentralisation of education finance outweigh the drawbacks of the central administrative system. It is a problem common to many developing nations that rural areas continuously suffer from a shortage of teachers. In Indonesia, for example, a satisfactory distribution of teachers has not been realised, because most wish to work in bigger cities like Jakarta or Yogyakarta. Hence, at least in the current situation, the centralised allocation system is not functioning as well as it should, and despite the provision of incentives to teach in rural areas, it has been quite difficult to redress this bias. The decentralisation of recruitment and training of teaching staffs may remedy this unbalance.

When we think about the real impact of the decentralisation of administrative structures to the finance of junior secondary education, Indonesia serves as an interesting among developing countries, with its high population density and multi-ethnic social background. Since the beginning of 2001, a radical scheme for the decentralisation of educational administration has been implemented in this country. At the same time, Indonesia has developed its education system under a highly diversified socio-economic social structure, including regional and ethnical factors. When we think about the transition from a centralised administrative structure to a decentralised one in the developing countries

having attained a certain population level, we should start from the assumption that even a strong government can rarely exert influence in every corner of its territory. Through positive quantitative and qualitative analyses, we should examine Indonesia's current financial structure in order to understand the real implications of recent administrative decentralisation measures.

This paper is divided into two parts. The first part presents a general outline of Indonesia's decentralisation scheme and its current financial budgeting system at the school level of Junior Secondary Education. In the second part, a quantitative analysis of the variety of the unit costs among provinces, districts and schools will be detailed. As conclusive remarks, policy tasks for the further development of the decentralised administrative system of Junior Secondary Education in Indonesia will be identified.

Transition to the Decentralised Administrative System

1.1. Decentralisation of the Financing of Junior Secondary Education in Indonesia

The government of Indonesia commenced the implementation of administrative and financial decentralization in January 2001. The management and finance of basic education was also subject to the same scheme. Prior to decentralisation, three ministries were involved in the operation of basic education: 1) the Ministry of National Education (MONE), responsible for overall planning and the administration of junior secondary schools; 2) the Ministry of Home Affairs (MOHA) and local governments, responsible for the administration of budgets including teachers' salaries, school construction and operating costs and rehabilitation budgets for non-religious primary schools; 3) the Ministry of Religious Affairs (MORA) and their subordinate offices at provincial and district levels, in charge of religious primary and secondary schools (*madrasah*). All of these ministries and bodies also supervised and subsidised private schools, mainly through secondment of government teachers. In the World Bank Report (1998), it was pointed out that operations at the junior secondary level were overly centralised, and that certain responsibilities were overly fragmented among various ministries.

Since January 2001, a major share of the responsibility for administering basic education has been delegated to district governments. District governments are now in charge of managing and financing non-religious primary and junior secondary schools, except for development programs and projects that are still under the control of MONE. The educational budget is no longer earmarked by the national government. Block grants are transferred from the central government, and are allocated to each sector through discussion and negotiation among district parliament (DPRD), government and mayor. MONE's development budget increased from previous years in FY2001, while it is still unclear how MONE's function and development budget will be decentralised. MONE's branch office in *kanwil* province was integrated into *Dinas P&K* (the local government's education office of the provincial government) and will serve a "de-concentrated function" under the new *Dinas P&K*. On the other hand,

kandep at district level has been completely merged with new *Dinas P&K* of district government. MONE's development budget will be implemented in this de-concentrated manner at least during the transitional period. Future plans envision this being integrated with local education planning and financing. MORA's function remains rather centralised, with its branch offices in *kanwil* at the provincial level and *kandep* at the district level, still supervising the religious schools.

The decentralisation of the basic education sector has just begun in Indonesia. Although the overall framework for the change process has been established, detailed designations of authority, responsibility and financing at various levels of government is yet unclear, and many issues remain to be determined in the process.

1.2. The Financial Structure at the School Level

In any budgetary flow, schools struggle to obtain a satisfactory share of both human and material (including financial) resources through negotiation with government. In Indonesia, there is no role for school management concerning the issue of fulltime workers. Extra curriculum is based on the BP3 (the contribution of parent-teacher associations). If parents can afford more, the school can provide more enrichment programmes. However, these activities are not always pertinent when discussing the minimum accessibility to the junior secondary school. Regular operational costs are basically supported by the central government, however this is sometimes not enough to cover essential expenditures. The resources for buildings and renovation come mainly from the development budget, and some from parent contributions. Here, financial management by the school means to set the price for BP3, operate extra curriculum, and to construct new buildings and acquire equipment, sometimes based on their own revenue.

BP3, the parents' contribution to the school, is decided through negotiation between school and parents. In general, the role of school principal is very decisive in deciding funding from BP3. BP3 may be used for employing additional teachers, providing extra curriculum, saving for future construction, or purchasing facilities and equipments. The assessment of BP3 is different among schools, even in the same cities or districts. Naturally, the students poorer face difficulty in paying BP3. In some schools, teachers and parents voluntarily collect small amounts of money for providing BP3 for those students who cannot pay. The scholarship system for targeted groups also increases the accessibility of the students from poor family background.

The routine budget is basically distributed according to the number of students and classrooms. In principle, therefore, schools can expect to get a standardised unit budget. As for the finance for facilities and equipments, especially for the budget for construction of new buildings, priority is established by the regional and central government, as it is not efficient to provide resources equally to all schools.

It is almost impossible for the central government to meet every need of each school. Before

decentralisation, stratified negotiation had occurred between the schools and districts, between districts and provinces, and between provinces and the central government. The devolution of the decision making process will reduce the costs inherent to negotiation.

Box 1: The SLTP-School Budget

- (1) Recurrent budget (routine budget)
 - Salary and overtime teaching
 - Procurement supplies
 - Cost for electricity, water
 - Others (overtime for technical personnel)
- (2) Development budget
 - Salary (Financial Incentives)
 - Construction (New building, new classroom and renovation of existing building)
 - Procurement of equipment and supplies
 - Travel cost
 - Others (counterpart of private donations)
- (3) Parental contribution
 - BP3 (Parental and Private / Community Participation): decided by the school.
- (4) Other income
 - Student organisation, Boy Scouts, Others

2. Quantitative Analyses of the Financial Structure focused on Unit Cost

In order to understand the real impact of decentralisation of the financing of junior secondary education, it is important to comprehend current financial realities, and especially the disparity among provinces, districts, and schools. The unit cost (cost per pupil) is a convenient indicator in understanding this issue. As for school expenditures per student at junior secondary schools, Bray and

Thomas (1998) have already conducted analyses based on school survey data. These authors pointed out a significant variation among regions and schools, and using regression analyses based mainly on school size. However, they did not attempt detailed analyses related to the profiles of provinces; furthermore, the structures within provinces and within districts remain unclear.

In this section, quantitative analyses of unit costs at different levels are reported. First, differences of unit costs among provinces and their explanations will be discussed. Second, the variation of unit costs at the district level will be highlighted through considering the case of Central Java. Finally, the variations within the structure of the financial situation at the school level will be demonstrated by looking at cases of several districts in Central Java.

2.1 The Unit Revenue and Cost of Junior Secondary Education in Indonesia

Robertson (1996) endeavoured to estimate the unit cost based on the 1993/1994 school year for state schools in both primary and secondary education. He noticed that the unit cost of educating a student varies widely among provinces, while there are substantial differences at the local (Kabupaten [district] and Kotamadya [city]) level across Indonesia.

In Indonesia, the data of school finance is available from the statistics division of the Ministry of Education. As Bray et al. (1998) indicated, recent technological developments, especially computer-based information, reduced problems in collecting data. The author analysed the data on SLTPNs (public junior secondary schools), finding that in the 1998/1999 school year, 8,006 cases are available for examination. Table 1 shows the school revenue per student, and Table 2 shows the school expenditure per student.

Table 1: School Revenue per Student (1998/1999)

| Province | Number of students | | Central Government | | | Regional Government | | Other sources | Total revenue (current year) | Central Government | |
|--------------------|--------------------|---------|--------------------|------------------|-------------|---------------------|--------|---------------|------------------------------|--------------------|-------------|
| | of schools | /school | ent /st | Foundati ons /st | Parents /st | ent /st | /st | | | ment (%) | Parents (%) |
| DKI Jakarta | 262 | 950 | 274,280 | 1,138 | 146,967 | 900 | 2,385 | 425,671 | 64.0 | 34.7 | |
| Jawa Barat | 733 | 768 | 223,127 | 224 | 58,059 | 5 | 5,876 | 287,290 | 75.3 | 23.7 | |
| Jawa Tengah | 1,054 | 687 | 225,322 | 453 | 64,761 | 19 | 1,724 | 292,280 | 72.7 | 26.5 | |
| DI Yogyakarta | 191 | 504 | 408,822 | 33 | 43,520 | 23 | 547 | 452,945 | 87.9 | 11.9 | |
| Jawa Timur | 973 | 654 | 250,118 | 284 | 32,497 | 14 | 3,945 | 286,860 | 82.2 | 16.7 | |
| DI Acch | 361 | 381 | 382,267 | 782 | 19,018 | 4 | 11,372 | 413,444 | 89.9 | 8.8 | |
| Smatera Utara | 590 | 512 | 333,996 | 32 | 20,017 | 0 | 3,473 | 357,518 | 90.9 | 8.4 | |
| Sumatera Barat | 333 | 500 | 388,797 | 29 | 37,590 | 1 | 4,585 | 431,001 | 87.6 | 11.7 | |
| Riau | 201 | 427 | 352,714 | 2,288 | 48,561 | 149 | 3,424 | 407,136 | 84.8 | 14.1 | |
| Jambi | 193 | 347 | 349,845 | 82 | 10,873 | 103 | 392 | 361,295 | 94.8 | 4.9 | |
| Sumatera Selatan | 287 | 558 | 200,591 | 590 | 44,318 | 0 | 1,227 | 246,726 | 75.6 | 23.8 | |
| Lampung | 214 | 576 | 248,818 | 740 | 36,638 | 0 | 2,455 | 288,652 | 80.1 | 19.3 | |
| Kalimantan | 192 | 374 | 261,733 | 70 | 23,602 | 163 | 884 | 286,452 | 86.9 | 12.5 | |
| Karimantan Tengah | 36 | 282 | 253,284 | 0 | 14,257 | 0 | 1,575 | 269,116 | 93.1 | 6.1 | |
| Karimantan Selatan | 230 | 265 | 556,143 | 1,867 | 31,940 | 1 | 1,616 | 591,567 | 89.8 | 9.4 | |
| Karimantan Timur | 104 | 483 | 290,559 | 624 | 77,098 | 261 | 684 | 369,227 | 75.8 | 23.7 | |
| Sulawesi Utara | 233 | 310 | 522,282 | 154 | 23,677 | 143 | 779 | 547,035 | 92.6 | 7.0 | |
| Sulawesi Tengah | 152 | 305 | 441,771 | 2,960 | 15,456 | 0 | 385 | 460,571 | 95.0 | 4.3 | |
| Sulawesi Sclatan | 520 | 404 | 430,429 | 2,005 | 23,612 | 0 | 7,795 | 463,841 | 90.6 | 8.0 | |
| Sulawesi Tenggara | 140 | 340 | 428,694 | 3,362 | 8,489 | 0 | 425 | 440,970 | 96.7 | 2.5 | |
| Maluku | 136 | 409 | 441,910 | 53 | 14,993 | 0 | 10,293 | 467,248 | 92.8 | 6.8 | |
| Bali | 150 | 608 | 380,937 | 32 | 42,135 | 132 | 7,051 | 430,287 | 83.5 | 15.6 | |
| NTB | 186 | 575 | 313,557 | 211 | 26,497 | 0 | 789 | 341,054 | 90.7 | 9.1 | |
| NTT | 170 | 396 | 360,454 | 175 | 17,926 | 64 | 1,691 | 380,309 | 91.7 | 7.8 | |
| Irian Jaya | 156 | 315 | 656,202 | 1,003 | 20,752 | 0 | 740 | 678,697 | 92.3 | 7.2 | |
| Bengkulu | 132 | 418 | 289,261 | 66 | 40,586 | 0 | 1,096 | 331,009 | 85.9 | 13.8 | |
| Timor Timur | 77 | 310 | 449,614 | 0 | 16,056 | 0 | 15,271 | 480,941 | 92.3 | 5.0 | |
| total | 8,006 | 541 | 326,043 | 636 | 40,067 | 57 | 3,668 | 370,470 | 83.7 | 15.4 | |

Table 2: School Expenditure per Student (1998/1999)

| Province | Number of schools | Number of students / school | Teacher Salary and Welfare | | | Maintenance & Learning Process | | | Procurement of educational facilities & extracurricular activities | | | Clerical and administrative | | | Total expenditure /st | Salary and Welfare | | |
|--------------------|-------------------|-----------------------------|----------------------------|-----------|------------------------|--------------------------------|----------------|--------------------|--|---------------------|---------------|-----------------------------|------------|-------------|-----------------------|--------------------|-------------|--|
| | | | Welfare /st | Staff /st | Non-Teaching Staff (%) | Teaching Process /st | Facilities /st | Rehabilitation /st | Infrastructure /st | Extracurricular /st | Utilities /st | activities /st | Others /st | Welfare (%) | | Teaching Staff (%) | Welfare (%) | |
| DKI Jakarta | 262 | 950 | 260,240 | 63,700 | 47,605 | 11,155 | 3,017 | 10,575 | 7,286 | 4,541 | 3,046 | 8,181 | 419,347 | 61.7 | 15.3 | 77.0 | | |
| Jawa Barat | 733 | 768 | 178,531 | 38,420 | 29,417 | 14,709 | 4,584 | 10,807 | 3,462 | 2,112 | 3,727 | 4,430 | 290,200 | 59.4 | 13.2 | 72.6 | | |
| Jawa Tengah | 1,054 | 687 | 187,509 | 36,347 | 28,021 | 12,811 | 4,058 | 10,739 | 3,417 | 2,516 | 3,485 | 10,295 | 299,197 | 60.6 | 12.0 | 72.6 | | |
| DI Yogyakarta | 191 | 504 | 317,967 | 67,129 | 33,322 | 12,849 | 3,551 | 10,120 | 2,505 | 1,575 | 2,771 | 7,421 | 459,210 | 67.4 | 14.4 | 81.8 | | |
| Jawa Timur | 973 | 654 | 199,510 | 34,500 | 25,274 | 12,895 | 3,274 | 12,512 | 3,204 | 2,730 | 2,272 | 4,757 | 300,930 | 64.7 | 10.9 | 75.7 | | |
| DI Acch | 361 | 381 | 304,885 | 40,029 | 23,625 | 14,269 | 3,753 | 8,277 | 2,572 | 2,423 | 2,591 | 4,588 | 407,012 | 71.5 | 9.4 | 80.9 | | |
| Sumatera Utara | 590 | 512 | 262,358 | 31,202 | 37,239 | 20,638 | 2,547 | 6,198 | 1,744 | 1,315 | 1,738 | 1,822 | 366,802 | 70.7 | 8.8 | 79.5 | | |
| Sumatera Barat | 333 | 500 | 341,057 | 37,483 | 26,998 | 13,853 | 2,072 | 11,168 | 2,696 | 3,085 | 1,995 | 6,831 | 447,237 | 75.3 | 8.3 | 83.6 | | |
| Riau | 201 | 427 | 278,511 | 43,705 | 34,253 | 16,946 | 2,446 | 10,628 | 3,283 | 1,447 | 2,922 | 6,883 | 401,025 | 67.5 | 10.9 | 78.3 | | |
| Jambi | 193 | 347 | 264,609 | 37,215 | 31,437 | 16,583 | 2,474 | 10,210 | 2,023 | 1,009 | 2,356 | 2,335 | 370,250 | 69.2 | 9.2 | 78.4 | | |
| Sumatera Selatan | 287 | 558 | 180,054 | 28,910 | 24,184 | 12,944 | 2,129 | 9,168 | 2,346 | 1,245 | 2,244 | 4,541 | 267,764 | 66.0 | 10.8 | 76.9 | | |
| Lampung | 214 | 576 | 207,886 | 27,080 | 27,253 | 10,323 | 1,921 | 8,514 | 2,665 | 1,580 | 2,038 | 2,357 | 291,618 | 68.4 | 8.9 | 77.2 | | |
| Kalimantan | 192 | 374 | 202,393 | 31,882 | 29,257 | 14,981 | 1,867 | 9,428 | 2,663 | 1,414 | 2,648 | 2,743 | 299,277 | 64.2 | 9.9 | 74.1 | | |
| Karimantan Selatan | 230 | 265 | 427,516 | 69,772 | 38,750 | 24,167 | 1,924 | 19,862 | 3,761 | 3,520 | 3,725 | 5,934 | 598,931 | 67.2 | 11.3 | 78.5 | | |
| Karimantan Timur | 104 | 483 | 232,980 | 36,417 | 27,446 | 20,035 | 6,125 | 14,578 | 4,864 | 2,999 | 5,081 | 8,840 | 359,365 | 62.8 | 10.2 | 73.0 | | |
| Sulawesi Utara | 233 | 310 | 438,142 | 44,016 | 38,945 | 23,491 | 2,306 | 14,801 | 4,453 | 2,573 | 3,672 | 14,144 | 586,543 | 72.3 | 7.8 | 80.2 | | |
| Sulawesi Tengah | 152 | 305 | 314,147 | 46,232 | 30,741 | 16,871 | 1,772 | 10,652 | 2,274 | 1,450 | 2,380 | 3,570 | 430,088 | 69.7 | 10.4 | 80.1 | | |
| Sulawesi Selatan | 520 | 404 | 343,049 | 56,545 | 28,855 | 16,914 | 2,339 | 10,791 | 3,384 | 1,783 | 2,418 | 3,578 | 469,656 | 70.7 | 11.6 | 82.3 | | |
| Sulawesi Tenggara | 140 | 340 | 296,204 | 59,926 | 37,342 | 14,205 | 5,278 | 7,447 | 2,975 | 831 | 1,860 | 2,047 | 428,114 | 66.5 | 12.7 | 79.2 | | |
| Maluku | 136 | 409 | 307,459 | 47,626 | 34,974 | 18,901 | 11,590 | 11,721 | 3,632 | 1,730 | 3,909 | 3,873 | 445,414 | 66.6 | 8.9 | 75.5 | | |
| Bali | 150 | 608 | 294,460 | 57,153 | 26,823 | 12,670 | 4,919 | 9,295 | 5,003 | 2,223 | 2,240 | 5,559 | 420,346 | 66.2 | 13.3 | 79.5 | | |
| NTB | 186 | 575 | 236,825 | 39,782 | 30,571 | 13,048 | 1,146 | 8,737 | 2,017 | 1,658 | 1,809 | 3,873 | 339,465 | 68.2 | 11.7 | 79.8 | | |
| NTT | 170 | 396 | 260,095 | 39,058 | 38,956 | 15,237 | 1,808 | 9,657 | 1,991 | 2,087 | 2,868 | 3,671 | 375,428 | 67.3 | 8.4 | 75.8 | | |
| Irian Jaya | 156 | 315 | 487,767 | 103,315 | 36,946 | 22,731 | 7,487 | 21,141 | 3,455 | 2,838 | 5,002 | 7,042 | 697,725 | 68.7 | 13.1 | 81.8 | | |
| Bengkulu | 132 | 418 | 216,129 | 30,199 | 23,638 | 15,778 | 2,128 | 11,175 | 3,233 | 1,635 | 3,236 | 3,119 | 310,270 | 67.3 | 10.3 | 77.6 | | |
| Timor Timur | 77 | 310 | 346,271 | 98,277 | 24,939 | 19,315 | 2,321 | 13,356 | 1,972 | 2,588 | 2,619 | 3,367 | 515,025 | 66.9 | 16.8 | 83.6 | | |
| total | 8,006 | 541 | 258,659 | 43,440 | 30,482 | 15,379 | 3,317 | 10,887 | 3,171 | 2,197 | 2,820 | 5,543 | 375,896 | 66.0 | 11.3 | 77.3 | | |

The share of parental contribution varies among provinces. For example, in DKI Jakarta, it is 34.8%, while in Sulawesi Tenggara, it is only 2.3%. As for expenditure, salary and welfare for teaching and non-teaching staff amounts to 77.3% in national average. The variance among provinces is relatively small.

There are great differences in the educational expenditure per student, with the highest unit costs found in Irianjaya (Rp. 697,288), and the lowest in Sumatera Selatan (Rp. 270.150). The unit cost of Irianjaya is about 2.5 times as high as that of Sumatera Selatan. The data also suggests that the bigger cities are not ranked at the highest level. It is not easy to find out a logical determinant for the differences of unit costs among provinces.

Box 2: Factors for multiple-regression

- **Number of the students:** This shows the impact of economies of scale. In general, the more students a school has, the less the average unit cost is. This is mainly because of the gradual diminution of the marginal cost. Even a school with a small number of students has to have its own buildings, facilities and a set of teachers who can cover all the subjects required.
- **The NEM standards the school require for the entrance:** *Nilai Ebtanas Murni* (NEM) is the standardised national examination for graduation from primary and secondary schools (Departmen Pendidikan Dan Kebudayaan 1996). As Indonesian junior secondary education does not have a school district system, students can choose the school to which they apply. Some of the junior secondary schools make use of NEM scores at the end of primary education as the minimum requirement for enrolment, in order to limit the number of students they enrol. Therefore, the required score of the NEM indicates the prestige of a school and its strength in the market. If a school is prestigious, it is possible for them to raise the standard of BP3, because they can attract enough applicants. Sometimes, it is also advantageous in getting more allocation from government, because these schools can demonstrate their quality and performance to the regional and central governments.
- **Per Capita Gross Regional Domestic Product (by province, without oil and gas):** This shows the wealth of regions. This may influence the BP3 and some expenditures, because of the difference of income and consumer prices.
- **Enrolment rate (by province):** The enrolment rate shows the degree for achieving compulsory education. It is expected to have an influence on the average price for BP3, because the higher enrolment rate means that even economically disadvantaged group are involved in payment. At the same time, the unit cost may rise in the final stage for achieving high enrolment rate, because schools have to be constructed in frontier areas or areas with difficulties of other natures.

Table 3: Multiple Regression Analysis for Revenue per Student (1998/1999)

| | Central Government | Parents | Total Revenue |
|-----------------------------------|--------------------|---------|---------------|
| adj R square | 0.138 | 0.280 | 0.107 |
| Number of students | -0.391 | 0.291 | -0.335 |
| Gross Regional Product per capita | 0.118 | 0.299 | 0.170 |
| NEM standard for employment | 0.079 | 0.044 | 0.086 |
| Participation Rate | -0.051 | 0.102 | -0.033 |

All variables are significant at .01 level

2.2. Factors influencing revenue

Multiple-regression analyses are useful in understanding the factors that influence unit costs. In general, school expenditure is decided by the revenue that a school can access. As there is no limitation for the financial demand for improving the quality of education, a school tends to spend all the money it can use. There are two main resources for public schools, one being the budgetary allocation from central government, the other parental contribution. Table 3 shows the results of multiple regression analyses for public junior secondary schools in Indonesia.

Four variables as follows were used for the analyses:

The findings from the multiple regression analyses shown in Table 3 are shown as follows:

- *Revenue from the central government:* While the score of the adjusted R-square is relatively low, all the four factors are significant. The negative correlation with school size shows the strong economies of scale when we consider the public investment. The NEM standard for the enrolment shows a small impact. This means that the prestige in a market has relatively small impact for getting public aid. The economic factor is also significant and has a limited impact. Enrolment rate shows negative impact.
- *Revenue from parental contribution:* While the number of factors is limited, the score of the adjusted R-square is relatively high (.280) in this kind of analysis. The result shows regional economic factors and school size are important. In this case, the school size shows the possibility to attract enough number of students in a school market. This means that the deregulation of school finances may lead widen the financial disparity between wealthy regions and deprived regions. At the same time, it also suggests that the schools with strong market power tend to expand their

capacity, and at the same time raise the BP3. However, prestigious schools with high NEM standards for enrolment also tend to obtain slightly larger parental contributions.

- *Total revenue:* The structure of total revenue is shown as a mixed outcome from the two main sources; i.e. revenue from central government and parental contribution. The fact that bigger schools experience smaller unit costs offsets the economic gap between the regions, because the average school size tend to be larger in bigger cities area like Jakarta.

2.3 Financial Structure in Central Java

The Interim Report of REDIP (1999) ranks Central Java somewhat above average among all Indonesian provinces. In Central Java, 73.9% of the students are enrolled in MOEC junior secondary schools. The reason why Central Java is selected here is so that we can avoid some cultural and ethnic issues that should be considered in some regions of Indonesia².

Figure 1 shows the average educational expenditure and school size in different districts. This indicates the difficulty in finding some consistent structure among districts. Figure 2 shows the school level distribution. This also suggests that it is not easy to find a coherent structure.

Figure 1: Average Unit Cost by District in Central Java (1998/1999)

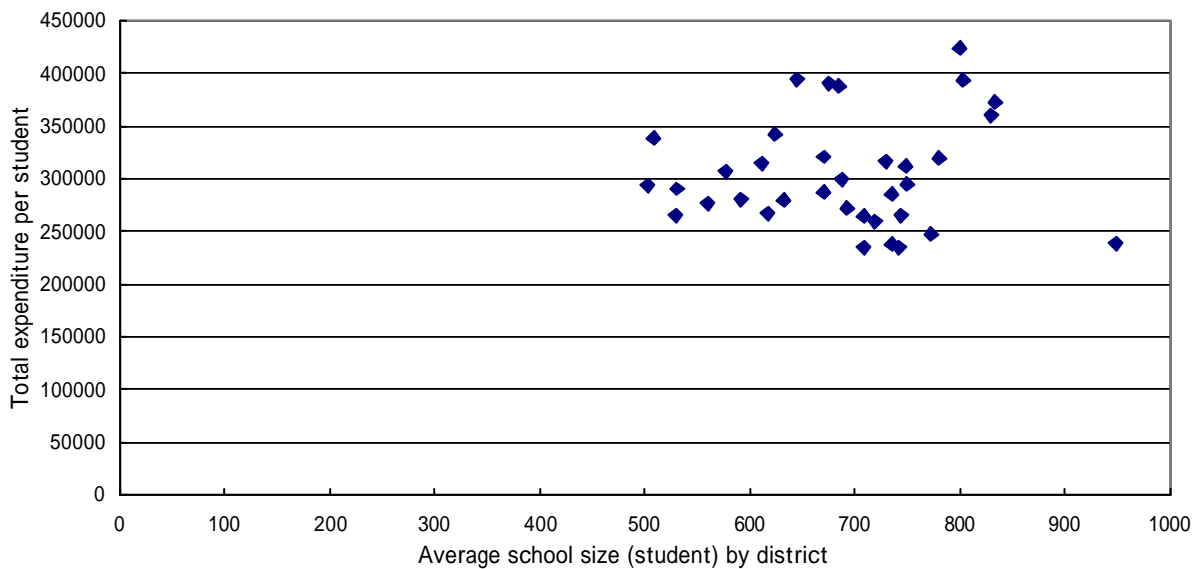
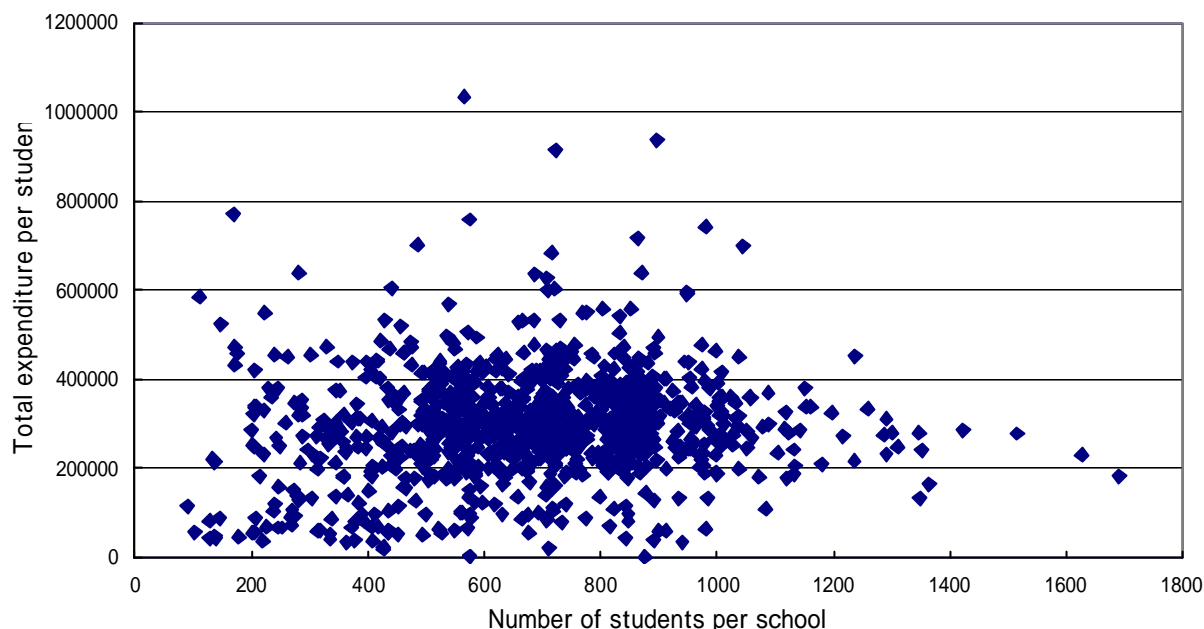


Figure 2: Unit Cost by School in Central Java (1998/1999)



Investigating data at the district level, there are various structures in different districts. Out of 34 districts in Central Java, four cases are shown as typical examples in Figure 3-a-1 to Figure 3-d-3.

In Case A and B, the revenue from central government per student indicates unit revenue has a negative correlation with school size. In Case A, parental contribution is greater at larger schools; therefore the total expenditure yields a mixed structure of those two factors. In Case B, however, the amount of parental contribution is obviously standardised by the control of district.³ Therefore, the compensation effect of the public revenue in Case B remains almost as it is in the total expenditure. Case C shows more random variation in central government revenues, as parental contribution here is standardised.

Case D is opposite to the rest of the cases. The revenue from the central government per student is relatively high in larger schools, while parental contribution is not standardised. Therefore, again, the larger school with stronger market power receives higher BP3. The figure of total expenditure clearly shows that there exist economically advantaged schools and disadvantaged schools. In this case, some policy intervention appears to be necessary in order to assure egalitarian financial conditions.

Figure 3-a-1 Case A: Revenue from Central Government per Student

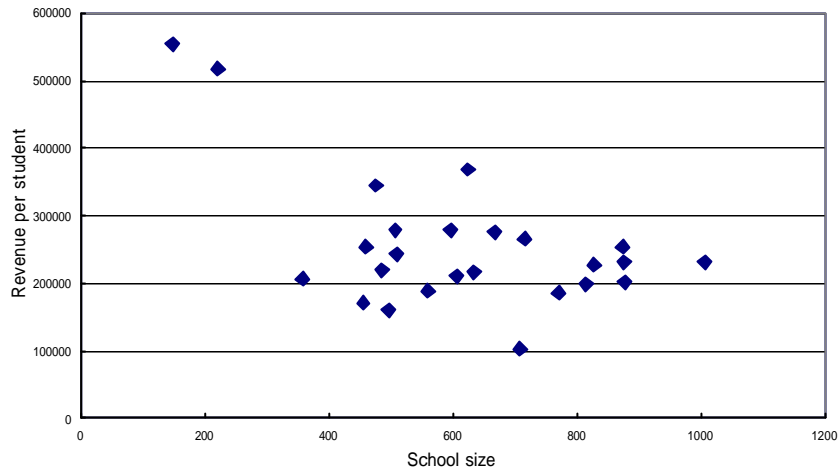


Figure 3-a-2 Case A: Parental Contribution per Student

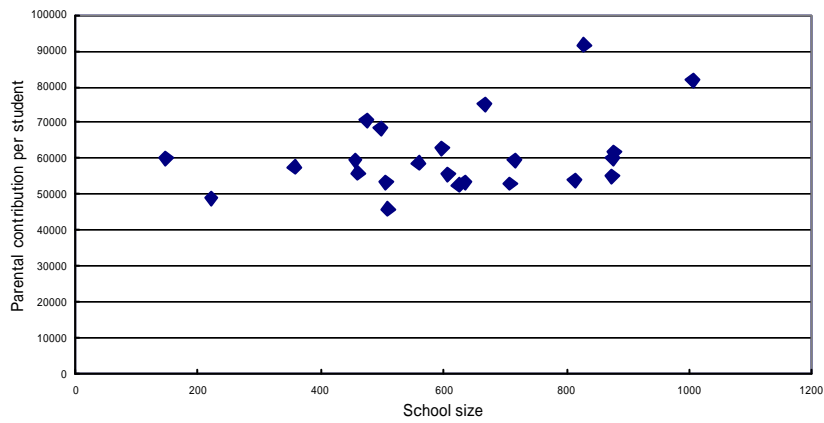


Figure 3-a-3 Case A: Total Expenditure per Student

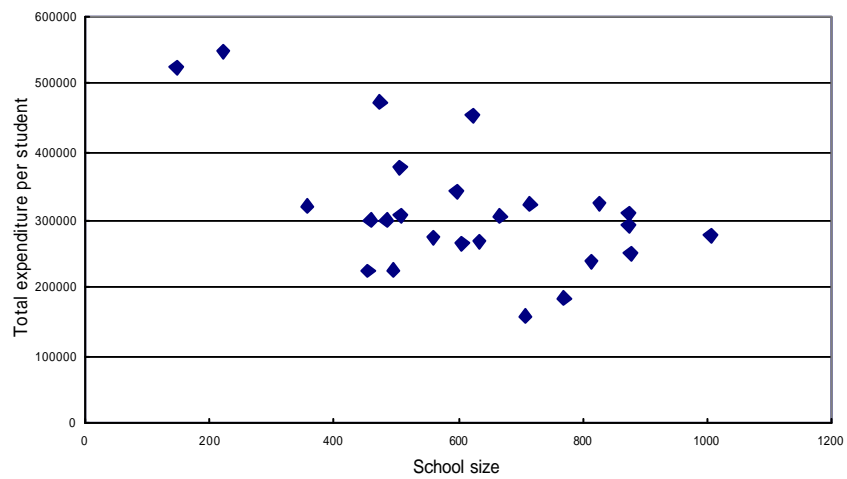


Figure 3-b-1 Case B: Revenue from Central Government per Student

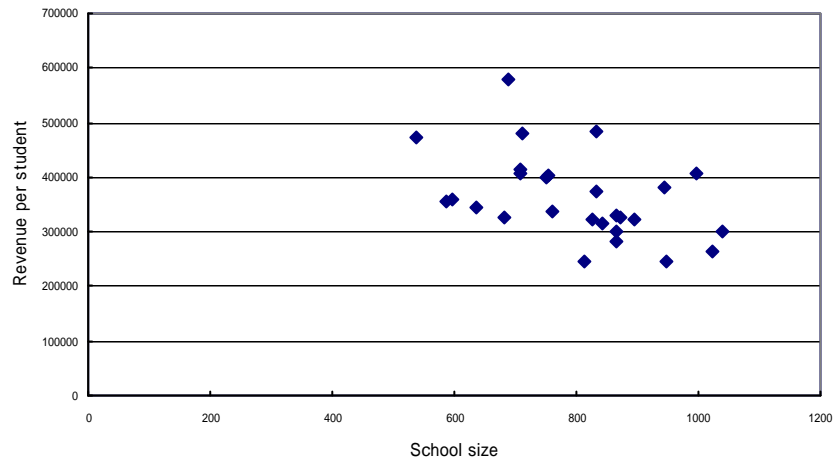


Figure 3-b-2 Case B: Parental Contribution per Student

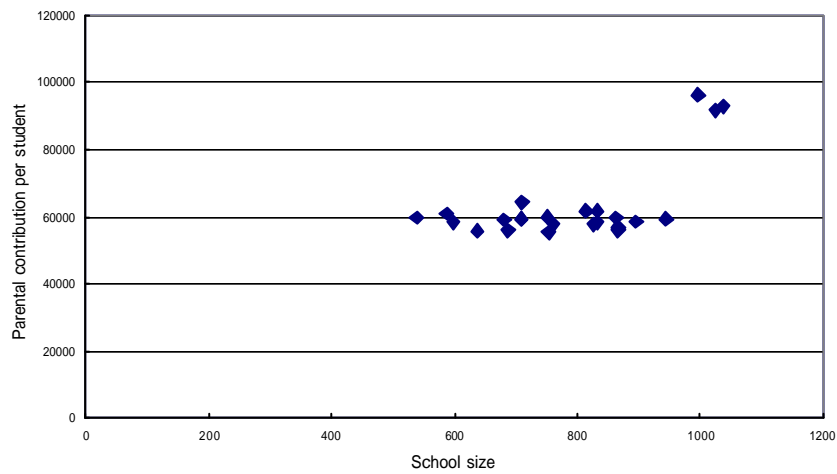


Figure 3-b-3 Case B: Total Expenditure per Student

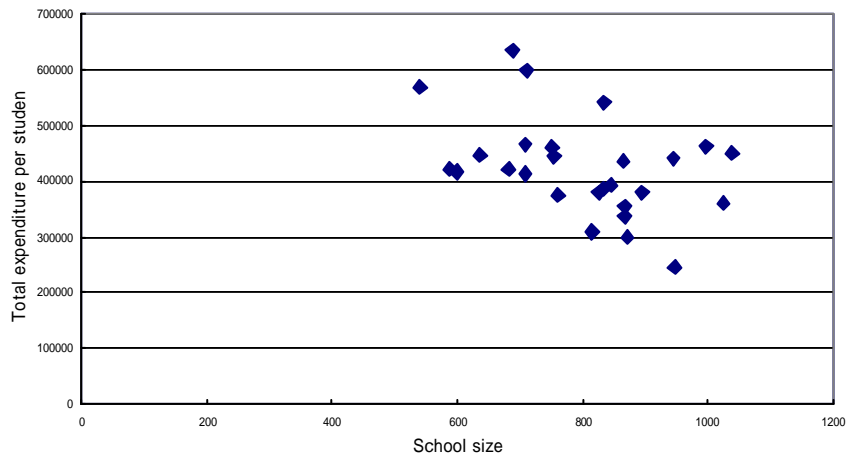


Figure 3-c-1 Case C: Revenue from Central Government per Student

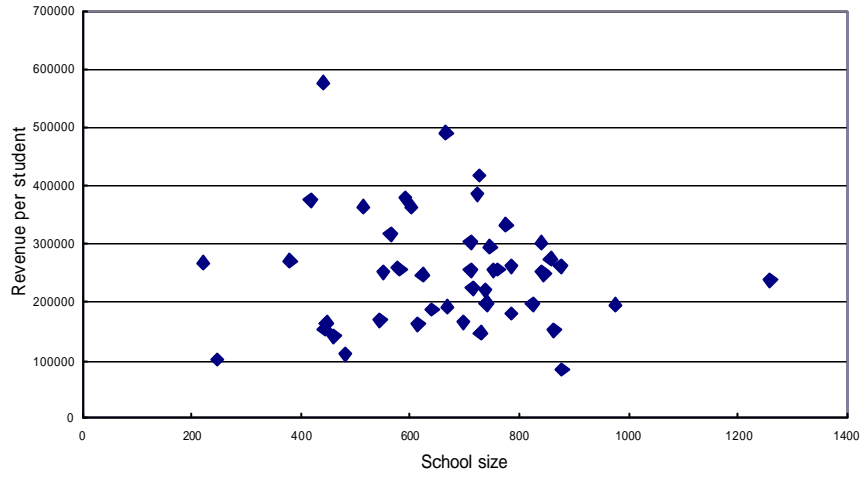


Figure 3-c-2 Case C: Parental Contribution per Student

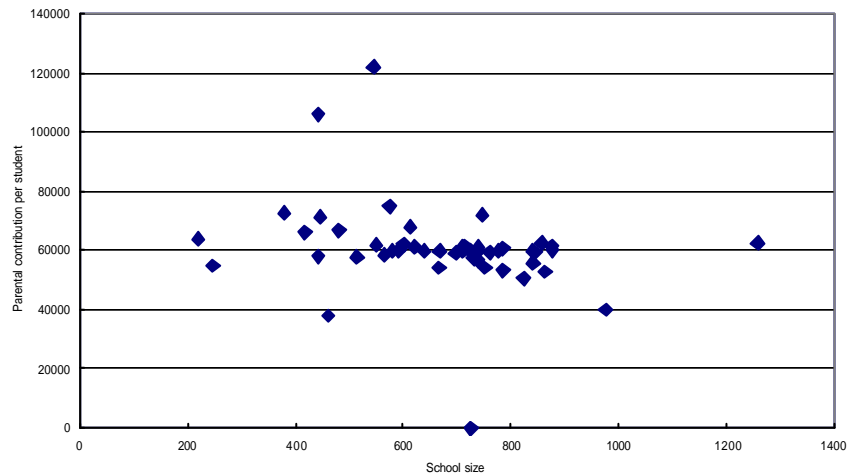


Figure 3-c-3 Case C: Total Expenditure per Student

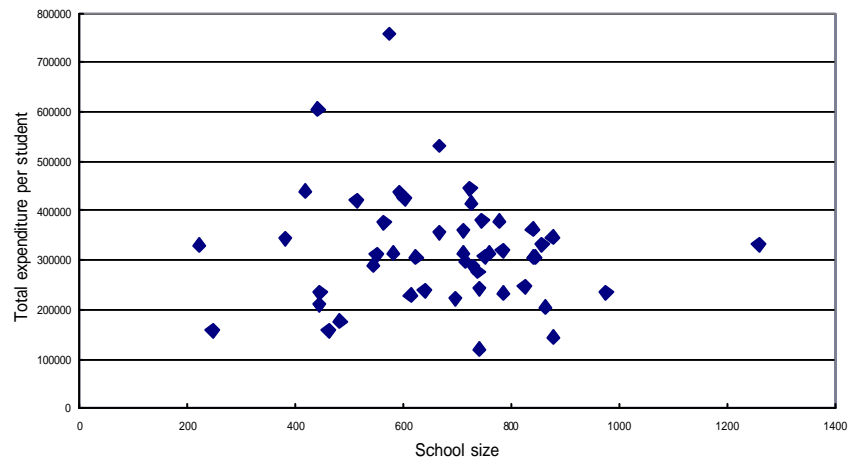


Figure 3-d-1 Case D: Revenue from Central Government per Student

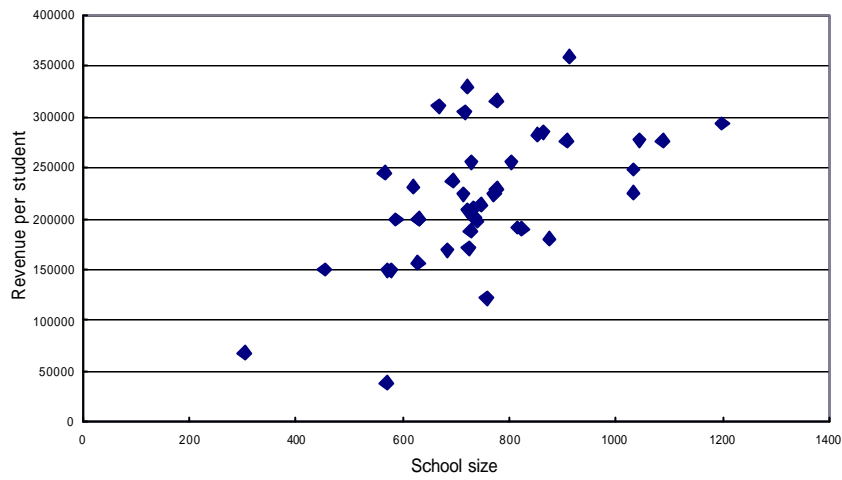


Figure 3-d-2 Case D: Parental Contribution per Student

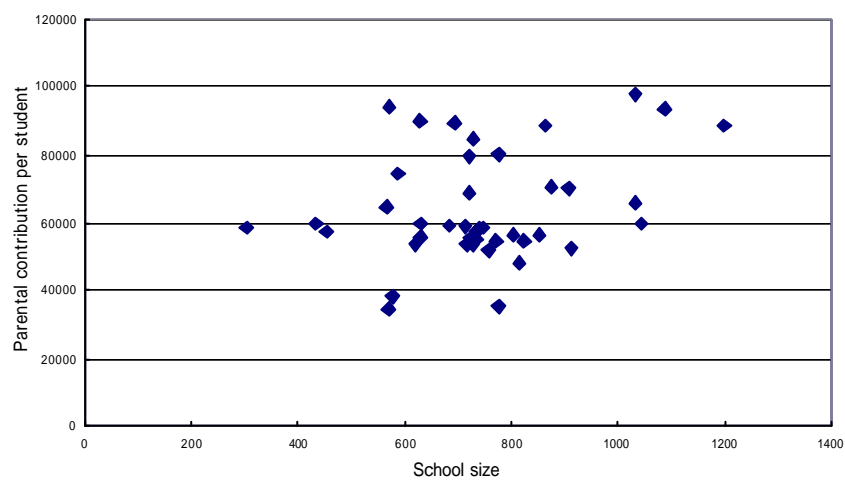
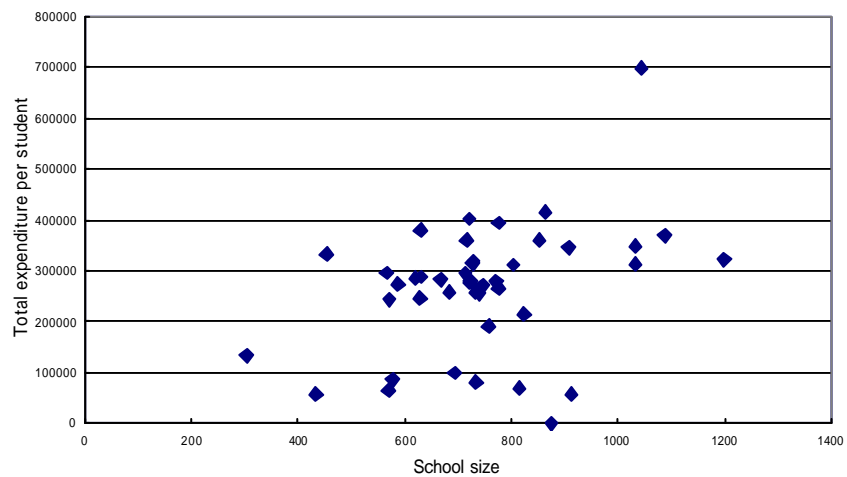


Figure 3-d-3 Case D: Total Expenditure per Student



Conclusions

In order for the process of decentralisation to be meaningful, its real meaning and impact has to be well considered and discussed. An analysis of the actual situation of Indonesian junior secondary education suggests that there is great disparity among provinces, districts and schools concerning financial situations. Even under the former centralised regime, each school or district was operating itself in a varied way, while it is also true that the process of diversified financial budgeting was not always a strategic one.

In reality, it is not easy for current districts to operate school systems effectively, because of the lack of proper knowledge and experience in strategic management. The central government and provinces still have a responsibility to disseminate ideas and knowledge of the desirable school and regional finance. An assessment and audit system is also necessary to assure the transparency of educational administration. For those tasks, further and continuous analysis of school finance is necessary. The analyses discussed in this paper are limited to the public sector. If we consider the private sector, an analysis of BP3 will demonstrate that an increase of private contributions to school finances will further underscore economic stratification and regional difference. The decentralisation of school financing will also diversify the regional differences. In light of these facts, it becomes clear that the function of the central government to adjust the regional equality has to be strengthened under the new system.

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¹Departmen Pendidikan Nasional Republik Indnesia, *Statistik dan Indikator Pendidikan* (http://www.depdi knas.go.id/statistik/dikmen/sltip/SLTP_tab-01.htm)

² As for detailed information on this province, see the reports of REDIP. As for detailed information of the educational budget before decentralisation in Central Java, see Departmen Pendidikan Nasional Kantor Wilayah Propensi Jawa Tengah (2000).

Figure 2: Unit Cost by School in Central Java (1998/1999)

³ An interview survey by the author with an administrator of a district in Central Java in March 2001 suggests that some districts regulate the price of BP3 in order to assure equality of access.