



# Assessing the Role of the School Operational Grant Program (BOS) in Improving Education Outcomes in Indonesia

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Report No: AUS4133

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The World Bank Office Jakarta  
 Indonesia Stock Exchange Building, Tower II, 12th floor  
 Jl. Jend. Sudirman Kav. 52-53  
 Jakarta 12190  
 Tel : (+6221) 5299-3000  
 Fax : (+6221) 5299-3111  
<http://www.worldbank.org/id>

Published in December 2014

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The work is funded by the Government of the Kingdom of the Netherlands under the Dutch Education Support Program (DESP) Trust Fund. DESP provides support to the Government of Indonesia through the World Bank for the purpose of developing policies, studies, and programs that help the government achieve its education strategic plan.

For any questions regarding this report, please contact Samer Al-Samarrai ([salsamarrai@worldbank.org](mailto:salsamarrai@worldbank.org))

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## Acknowledgements

The team is grateful to officials and staff in the Ministry of Education and Culture for their overall support of this study. Special thanks go to Pak Taufik Hanafi (Expert Staff for Social Economy, Ministry of Education and Culture) for his support in the overall study. We are also grateful to Pak Didik Suhardi (Director General Basic Education, Ministry of Education and Culture) for his helpful comments and suggestions in a seminar on the report held at the Ministry.

The core team responsible for the content of the report included Samer Al-Samarrai (Task Team Leader, Senior Economist, GEDDR), Tazeen Fasih (Chapter 3, Senior Economist, GEDDR), Amer Hasan (Chapter 2, Economist, GEDDR) and Daim Syukriyah (Consultant, GEDDR). Ratna Kesuma (Senior Operations Officer, GEDDR), Muhammad Farman Izhar (Operations Officer, GEDDR), Nur Hidayat (Consultant, GSPDR) and Santoso (Consultant, GEDDR) provided useful insights, advice and information on the BOS program. The graph design and layout work was done by Yvonne Armanto.

The peer reviewers for the report were Sachiko Kataoka (Senior Economist, GEDDR), Dina Abu Ghaida (Senior Economist, GEDDR) and Budi Susetyo (ADB Education Advisor). The team is also grateful for helpful comments and reviews of the report from Susiana Iskandar (Senior Education Specialist, GEDDR) and Andy Ragatz (Senior Education Specialist, GEDDR).

The analytical work was generously supported by the Dutch Education Support Trust Fund.

## Abbreviations

<b>Abbreviation</b>	<b>Indonesian (Bahasa)</b>	<b>English</b>
ACDP	Kemitraan di bidang Pengembangan Kapasitas dan Analisis	<i>Analytical and Capacity Development Partnership</i>
ADB	Bank Pembangunan Asia	<i>Asian Development Bank</i>
AusAID	Badan Kerjasama Pembangunan Internasional Australia	<i>Australian Agency for International Development</i>
AusaAID-ERF	Badan Kerjasama Pembangunan Internasional Australia – Fasilitas Sumberdaya Pendidikan	<i>Australian Agency for International Development – Education Resource Facility</i>
BKM	Bantuan Khusus Murid	<i>Special Student Assistance</i>
BOS	Bantuan Operasional Sekolah	<i>School Operational Assistance (Provided by the Central Government) / National School Grants</i>
BOSDA	Bantuan Operasional Sekolah Daerah	<i>BOS Supplementary Funding / Local School Grants</i>
BPS	Badan Pusat Statistik	<i>Central Bureau of Statistics</i>
BSM	Beasiswa Siswa Miskin	<i>National scholarship for the Poor</i>
BSNP	Badan Standar Nasional Pendidikan	<i>National Education Standard Board</i>
ECED	Pendidikan dan Pengembangan Anak Usia Dini	<i>Early Childhood Education and Development</i>
ICT	Teknologi Informasi dan Komunikasi (TIK)	<i>Information and Communication Technologies</i>
IDR	Rupiah	<i>Indonesian Rupiah</i>
IES	Standar Internasional Pendidikan	<i>International Education Standards</i>
IT	Teknologi Informasi	<i>Information Technology</i>
KIP	Kartu Indonesia Pintar	<i>Indonesian Smart Card</i>

LKS	Lembar Kerja Siswa	<i>Student Worksheet</i>
MoEC	Kementerian Pendidikan dan Kebudayaan	<i>Ministry of Education and Culture</i>
MoF	Kementerian Keuangan	<i>Ministry of Finance</i>
MSS	Standar Pelayanan Minimum Pendidikan	<i>Minimum Service Standards</i>
NES	Standar Nasional Pendidikan	<i>National Education Standards</i>
NUPTK	Nomor Unik Pendidik dan Tenaga Kependidikan	<i>Unique Identification Number for Teachers and Teaching Personnel</i>
OECD	Organisasi untuk Kerjasama Ekonomi dan Pembangunan	<i>Organization for Economic Cooperation and Development</i>
OLS	Simulasi Regresi Linier	<i>Ordinary Least Squares</i>
PISA	Program Penilaian Pelajar Antarbangsa/ Internasional	<i>Programme for International Student Assessment</i>
RCT	Pengujian Acak Terkendali	<i>Randomized Controlled Trials</i>
SBM	Manajemen Berbasis Sekolah	<i>School Based Management</i>
SC	Komite Sekolah	<i>School Committee</i>
SD	Sekolah Dasar	<i>Primary School</i>
SMP	Sekolah Menengah Pertama	<i>Junior Secondary School</i>
SPP	Sumbangan Penyelenggaraan Pendidikan	<i>Educational Management Contribution; tuition fee</i>
SUSENAS	Survei Sosial Ekonomi Nasional	<i>National Socio-economic Survey</i>
TIMSS	Studi Internasional tentang Matematika dan Ilmu Pengetahuan Alam	<i>Trends in International Mathematics and Science Study (TIMSS)</i>

## Executive Summary



**The Indonesian school grants program (*Bantuan Operasional Sekolah - BOS*) is coming to the end of its first decade of operation.** Over that period, the program has been continually improved and channeled ever larger amounts of funding directly to primary and junior secondary schools. Its success in delivering operational funding to schools has been replicated in other parts of the systems and by many local governments. By 2014, all levels of the education system from ECED to tertiary have a ‘BOS’ type program and around a third of all local governments implement similar programs.

**The purpose of the report is to assess whether the program has succeeded in contributing to expanded education access and improved quality.** This executive summary outlines the main findings from the analysis undertaken in the report and outlines the main policy suggestions that arise from these findings.

### Improving education through the use of school grants

**Education policy makers have increasingly recognized the importance of empowering schools to make their own decisions in the quest to improve education outcomes.** Many countries have recognized that schools themselves are often in a better position than central government agencies to make effective decisions on some aspects of teaching and learning. This recognition has led to many countries introducing school based management reforms that aim to provide schools, and the communities they serve, with greater autonomy over their own affairs. These reforms have also supported stronger school accountability through the establishment of more inclusive school governing arrangements that include parents and the wider local community.

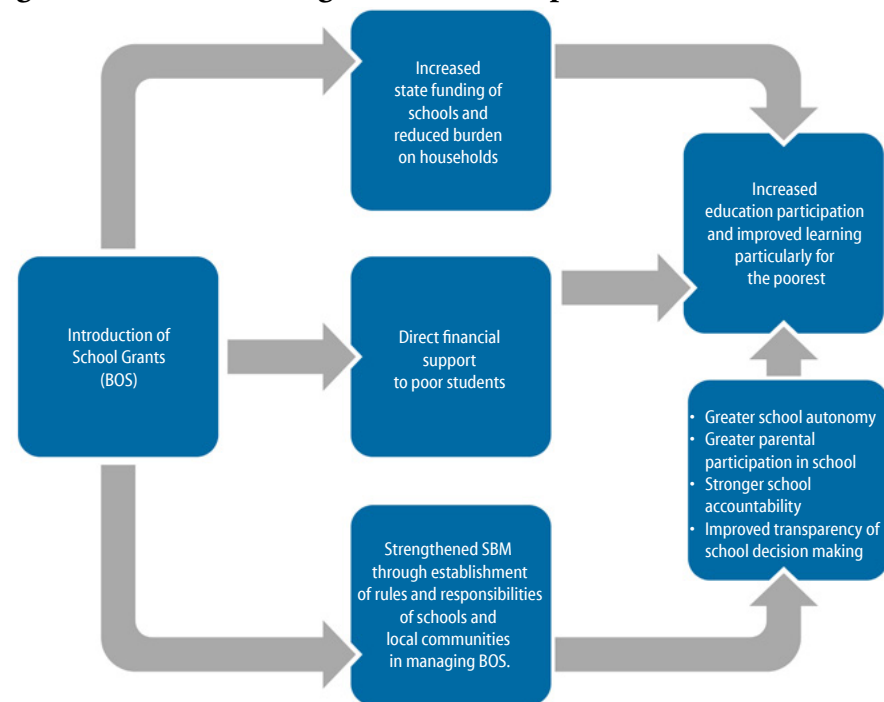
**The focus on school based management has usually gone hand-in-hand with direct funding to schools to support improvement.** Funding of this kind differs from regular public funding of schools as it gives the school a degree of discretion on how the funds are spent. It also provides schools with a predictable income stream which has greatly facilitated school improvement planning.

**The extent of decision making and resources devolved to schools varies significantly across countries.** For example, in Australia and the United Kingdom, schools are provided with and control decisions over all recurrent spending including teacher hiring. In other countries, school decision making is much more circumscribed. In Malaysia and Thailand, schools are provided with resources to cover only non-salary operating expenses. School funding of this kind also varies according to the level of discretion schools have over its use. In some cases, funding is provided with relatively few conditions while in other cases schools have to spend funds according to approved spending plans with limited scope to alter pre-agreed budgets.

**School based management and school grant programs have shown some success in improving education access and raising education outcomes.** Recent reviews of research exploring the impact of school based management reforms have shown that they have the ability to improve education access and learning outcomes as well as address education inequality.<sup>1</sup> However, education reforms of this kind can take time to yield results and their success depends critically on political support and effective implementation.

**The *Bantuan Operasional Sekolah* school grants program succeeded a smaller school grant program introduced in the wake of the Asian Financial Crisis in 1997.** The objectives of the program are to reduce the public's financial burden of education in the framework of providing 9-years of good quality compulsory education and to support school based management reforms. These objectives are designed to raise overall education outcomes through three main channels (see Figure 1).

**Figure 1: Channels through which BOS improves education outcomes**

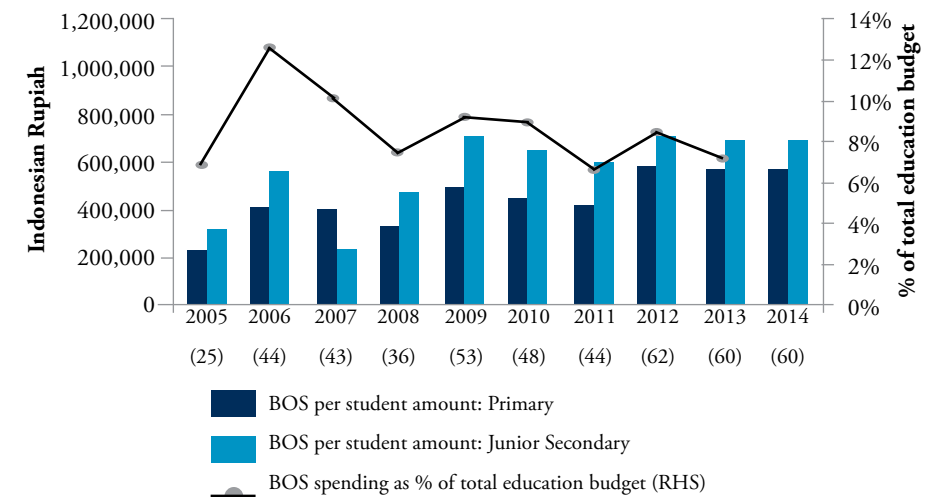


<sup>1</sup> See for example, AusAID ERF (2011). 'School grants and school-based management' and Bruns, B., D. Filmer, et al. (2011). Making schools work: new evidence on accountability reforms. Washington D.C., The World Bank.

**The school grant is allocated based on an amount for each student and currently covers approximately 43 million primary and junior secondary school students.** The real value of the per-student allocation has more than doubled since the introduction of the program in 2005 (Figure 2). In 2014, the BOS program provided funds to the average primary (junior secondary) school of approximately US\$10,000 (US\$ 20,000). The program is financed by the central government and allows schools to utilize funds according to lists of authorized and unauthorized categories of expenditure.

**Figure 2: The value of BOS assistance for each student has increased considerably**

*BOS program allocations per-student and as a share of government spending, 2005-2014 (constant 2012 prices)*



Note: Until 2011, there was a slight difference between the BOS amount for rural and urban schools. In this figure, information for these years refers only to the rural school amount. Figures in parentheses are the US\$ equivalent of the primary per-student value of the BOS grant.

Source: MoEC and MoF

### The role of BOS in reducing the burden of education costs faced by households

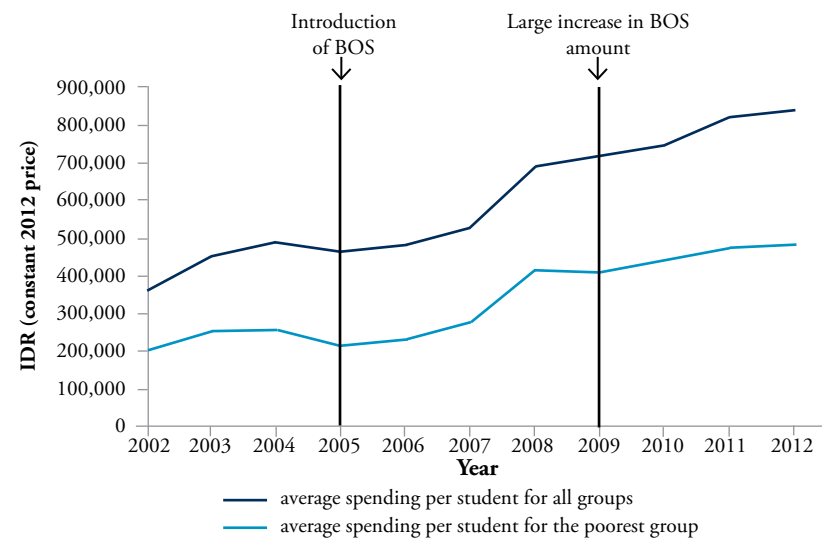
**Unpacking the role of BOS in reducing the education costs faced by households is difficult.** The BOS program covered all primary and junior secondary schools and was introduced to all parts of Indonesia at the same time. This makes it difficult to use formal methods to evaluate the effect of BOS and out of necessity a second-best approach is adopted. The first step of the approach looks to see whether the introduction of and subsequent changes in the BOS grant amount had any discernible effect on overall household education spending. Second, simple regression analysis is used to see if a 'BOS' effect remains after a set of other explanatory factors (e.g. household income) are controlled for. Finally, trends in household education spending at primary and junior secondary schools, where the BOS program operated, are compared with trends in senior secondary to identify any differences. It is recognized that this approach cannot provide definitive conclusions on the effect of the BOS program but can provide some insights into its overall effect.



Looking at overall trends suggests that the BOS program was initially associated with a drop in household education spending (Figure 3). Looking at survey data reveals that annual education spending for households with children in primary and junior secondary fell by about 6 percent in the first year after BOS was introduced. However, the drop in education spending appeared to be a relatively temporary phenomenon; by 2009 household education spending began to increase steadily again. These findings, outlined in the report, support other more detailed results showing that the incidence and level of charges made on parents fell with the introduction of BOS but then began to rise as schools became more familiar with the workings of the BOS program.

**Figure 3: The introduction of the BOS program led to an initial drop in education spending by households**

*Annual household per-student education spending, 2002-2012*



Note: (1) Average education spending per-student for households with primary and junior secondary education children (2) Year here refers to academic year

Source: Susenas household survey, 2003-2013

A closer look also reveals that initial drops in household spending were concentrated amongst poorer households and for children attending government schools. The general pattern shown in Figure 3 remains even after other factors that are likely to have influenced household education spending (e.g. levels of household income) are controlled for. Moreover, drops in household education spending directly after the introduction of the BOS program were relatively larger for the poorest 20 percent of households in Indonesia. The analysis contained in the report also reveals that declines were largely confined to government schools where the program was more strongly associated with reducing the cost burden of sending children to school.

Household education spending trends at senior secondary did not follow the same pattern which provides some evidence to suggest that BOS reduced costs for at least some households. In the immediate period after the introduction of BOS household education spending per senior secondary school student continued to increase. This stands

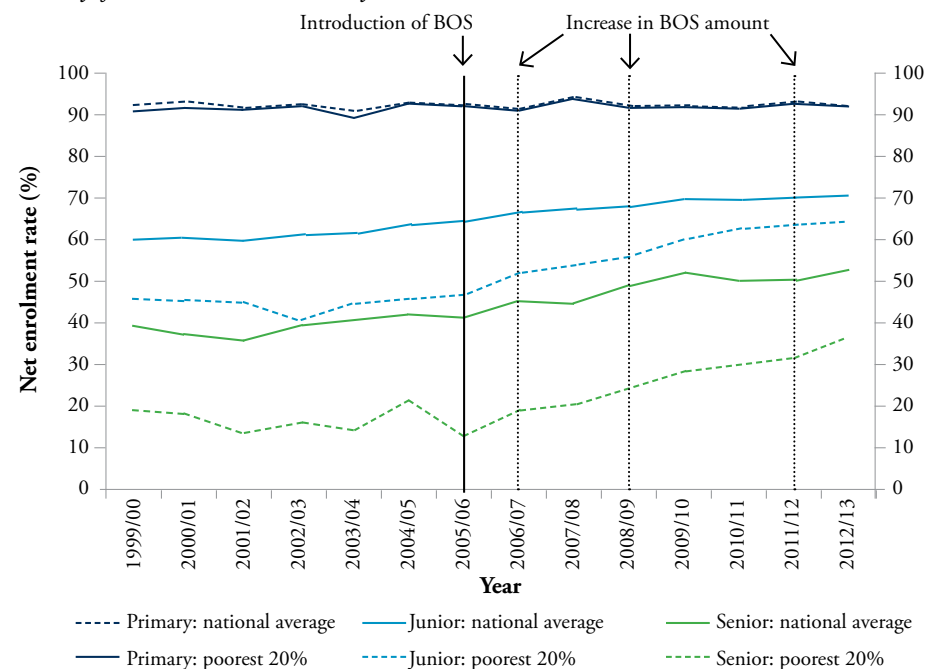
in contrast to per-student spending at the primary and junior secondary which registered small declines. These findings provide some tentative support to the perception that BOS reduced household costs.

However, the drop in education costs faced by households appears to have been relatively small compared to the size of the per-student grants given to schools. While the analysis is only indicative it suggests that where overall drops in household per-student spending occurred they were relatively small, particularly at primary school, when compared to the per-student amount given to schools through BOS. Drops in household spending for the poorest households were equivalent to around 5 percent of the BOS grant at primary school and around 30 percent at the junior secondary level.

The limited use of BOS funding to reduce charges faced by households is further supported by the significant increase in discretionary resources schools appeared to have after the introduction of BOS. It is possible that BOS only had a limited effect on the costs facing households because other sources of school funding fell when BOS was introduced. For example, local governments may have reduced their funding to schools in response to the BOS program. Unfortunately, no detailed time-series information on school funding is available. However, information on the number of teachers hired directly by schools, before and after BOS provides important evidence on how the overall school funding situation changed. In 2012, there were approximately six hundred thousand school hired teachers in the education system and approximately half of these were recruited after the introduction of the BOS program. This suggests that schools had more resources to spend after BOS was launched and they devoted a share of these resources to hiring additional teachers.

### Improving education participation through the BOS program

Simple time trends show that enrolment in junior secondary, particularly for the poorest households, increased significantly after the introduction of the BOS program. The reduction in household education costs were intended to raise education participation, particularly amongst the poorest groups. The same approach that was used to look at how BOS affected household education spending is used to explore its effect on education participation. Enrolment rates in primary school have been very high for a considerable time and it is therefore unlikely that BOS has had any discernable effect (Figure 4). However, enrolment rates in junior secondary have been on an upward trend which appears to have accelerated after the introduction of BOS particularly for the poorest. Between 2000 and 2005, junior secondary enrolment rates for the poorest 20 percent remained relatively stable but increased 26 percentage points between 2005 and 2013.

**Figure 4: Enrolment in secondary schooling has been growing***Primary, junior and senior secondary net enrolment rates, 2000–2013*

Source: Susenas household survey

**More detailed analysis tentatively suggests that the BOS program may have initially contributed to the increase in junior secondary school enrolment amongst poor households.** The analysis undertaken in the report attempts to control for a host of other factors that may have contributed to the trend in participation rates. After controlling for these variables a large increase of around 5 percentage points is registered, for the poorest households, in junior secondary enrolment rates directly after the introduction of BOS. This effect seems to have also been temporary and enrolment rates settled back onto a long term trend that did not fluctuate with subsequent increases in the per-student amount of the BOS grant. Further support for these findings comes from the different rate at which poor households closed the participation gap in junior and senior secondary schools (Figure 4).

**However, transition rates were also examined for a similar effect but this analysis did not find a similar jump in participation at the time BOS was introduced.** Enrolment rates are only one measure of the potential effect of BOS on school participation. The program was expected to improve the chances of all children completing the full nine years of compulsory education by improving transition rates between primary and junior secondary education. Transition rates of this kind have indeed increased since the introduction of BOS and have followed a similar trend to the enrolment rates shown in Figure 4. However, further analysis shows that the introduction of the BOS program and subsequent increases in its level were not associated with jumps in transition rates.

## The role of BOS in supporting school based management

**The BOS program has been a vital component of government efforts to implement school based management reforms.** In 2001, the responsibility for basic education service delivery was largely devolved to local governments. Further reforms were introduced in 2003 that provided the legal basis for school based management and school committees in an effort to encourage local community participation and strengthen accountability between schools and parents. The BOS program supported these reforms by providing resources to fund school improvement plans and by making use of established school based management structures and processes to govern the use of its funds.

**Evidence from Indonesia shows that improvements in school based management can raise levels of learning achievement.** For example, a recent study found that primary schools with better parental and school committee participation had better learning outcomes. The study showed that the effects of better school based management worked through improved resource allocation decisions and higher teacher attendance rates.<sup>2</sup>

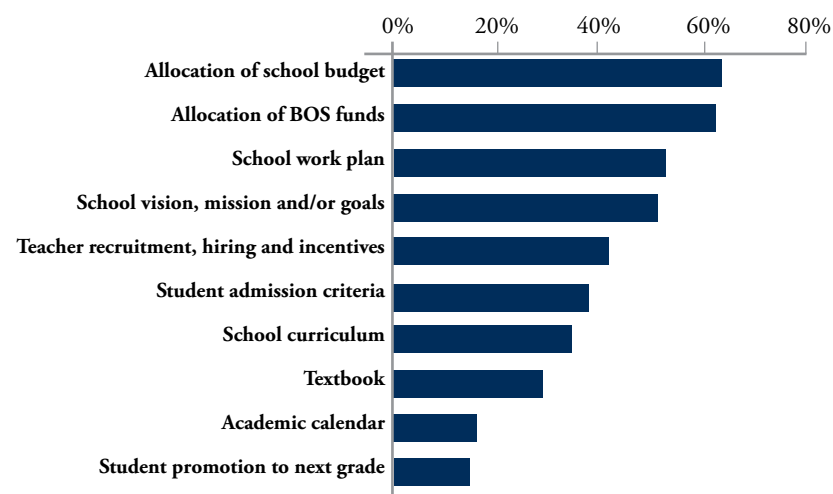
**Most schools in Indonesia have the institutions and processes required for school based management.** A nationally representative survey conducted to explore school based management issues showed that all schools had established school committees. However, the selection of committee members was not very transparent. For example, in primary schools members were commonly either appointed or selected by consensus; less than 15 percent of school committee chairs and less than 25 percent of committee members were elected.

**Principals reported that they had considerable autonomy over a number of important areas of their schools' affairs.** For example, almost all interviewed principals felt that they set the overall vision and goals of the school and were the final decision maker on school planning and budget decisions. In making decisions, school principals typically involved school teachers in the process. However, it was less common for school committees to be involved. A national survey of primary and junior secondary schools estimated that school committees were involved in about 40 percent of the decisions made at the school level.

**While school committee participation was less commonplace, their strongest role centered around the use of BOS funds and overseeing financial matters more generally.** In 2010, more than 60 percent of school principals reported that school committees were involved in final decision making in these areas (Figure 5). Perhaps unsurprisingly, school committees were rarely involved in decisions about pedagogy and instructional issues. These findings highlight the importance of the BOS program in opening up school decision-making to the broader school community.

<sup>2</sup> See for example, Chen, D. (2011). 'School-based management, school decision-making and education outcomes in Indonesian primary schools'. Policy Research Working Paper No. 5809. The World Bank and Heyward, M. O., R. A. Cannon, et al. (2011). 'Implementing school-based management in Indonesia: impact and lessons learned.' Journal of Development Effectiveness

**Figure 5: School committees play their strongest role in decisions over the allocation of the school budget and participation in key decisions**  
*% of primary and junior secondary schools where school committee is involved in final decision in selected areas, 2010*



Source: School Based Management Survey, 2010

**Despite the role that BOS has provided for school committees, there are significant weaknesses in how effective they have been.** Focus group discussions, conducted as part of the survey, with the BOS team and school committee members generally agreed that committee members were rarely, if ever, actively involved or consulted in making BOS fund allocation decisions. In practice, it was more common for the school principal and teachers to agree on the allocation of BOS funds and then to communicate their decision to the school committee chair for approval.

**The role of the school committee in managing BOS funds is further weakened by the requirement for schools to establish a separate BOS management team.** While BOS management has generally aligned with existing school governance arrangements it also introduced an additional team to manage BOS funds. Rules on the formation of this team explicitly prohibit membership for parents from the school committee. The school based management survey found that about 70 percent of primary schools had established these teams. Given that all schools already have school committees, a separate team for the management of BOS funds dilutes the potential role of the school committee and introduces a lack of clarity into the management of the BOS program.

**Weaknesses in the role of the school committee in the oversight of BOS funds are likely to have contributed to the limited effectiveness of BOS spending on raising education quality.** Limited oversight and participation of local communities in deciding the use of BOS funds has meant that around a half of all BOS funds have gone to hiring non civil-service teachers and paying teachers for additional activities. Given the very low student-teacher ratios seen in primary and junior secondary education it is questionable whether, in many cases, hiring additional teachers is the best use of BOS funds.

## Strengthening the BOS program and potential future directions

**The report shows that the BOS program had a temporary and small effect on the costs faced by households.** These findings were strongest amongst the poorest households and for households who sent their children to government schools. While these findings are promising they suggest the need to explore ways in which BOS can more effectively support the education outcomes of poor households in Indonesia. In particular, the report shows that the real value of BOS can be much smaller in poorer regions of Indonesia once geographical cost differences are accounted for.

**Results on student participation were less conclusive but suggest that the program may have contributed, at least initially, to increases in junior secondary school enrolment rates.** Notwithstanding the contribution of BOS, enrolment in primary and junior secondary school is high and continues to rise. This suggests that it may be timely to consider a greater focus on quality in terms of the objectives of the BOS program.

**The BOS program has also supported efforts to provide schools with more autonomy and to strengthen links with local communities.** In other countries, school based management reforms have improved educational attainment and in some cases levels of learning achievement. However, it is not clear that these gains have so far been realized in Indonesia. In particular, these weaknesses manifest themselves in the relatively inefficient use of funds evident in the large amount devoted to hiring additional teachers. These findings suggest that greater efforts are needed to establish and deepen the implementation of school based management if outcomes are to be improved through this route.

From the findings of the report summarized here in the executive summary a number of policy directions are suggested and include:

### 1. Adjusting BOS to enhance its focus on improving education quality

- *Link BOS funding more directly to education standards.* Efforts have been made in the past to set the value of per-student financing provided under BOS to minimum service standards. Establishing a more formal link between BOS funding and education standards has the potential to signal the importance of using BOS resources to fulfil these standards. BOS funding could also be tied to quality assurance systems by providing an incentive for schools to obtain and maintain accreditation status.
- *Review list of eligible items under BOS to provide schools with the flexibility to invest in quality enhancing inputs.* For example, allow BOS funds to be used to purchase teaching and learning materials such as audio-visual equipment.

### 2. Strengthen the poverty focus of BOS

- *Adjust the value of BOS periodically to account for regional price differences and inflation to ensure that all schools can meet operating standards.* Indonesia is a large and diverse country and providing the same amount of per-student funding to schools in areas with high costs is unfair. At the minimum, consideration should be given to adjusting the BOS funding formula periodically for geographical cost differences and inflation.

- *Use the BOS formula to provide more funding to schools serving poor and vulnerable children.* Schools serving poor and disadvantaged students need additional support to ensure that they are able to provide a quality of schooling similar to schools in wealthier areas of Indonesia.
- *Phase out the use of BOS resources to support the 'out of pocket' expenses of poor students.* Existing guidelines on BOS allow schools to cover the education costs of poor households. However, large cash transfer programs (e.g. *Kartu Indonesia Pintar*) already exist and are perhaps more effective at supporting these costs. While these programs require strengthening, they should be the principal way of reducing the direct costs of schooling.

### 3. Improve coordination of BOS with other school funding

- *Clarify school fee and contribution policy.* Despite government efforts to provide clear guidelines, survey data reveal that fees and charges continue to represent a significant proportion of 'out-of-pocket' expenses. Efforts to clarify the rules governing voluntary contributions to schools should continue and consideration should be made to strengthening the role of school committees in managing the level of contributions. Regulations should also be clearly communicated to parents and other stakeholders.
- *Coordinate more closely with local governments.* Many local governments also run school grant programs to support school operating expenses beyond basic BOS funding. It is important that these funds are used to raise overall school standards beyond the level provided by BOS.

### 4. Revitalize the role of the BOS program in empowering schools and local communities.

- *Strengthen school committees.* Strengthening school-level management of the funds to improve their effectiveness is vital. Strengthening the role of the school committee by for example, transferring responsibilities of the BOS team to the committee and ensuring better representation in the committee have the potential to significantly improve the effectiveness of BOS funds.

**The introduction of BOS type programs in ECED, senior secondary and tertiary education is testament to the success of the BOS program.** In the nearly 10 years it has been running it has established itself as a program that is able to deliver resources to schools on a regular and timely basis. It is popular amongst parents and is becoming increasingly well known.

**Other countries having successfully established school grant programs and their financing mechanisms have further developed them to address other education challenges.** For example, programs of this kind have been used to consolidate the different channels of funding schools receive. In particular, other countries have included teacher salary costs in funding formula which has contributed to better spending efficiency.

**As the report shows, Indonesia suffers from significant budget fragmentation in its school financing system which contributes to the large and growing spending inefficiencies.** Consolidating a larger share of their budgetary resources, and in particular teacher remuneration, into BOS type formulas could be useful for local governments striving to improve spending efficiency and sustainability.

**The central government could also consolidate more of its funding into the BOS program and provide a greater share of funds directly to schools.** Alternatively, formula funding mechanisms of this kind could be also used as part of the broader inter-governmental transfer system to allocate central government education funds (including BOS) to local governments. The local governments could then add this to their own resources and allocate funding to schools on basis of a single formula. Given its initial success it is perhaps timely to explore how the program and the mechanisms it has introduced for allocating and managing resources can be adapted to make an even bigger contribution to improving education outcomes in Indonesia.

## CHAPTER 1

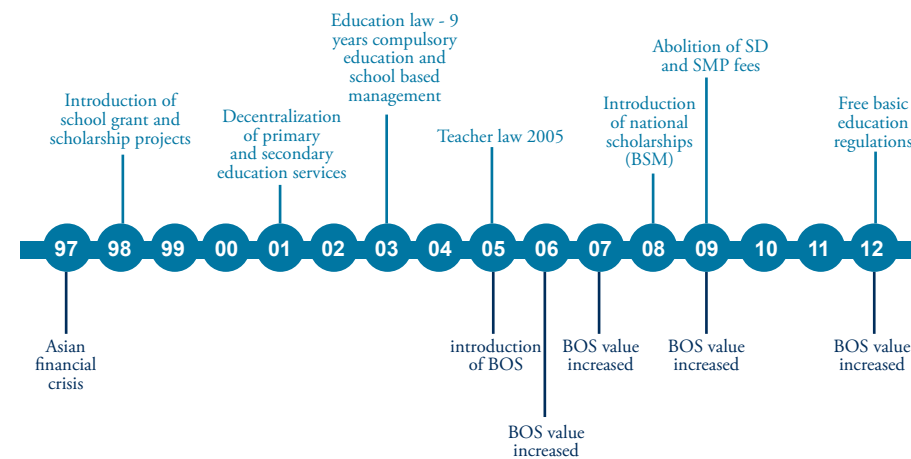
## The Indonesian School Grants Program - Objectives and Evolution



### 1.1 Introduction: a decade of education reform

Over the last ten years, Indonesia has continued to make significant progress in improving educational opportunities for all its citizens. Participation rates have increased at all levels and by 2013 approximately 90 percent of 7-18 year olds were in school compared to 81 percent in 2003. Increases in access have been particularly large amongst the poorest and most marginalized groups. Between 2003 and 2013, an additional 1.5 million children from the poorest 20 percent of households enrolled in primary and junior secondary school, increasing participation amongst these children from 77 to 84 percent.

Improvements in education outcomes have been driven by a comprehensive reform agenda that began with decentralization. In 2001, the responsibility for many aspects of basic education service delivery was devolved to local governments. Further reforms were introduced in 2003 that provided the legal basis for school based management and formalized school committees in an effort to encourage local community participation and strengthen accountability between schools and parents. In 2005 a new law on teachers was passed that addressed shortcomings in teacher pay and quality by introducing certification, improved remuneration and a strengthened program of continuous professional development. At the same time, the national school grants program (*Bantuan Operasional Sekolah*) was rolled-out and provided schools with the resources necessary to support the adoption of earlier school based management reforms. A national scholarships program was introduced a little later to complement the school grants program and support poor households with the 'out-of-pocket' school expenses (see Figure 1.1).

**Figure 1.1: Major education policy changes in Indonesia 1997-2012**

The ambitious reform agenda has been backed up with substantial increases in public education investments. In 2009, a constitutional obligation to devote a fifth of the national budget to education was achieved for the first time. This resulted in a more than doubling, in real terms, of public education spending between 2001 and 2009, a rate seen in few other countries. Since then, public investment in education has continued to grow rapidly.

Despite increased investment and significant policy change the education sector still faces a number of challenges. Indonesia's rapid increases in educational access have not been accompanied by significant improvements in learning achievement. The most recent international learning assessments show that between 2006 and 2012, mathematics proficiency among Indonesian 15 year old students has declined and reading and science scores have stagnated. This is particularly worrying given that, in 2012, over half of all students were judged to be below the lowest international benchmark in mathematics.

Concerns have also been raised around the role of increased public investment in contributing to growing inefficiency in the sector (World Bank 2013d). In particular, a large proportion of additional education spending has been directed towards hiring new teachers and paying them more. A large share of the increased resources available for teachers has come through the national teacher certification program and the introduction and increased resources flowing directly to schools through the national BOS program. While this increased spending has absorbed significant resources it appears to have had little impact on learning achievement. Put another way, these findings suggest that raising the effectiveness of public spending and the mechanisms used to allocate resources to local governments and schools has the potential to improve the quality of education substantially.

The purpose of this report is to provide an assessment of the national school grants program, *Bantuan Operasional Sekolah* (BOS), and its contribution to progress in the education sector. The BOS program aimed to raise educational attainment through the provision of school grants to all primary and junior secondary schools. The assessment is timely given that the program has reached its tenth year of operation and efforts are already under way to expand the program beyond basic education. The report draws together studies and data that have been used to analyze the program and undertakes new analysis that looks at the effect of

the program on household education costs and education participation. The review is used to draw out policy options to improve the program further and ensure that it contributes effectively to emerging challenges in the sector.

While the report aims to provide a detailed assessment of how successful the program has been in fulfilling its objectives it has a number of limitations. First, it is difficult to isolate the impact of the BOS program amongst the many other factors influencing education outcomes. For example, as the introduction has shown, there were significant policy changes occurring across the education sector at the same time that were also likely to affect education attainment. With the data available it is not possible to utilize more experimental or quasi-experimental approaches to establishing program impact. While efforts have been made in the assessment to control for these other factors it is recognized that this limits the strength of the conclusions that can be drawn. Second, the focus of the report is on the role the program has had in supporting improvements in education outcomes. It does not aim to explore or evaluate in detail program implementation because a series of previous reviews have already explored these issues (see for example, World Bank 2008; 2010; 2011; 2013b). While these reviews have shown on the whole that program implementation has been good it is possible that implementation weaknesses may lie behind some of the findings reported. Third, time series information on the reaction of local government financing to the introduction of the BOS program is not available and may be an important explanation of the findings of the report. Finally, the report does not undertake new analysis on the link between the quality of school based management and student learning outcomes. Detailed work on this has already been undertaken and the report summarizes rather than duplicates this work (see for example, Chen 2011; World Bank 2012e)

Notwithstanding these limitations, the report shows that the introduction of the program was associated with a reduction in the costs faced by households in sending their children to school. However, this drop appears to have been only temporary and while household education spending has grown more slowly in basic education it is now higher, in real terms, than it was 10 years ago. Moreover, the burden of enrolling all children in primary and junior secondary education on household income has not fallen despite significant improvements in household income and reductions in poverty. The report finds that the program had a limited impact on primary school participation but finds some evidence of a positive effect on junior secondary enrolment.

The upshot of these findings is that schools have had considerably more discretionary resources for school improvement activities since the introduction of BOS. These additional resources have provided important support to the implementation of earlier school based management reforms. For example, almost all schools have functioning school committees and school improvement plans. However, evidence shows that these institutions remain weak and have some way to go before they can ensure effective use of the increases in funding schools have experienced under the BOS program.

The remainder of this chapter provides a brief overview of school funding in Indonesia before setting out the channels through which the BOS program was designed to improve education outcomes. The chapter also provides background information on the size and mechanics of the BOS program as well as the major changes that have occurred over the last ten years. Chapter 2 explores the effect of BOS on the education costs faced by households and whether these changes have been a key driver of the improvements in participation, particularly of the poor, seen over the last decade. Chapter 3 looks at the role BOS has played in supporting school based management reforms and whether they are likely to have led to

improvements in education outcomes. The final chapter provides some suggestions on how to improve the BOS program and strengthen its role in improving education outcomes.

## 1.2 School funding in Indonesia

In order to understand the potential role of the BOS program in supporting schools it is important to locate it amongst the other sources of funding primary and junior secondary schools receive. In Indonesia, the mechanics of public education financing are extremely complex and information on the size and timing of financial flows is frequently lacking. Schools can receive funds from central, provincial and district governments and from at least eight different sources (see Figure 1.2 and Box 1.1). This level of budget fragmentation makes it extremely challenging to use resources effectively and avoid duplication of effort amongst the different actors financing education.

### Box 1.1: An overview of the main mechanisms used to fund the education sector<sup>3</sup>

This box provides a brief description of the objectives and means by which the various transfer mechanisms from the central government to sub-national governments within Indonesia are determined. These transfers represent the major source of financing for sub-national governments and thus, to a large extent, explain the level and composition of their spending.

#### General Allocation Fund (*Dana Alokasi Umum, DAU*)

The DAU, according to Law No. 33/2004 Article 1 (21), is a discretionary block grant sourced from the Central Budget (APBN) and aims to equalize the fiscal capacities of sub-national governments. It is transferred monthly and directly from central to sub-national governments. The DAU is allocated based on a national formula and is the sum of a basic allocation (a portion of the sub-national budget for public servant salaries) and the “fiscal gap” (the difference between the estimated fiscal needs and fiscal capacity) of the sub-national government. The basic allocation accounted for about 45.5 percent of the DAU in 2010. Fiscal needs are based on regional variables such as population, area, GDP per capita, Construction Price Index (IKK), and the human development index. Fiscal capacity is measured by a region’s own-source revenue and a fraction of total revenue-sharing. Based on Government Regulation No.55/2005, provinces only receive 10 percent of the total DAU, while districts receive 90 percent.

#### Specific Allocation Fund (*Dana Alokasi Khusus, DAK*)

DAK is an earmarked grant allocated to finance specific investment expenditures that are aligned with national priorities and carried out under the jurisdiction of sub-national governments. The DAK cannot be used for research, training, administration, or official travel. In 2011, 19 economic sectors received DAK allocations including education, health, agriculture, forestry, trade and various infrastructure sectors (road, irrigation, water, sanitation, rural electricity, housing and local government and remote areas infrastructure). Education is a key priority for DAK spending, with

<sup>3</sup> The box excludes local governments own source revenue which is also used to fund the education sector. In 2011, it was estimated that these made up on average about 7% of district government budgets (World Bank 2012d).

### Box 1.1: An overview of the main mechanisms used to fund the education sector (continued)

about 40 percent of DAK transfers allocated for education and used primarily for school rehabilitation and quality improvement. The DAK allocation has a formula component that takes into account the fiscal gap and has a 10 percent matching requirement. DAK is transferred in three tranches: the first is allocated after the budget is submitted to the central government; the next two depend on the depletion of the previous tranche. Although DAK is earmarked to fund capital spending, the government allowed some routine maintenance expenditures.

#### Revenue Sharing Fund (*Dana Bagi Hasil, DBH*)

Unlike DAU, which is a horizontal equalization grant, DBH is a vertical equalization grant which consists of revenue sharing from natural resources and taxes. Local governments are obliged to use 0.5 percent of their receipts from the natural resources part of DBH on basic education. DBH represented approximately 20 percent of total sub-national government revenues in 2009.

#### Special Autonomy and Adjustment Funds including BOS and DID

Special Autonomy Funds include specific grants for Papua, Papua Barat and Aceh (*Dana Otsus*) and Special Adjustment Funds (*Dana Penyesuaian*) which include additional allowances for teachers, such as professional benefits for certified teachers and for uncertified civil service teachers, a School Operational Assistance program (*Bantuan Operasional Sekolah, or BOS*), and local incentive grants (*Dana Insentif Daerah, or DID*) for education.

#### Central Government Spending at the Sub-national Level not Recorded in Sub-national Budgets (APBD)

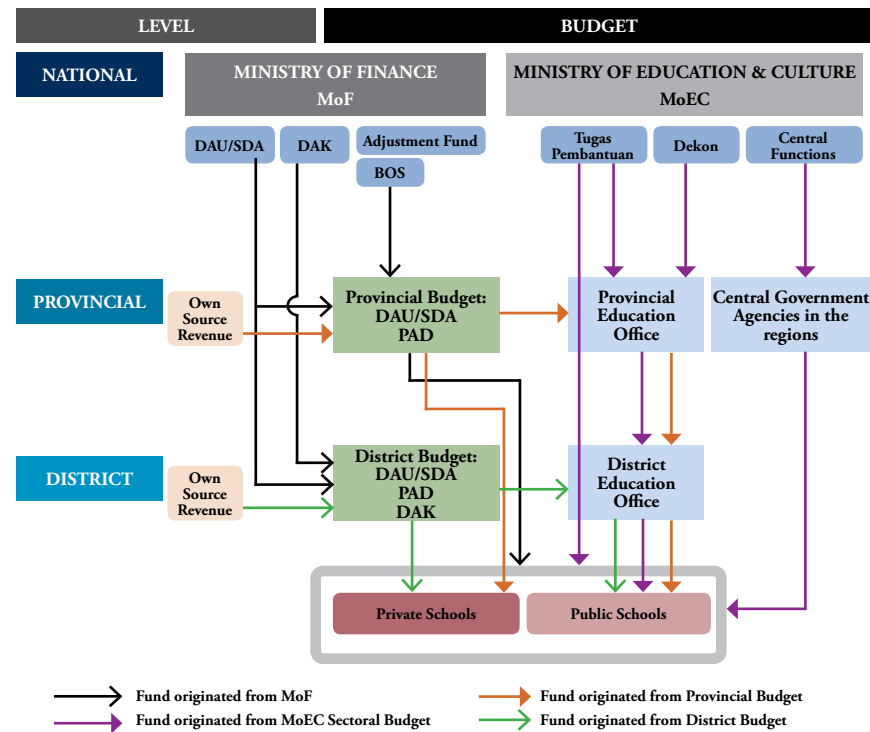
#### De-concentration (*Dekon*) and Co-Administered Tasks (*Tugas Pembantuan, TP*)

Dekon and TP funds originate from the central government’s budget (APBN), and are administered by the provincial Dinas. The funds cover a variety of projects and activities, including school and classroom reconstruction and school quality improvements, social assistance programs (which included BOS until 2011) and capacity building programs for civil servants.

Source: World Bank (2013d)

Recent evidence suggests that the necessary coordination between levels of government and across agencies (e.g. Bappeda and DINAS at the district level) to accommodate this level of fragmentation is largely absent (World Bank 2012d). Furthermore there are significant weaknesses in the capacity of local governments to plan and budget effectively for education. The monitoring of such a complex system is also extremely challenging and the lack of good quality information on resource allocations and usage exacerbates this issue. A recent study of local education governance highlighted the weaknesses in existing information systems. While 70 percent of surveyed districts had education information databases less than half had systems in place to verify the information that was collected (World Bank 2013c).

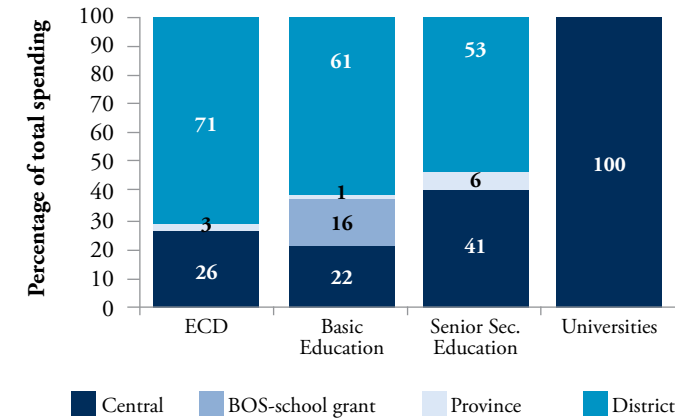
Figure 1.2: Transfers and fund flows in the education sector



Source: World Bank (2013d)

While education financing remains a shared responsibility between all levels of government, the bulk of funds for pre-tertiary education are provided by district governments. In 2001, the responsibility for many aspects of basic education was devolved to local governments. Decentralization reforms were expected to lead to significant improvements in education outcomes by bringing decision-making closer to the parents and students that are directly affected. In this way, decisions on the best way to deliver education services would be increasingly responsive to local needs and more aligned with the specific characteristics of each district. Decentralization was also expected to lead to greater innovation and experimentation in service delivery with the potential for successful reforms to be replicated across local governments. In 2009, approximately two-thirds of all public education spending on pre-tertiary education was provided by district governments (Figure 1.3).

Figure 1.3: Composition of public education spending, 2009



Source: World Bank Education Public Expenditure Review, 2013

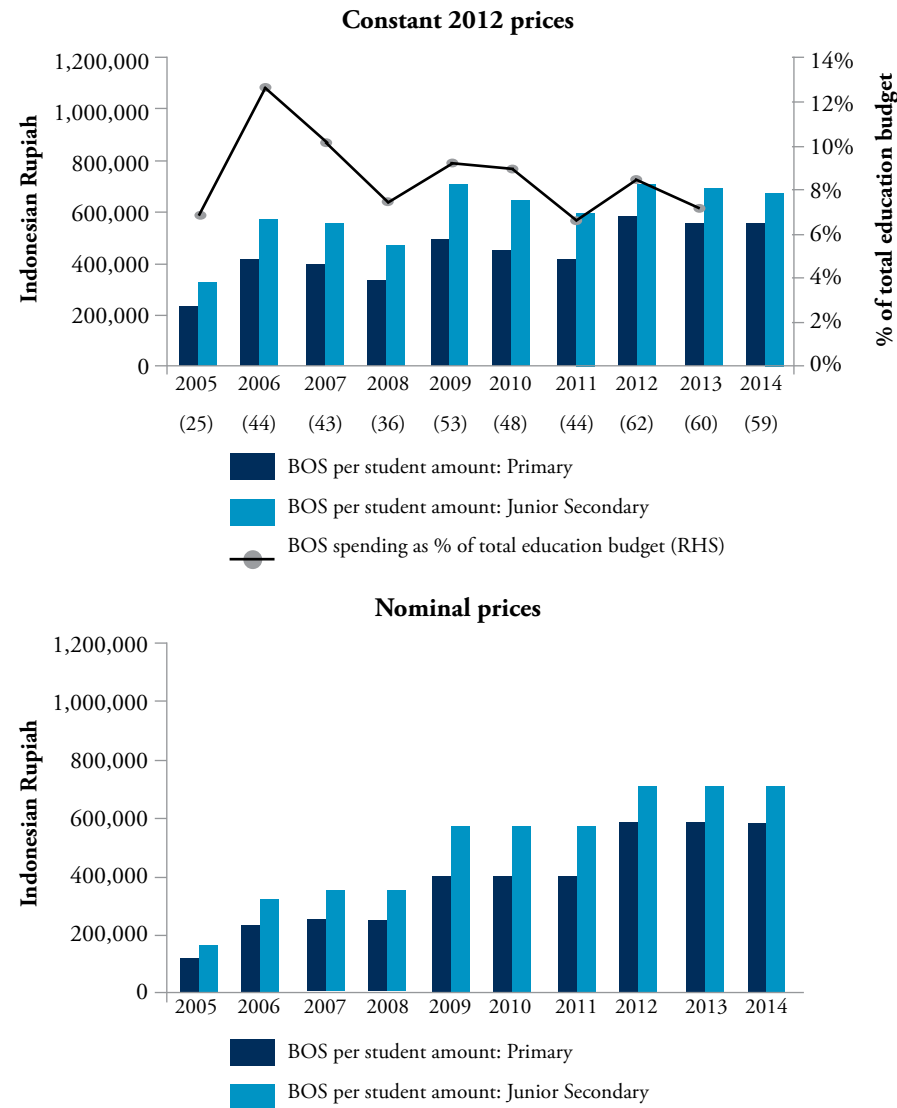
However, the central government remains an important source of non-salary spending in primary and secondary education. Latest estimates show that the central government provided over three quarters of all non-salary spending for primary and junior secondary schools (World Bank 2013d). Approximately half of these funds were provided through the BOS program.<sup>4</sup> The remaining central non-salary support came through a number of different programs including ICT provision, student scholarships, school rehabilitation and a range of quality improvement programs.

The discretion schools have over public resources is generally limited. Teachers are the largest single resource that the government provides all public and some private schools but schools have relatively little control over these civil-service teachers. For example, they have limited authority over decisions on teacher hiring and transfer decisions which are largely the responsibility of local governments. Schools also receive other ‘in-kind’ resources to support their teaching activities (e.g. IT equipment) but again have little control over the resources that are offered.

<sup>4</sup> In 2011 BOS funding appeared in district government budgets and since then has been directed through provincial budgets. While this shifts a significant part of non-salary spending to local government budgets the central government remains a key provider of non-salary resources in the pre-tertiary sector.



**Figure 1.4: BOS program allocations per-student and as a share of government spending, 2005-2014**



Note: Until 2011, there was a slight difference between the BOS amount for rural and urban schools. In this figure, information for these years refers only to the rural school amount. Figures in brackets are the US\$ equivalent of the primary per-student value of the BOS grant.

Source: MoEC and MoF

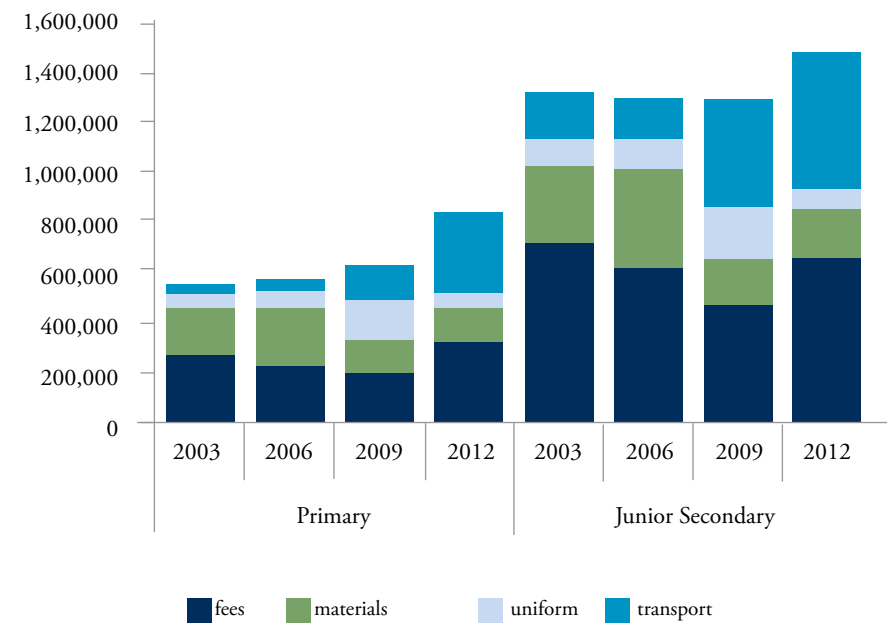
National and local government school grant programs are the only publicly provided resources that schools themselves have significant discretion over. The national BOS program provides a per-student amount to all public and private primary and junior secondary schools and madrasahs in Indonesia (Figure 1.4). In 2012, the overall BOS budget was approximately IDR 24 trillion (US\$ 2.5 billion) and covered approximately 43 million primary and junior secondary students in 220 thousand schools and madrasahs across Indonesia. Schools have

considerable flexibility to use these funds to support their own school improvement plans (see next section). The amount of the grant has increased considerably since the program was introduced in 2005. In 2014, the average primary school would receive an annual grant of approximately IDR 100 million (US\$10,000) while a junior secondary school received approximately IDR 200 million (US\$20,000). This is equivalent to the annual salary of approximately 2-4 certified civil-service teachers.

Local government programs tend to be much smaller in scale than the national BOS program and are generally less discretionary. In 2012, approximately half of all districts in Indonesia had their own grant programs although the size of the grants tended to be smaller. A survey in 2011 found that the average grant was equivalent to about a third of the national BOS grant schools received (World Bank 2013a).

Overall, the BOS program provides the lion's share of discretionary school funding. The school based management survey, used in this report, shows that in 2010 BOS accounted for approximately 83 percent of all discretionary funding that primary schools received (World Bank 2012e). District and provincial grant programs made up another 14 percent. The remaining 3 percent of discretionary resources reported by schools were received from non-government sources including parental contributions.

**Figure 1.5: Average household education spending per student, 2003-2012**



Note: Excludes pocket money

Source: Susenas

While the BOS program is a very important source of funding, information from school reports is likely to overestimate the share of discretionary resources provided by the program. Since 2009, government primary and junior secondary schools have been prohibited from charging monthly tuition fees but are still able to collect voluntary fees and contributions

from non-poor students (see Figure 1.5). However, there was significant confusion over the rules on charges and this appears to have led to schools underreporting parental contributions. This underreporting is apparent when information from schools is compared to information on charges collected directly from parents through household surveys. Figure 1.5, shows that approximately 40 percent of all household education spending in 2012 went on fees and charges. Looking at 2012, this suggests that households were providing primary schools approximately IDR 323,000 per student. This is equivalent to about 55 percent of the overall BOS grant per-student. In a similar way to BOS, schools can also use these resources at their discretion as there is no requirement to pass them onto district education authorities. Taking parental contributions into account suggests that BOS makes up around a half of the discretionary resources that schools have but it is important to recognize that the ability to collect voluntary contributions will vary enormously across schools.

### 1.3 The objectives of the *Bantuan Operasional Sekolah* (BOS) program<sup>5</sup>

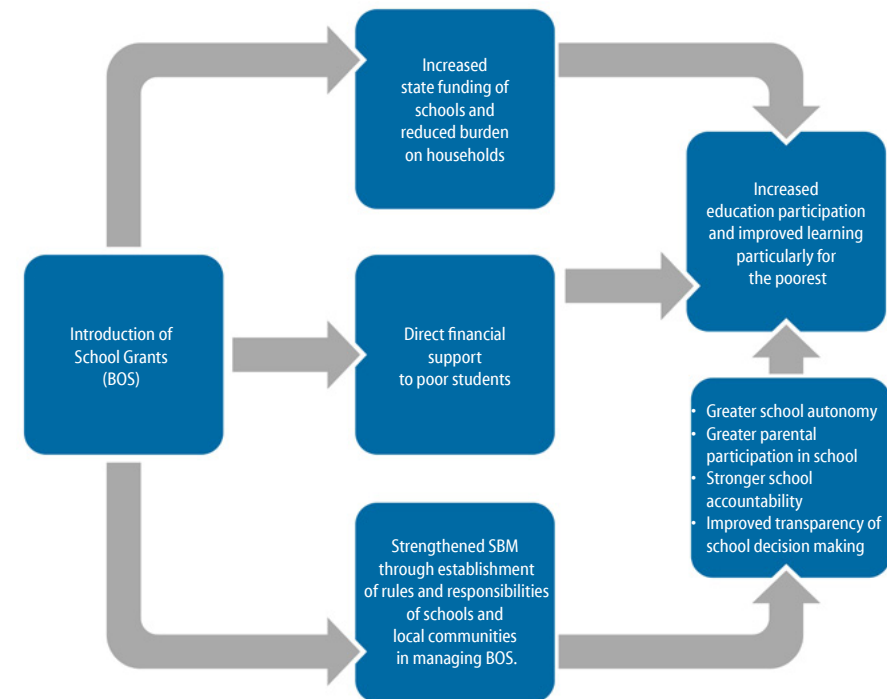
The school grants program in Indonesia aims to improve access to and raise the quality of the 9-year basic education cycle. The program provides the same per-student amount on a quarterly basis to all government and non-government schools. The grant program is expected to raise education outcomes through three main channels (Figure 1.6):

- **Direct support for school operating costs.** This channel has the potential to reduce fees charged to parents and increase enrolment and participation particularly for poor households.
- **Financial assistance for poor students.** School grants can provide direct support to poor students to cover transportation, stationery, uniform and clothing expenses.<sup>6</sup>
- **Strengthened school based management.** Grants are intended to lead to greater school autonomy by providing resources to finance activities school's themselves feel are important in raising enrolment and education quality. The management of funds through the school BOS team and the school committee is expected to increase transparency, strengthen school accountability and lead to improved education outcomes.

<sup>5</sup> The definition of school grants, used in this report are funds that are provided to schools and which are spent by authorities at the school level. Schools must have an element of discretion over the use of these funds to qualify as grants. Grants are usually from public sources and exclude school income from fees and contributions by parents and the local community.

<sup>6</sup> Assistance under BOS was initially limited to transport but expanded to these other areas in 2012.

**Figure 1.6: The objectives of the BOS program and its channels of influence**



### Characteristics of school grant programs

Many countries have established school grant programs of this kind to provide vital resources for schools to support enrolment and learning activities. While financing mechanisms of this kind are relatively common, the characteristics and objectives of programs differs widely (Table 1.1). In some recent cases, school grants have been introduced to offset the losses in income that schools were expected to face when policies aimed at reducing or abolishing fees were introduced. In other cases, school grants have been seen as part of efforts to improve the overall quality of education.

The scope of school grant programs also differs considerably across countries. In England and Poland for example, schools receive an overall budget for all aspects of school operation including the management and remuneration of teachers (see Table 1.1). In other countries, school grants fund a more circumscribed set of functions. For example, in Korea and Malaysia school grants are provided for non-salary recurrent costs only and teachers are provided to schools on the basis of staffing norms.

**Table 1.1: Characteristics of school grant programs, selected countries**

Country	Coverage of school grant/funding	Basis of basic funding allocation to schools	Factors that increase/decrease basic funding allocation
England	All personnel and operating costs	Student numbers	<ol style="list-style-type: none"> <li>1. Social deprivation (e.g. students eligible for free school meals)</li> <li>2. Students with special educational needs</li> <li>3. Students with English as an additional language</li> <li>4. Site and school factors (e.g. size of school, business rates etc.)</li> </ol>
Korea	Non-salary recurrent costs	<ol style="list-style-type: none"> <li>1. Teacher numbers</li> <li>2. Classroom numbers</li> <li>3. Student numbers</li> </ol>	None
Malaysia	Non-salary recurrent costs	Student numbers are main determinant but there are many other smaller grants	<ol style="list-style-type: none"> <li>1. Language groups in schools</li> <li>2. Subject based adjustments</li> <li>3. Students with low language proficiency</li> <li>4. Additional per-student grants for poor children (e.g. milk, supplementary food and uniforms)</li> <li>5. School size</li> <li>6. Resource center, guidance and counselling provision</li> <li>7. Special programs</li> </ol>
Australia	All personnel and operating costs	Standard for primary and secondary school per student	<ol style="list-style-type: none"> <li>1. Students with non-English language background and low parental education</li> <li>2. Students from minority groups</li> <li>3. Students with special educational needs</li> <li>4. School size</li> <li>5. School location (e.g. remoteness)</li> <li>6. Students from two lowest socio-economic quartiles</li> </ol>
Poland (Kwidzyn)	All personnel and operating costs	Student numbers with a per-student allocation for teachers, non-teaching staff and non-staff operating expenses	None

Note: This is a summary table and is designed to give a broad outline of the major components of the elements that determine the allocation to schools. Frequently, there are funding formulas used by central governments to allocate resources to local government or administrative units which these units then use to allocate to schools. These formulas are excluded from the table. Information in the table does not include capital allocations. Refer to original sources for more detailed information.

Source: Alonso and Sanchez (2011), Chowdry and Sibieta (2011), Fazekas (2012) and World Bank (2014b).

School grant programs also differ in the extent of support they provide to poor and marginalized children. In some countries, formulas that determine the allocation of funding between schools explicitly include adjustments to account for the poverty and/or special needs of students. For example, in the United Kingdom a ‘pupil premium’ is provided to schools based on the number of children that receive free school lunches (see Box 1.2).

Some countries in East Asia also adjust levels of school financing for the socio-economic status of children and other markers of disadvantage. For example, funding to schools in Malaysia include additional allocations based on the number of students with low language proficiency. In other countries, financing provided to schools through grant programs can also be used to support the education of poor and disadvantaged children. For example, Malaysia provides additional per-student allocations for poor students and Korea provides additional resources in kindergarten for children living in poor households (World Bank 2014b).

### Box 1.2: The ‘Pupil Premium’ in England

Introduced in 2011, the pupil premium provides government funded schools in England additional per-student funding to raise the attainment of disadvantaged pupils and narrow inequalities between them and other students. In 2014/15 schools received an additional £1,300 (US\$2,031) for primary-aged students and £935 (US\$1,461) for secondary-aged students. Rough calculations suggest that an average sized secondary school would receive approximately £200,000 (US\$ 312,500) in additional funding through the pupil premium which is the equivalent of five full-time teachers.

The main criteria of deprivation used to calculate eligibility is the number of students in the school that have received free school meals over the last six years. Head teachers and school governing bodies are accountable for the use of these funds in two ways. First, performance tables that outline the performance of disadvantaged students compared to their peers are made available to the public. Second, schools are required to publish details online each year of how they have used the premium and what impact it has had.

Schools typically use the additional resources to hire more teachers and teaching assistants in order to introduce special programs for disadvantaged students. In addition, resources are frequently used to allow eligible students to participate fully in after school activities.

A recent study of the implementation of the pupil premium found:

- Since the introduction of the premium an increasing number of schools are targeting the funding more effectively at improving the attainment of disadvantaged students and narrowing learning disparities.
- The best schools combine a series of targeted interventions with robust tracking systems to evaluate effectiveness.
- Governing bodies in these schools take strategic responsibility for ensuring the pupil premium supports eligible pupils. They also hold school leaders accountable for the use of these additional resources and the results obtained.
- Challenges remain in some schools with leaders and governing bodies in the weakest schools failing to ensure the pupil premium is used effectively to narrow attainment gaps.

Sources: OFSTED (2014) and [www.gov.uk/pupil-premium-information-for-schools-and-alternative-provision-settings](http://www.gov.uk/pupil-premium-information-for-schools-and-alternative-provision-settings)

The grants provided through the BOS program do not provide additional resources to poor schools but grants can be used to support poor and marginalized students. Schools in Indonesia are prohibited from charging fees or seeking voluntary contributions from poor households. However, the 'out-of-pocket' expenses of school attendance can be a constraint for some poor households. While Indonesia has a large national scholarships program, BOS funding can also be used to support the direct costs of school enrolment for poor households. At the outset, BOS could be used to pay for the transportation costs for poor students and in 2012 its role was expanded to also cover the costs of uniforms and shoes.

While differences in the background of students a school serves are not adjusted for, it is important to recognize that BOS funds are likely to be a vital source of regular and predictable funding for schools serving poor children. In these schools, contributions from parents are likely to be much lower. For example, household survey data reveal that in 2012, the poorest fifth of households provided about a half of the funding to government primary schools as the wealthiest 20 percent of households. BOS resources are therefore likely to be a much greater proportion of overall funding in schools with a large number of poor students. This will enable schools of this type to at least cover basic operating costs that may have gone unmet without BOS funding.

### School grants as a complement to school based management reforms

It is increasingly common for grants to be included as part of an overall reform package with the twin objectives of providing schools with greater autonomy and at the same time strengthening accountability mechanisms between schools and the communities they serve. School based management reforms of this kind require schools to undergo an improvement planning process that is used to identify strategies to raise education outcomes. This process is able to capture local knowledge of the factors constraining education performance and a way of identifying the most effective strategies in each school to address them. School grants have been seen as an important way for governments to support these reforms by providing directly to schools the funding they need to implement their own improvement plans.

#### Box 1.3: The forerunners of the BOS program in Indonesia

In 1998, the Government of Indonesia introduced a program to respond to the financial crisis of the previous year. The Scholarships and Grant Program (SGP) combined a scholarships program for children at risk of dropping out and block grants for schools. A second grants program (School Improvement Grants Program, SIGP) was also introduced at the same time to compliment the SGP but also as a strategy to raise education quality in a smaller number of schools.

Approximately two thirds of primary and secondary schools were targeted to receive grants in these early programs. Schools most affected by the crisis were intended as the main beneficiaries and a combination of district poverty indices and school age population sizes were used to allocate resources to districts.<sup>7</sup> The same grant amount was provided to each school at a particular level and the use of the grant was the responsibility of school committees that were the precursor of the committees set up more formally in 2002 and the 2003 Education Law.

<sup>7</sup> Schools were selected at the district level

#### Box 1.3: The forerunners of the BOS program in Indonesia (continued)

Evaluations suggest that the combined scholarships and school grant program had some positive impact on education outcomes. Results include:

- Scholarship program had some success at protecting school enrolment which remained relatively stable during and after the crisis. However, these effects were most significant at the junior secondary level. The program did not appear to have much effect on primary school progression or the transition between primary and junior secondary school.
- Block grants were partially successful in protecting school incomes. However, there was no evidence on whether the grants improved school quality or increased/maintained enrolment. Concerns were raised about the equally sized grants across school levels and the lack of adjustment for school-specific factors (e.g. number of students, school condition etc.).
- Qualitative studies pointed to a positive effect of school improvement grants. School improvements reduced disruptions to classes and improved student and teacher concentration. Teacher motivation was also improved because grants were used partly to provide additional payments to teachers. Questions were raised by stakeholders on the adequacy of the grant in schools with large student enrolments and the one-off nature of the grants which did little to foster proper school improvement planning.

Source: Ridao-Cano and Filmer (2004)

Indonesia has followed a similar path and earlier experience of grants and school based management provided the building blocks for the BOS program. School grant programs were initially introduced in Indonesia on a wide scale in the wake of the Asian Financial Crisis in 1997 (Box 1.3). Anxious to avoid the large increases in student drop-out and school closure that accompanied the crisis of the mid-1980s the government rapidly developed and implemented a school grant and scholarship program in 1998 (Baines 2005). These programs enhanced and in most cases established school committees to manage the use of school grants in schools. Evaluations suggest that the combined scholarships and school grant program had a positive impact on education outcomes (see Box 1.3).

Building on these positive experiences, the 2003 education law formally established school committees and introduced principles of school based management into the governance of the education sector (Government of Indonesia 2003). Guidelines on the standards for the implementation of school based management soon followed in 2005 (Ministry of National Education 2007). These guidelines instructed schools on the process of formulating school improvement plans, elaborated on the role of the local community and provided some clarification on the roles and responsibilities of school committees and other school level boards.<sup>8</sup> With the introduction of the BOS program schools were provided with a regular and predictable funding stream to support the process of formulating and implementing the new school improvement plans.

<sup>8</sup> For a more detailed discussion of the roles and responsibilities of school committees and their role in the BOS program see Chapter 3.

Evidence from other countries points to the potential of school based management programs and associated grants to improve access and student progression indicators. Recent reviews of the evidence on school based management have concluded that programs of this type have generally been successful at improving access and student progression (AusAID ERF 2011; Bruns, Filmer et al. 2011). For example, a program in Mexico that provided grants to support school improvement plans was shown to have reduced drop-out and repetition rates (Skoufias and Shapiro 2006). Evidence from Cambodia and the Philippines also shows that school grant programs can lead to significant improvements in education outcomes (see Box 1.4). Programs of this kind have also been shown to have contributed to increased and more equitable access to educational opportunities after the abolition of fees in sub-Saharan Africa (Deffous 2011).

#### **Box 1.4: School based management reforms in Cambodia and the Philippines**

School based management principles were first introduced in Cambodian schools in 1998 through a pilot project that provided grants to clusters of schools. The objective of the program was to improve school quality by providing resources for school improvement but also by building management and planning capacity in schools. Grants were given to schools on the basis of priorities determined by school cluster committees.

An evaluation found significant differences across clusters in the use of the grants and that these variations were the result of the interplay between schools and their communities in determining grant usage. The evaluation found that the school grants were associated with modest improvements in drop-out and promotion rates as well as in student learning achievement.

School based management and grant funding to schools are now part of the regular government budget and a key strategy to support Cambodia's education priorities. They have played an important role in supporting the abolition of school fees in the first nine years of education and have reduced the cost burden on households. However, challenges remain in implementation and more recent studies have identified remaining weaknesses in school support committees and community participation.

The Philippines has also had a similar experience where, in 2003, a pilot project introduced school based management into 6,000 elementary schools. A study of this initial pilot showed that schools that had introduced school based management had been successful at raising levels of learning at a faster rate compared to control group schools. Improvements in education quality brought about through school based management and associated interventions have also been shown to have positive long-term development impacts particularly for women.

Since the pilot project, school based management has been introduced nationally and have been accompanied in some cases by school grants. A recent impact evaluation showed these reforms continue to have a significant and positive impact on education performance (World Bank and AusAID 2013).

#### **Box 1.4: School based management reforms in Cambodia and the Philippines (continued)**

To assess the impact of SBM on learning outcomes the study exploited differences in the roll-out of SBM and associated grants between 2006 and 2009.<sup>9</sup> The study found that, over three years, the introduction of SBM and the provision of grants improved scores on the National Achievement Tests (NAT) by 4 to 5 percentage points (approximately 0.25 standard deviations). Simple comparisons with other common interventions to improve education quality tentatively suggest that the SBM reforms have also been cost effective.

Sources: Benveniste and Marshall (2004); Shoraku (2008); Khattri, Ling et al. (2010); Yamauchi and Liu (2012); World Bank and AusAID (2013); Yamauchi (2014).

However, evidence on the impact of school based management reforms on student learning achievement are more mixed. A recent study that explored the results from the randomized experiments literature found no overall impact of school grants on learning achievement in primary schools when they were introduced on their own (McEwan 2013).<sup>10</sup> In Indonesia, a randomized controlled trial that provided schools with a small grant additional to the national BOS grant found no statistically significant impact on learning (Pradhan, Suryadarma et al. 2011). However, the additional grant was relatively small compared to the BOS grants so the findings are perhaps not that surprising. Positive impacts were found in a study conducted in India and here school grants only had a positive effect on learning when grants were not anticipated by schools and parents (Das, Dercon et al. 2011). When grants were anticipated, parents adjusted their own education spending downwards which meant that the overall funding situation for education remained relatively unchanged. Without additional resources, levels of learning achievement remained the same.<sup>11</sup>

The same review highlights the difficulty in assessing the impact of school based management reforms because of the wide range of different interventions that fall under this reform area (McEwan 2013). In some cases efforts to strengthen school committees have had positive impacts on learning. For example, a randomized controlled trial in Indonesia found that linking school committees with village councils and ensuring that elections took place for committee members improved learning achievement (Pradhan, Suryadarma et al. 2011). In other cases, experiments introducing elements of school based management have had little impact. For example, an experiment in the Gambia that provided a grant and a comprehensive program of training on school based management to a range of stakeholders had no impact on learning achievement despite registering improvements in student and teacher attendance (Blimpo and Evans 2011). These results echo similar findings from the broader evaluation evidence on school based management and highlight the importance of the overall policy context, design and implementation in determining success (AusAID ERF 2011; Bruns, Filmer et al. 2011).

<sup>9</sup> Propensity score matching techniques are used to develop an appropriate control group for the study

<sup>10</sup> The evidence is fairly limited with relatively small scale experiments in only four countries.

<sup>11</sup> It is possible however that the reduced levels of household spending that resulted from the introduction of the school grant prevented early drop-out and allowed poorer children to stay in school longer.

### 1.4 The inner workings of the BOS program

Previous sections have documented the level of BOS funding and have shown how important these discretionary funds are for schools. This section provides a brief overview of the operation of the BOS program in order to highlight implementation factors that may be important in explaining program outcomes in the following chapters of the report.

The size of per-student allocations in the BOS program have been calculated on the basis of studies to determine the operational expenditure needs of schools as well as the availability of the budget. At the outset, per-student allocations to the BOS program were considerably larger than the grants provided under the previous Scholarships and Grants Program (SGP) but lower than those provided under the School Grant Improvement Program (SIGP). In 2006, the value of per-student amounts were adjusted on the basis of a school survey that was designed to determine average school operating costs (Ghozali 2005; Arze del Granado, Fengler et al. 2007). After 2006, periodic changes to the grant amount have taken place largely to adjust for inflation (see Figure 1.3). However, in 2012 the grant amounts were again changed after an exercise to estimate the operational costs necessary to achieve national education standards was conducted by BSNP. In 2012, BOS grant levels were above these initial estimates of the operational expenditure requirements at primary schools and slightly below estimated needs at junior secondary school (Table 1.2). However, a recent study concluded that levels of BOS were adequate to cover all non-salary operating expenditures in primary schools with at least 130 students and in junior secondary schools with at least 150 students (ACDP 2013).

**Table 1.2: Comparison of BOS per-student grant and estimates of operational needs (2012 prices)**

	Current per-student amounts	BSNP estimate based on minimum service standards	ADB estimate based on minimum service standard
Primary school	580,000	412,139	468,000
Junior secondary school	710,000	731,894	831,000

Note: ADB survey was conducted in 2010 and unit costs are adjusted for inflation to report in 2012 prices.

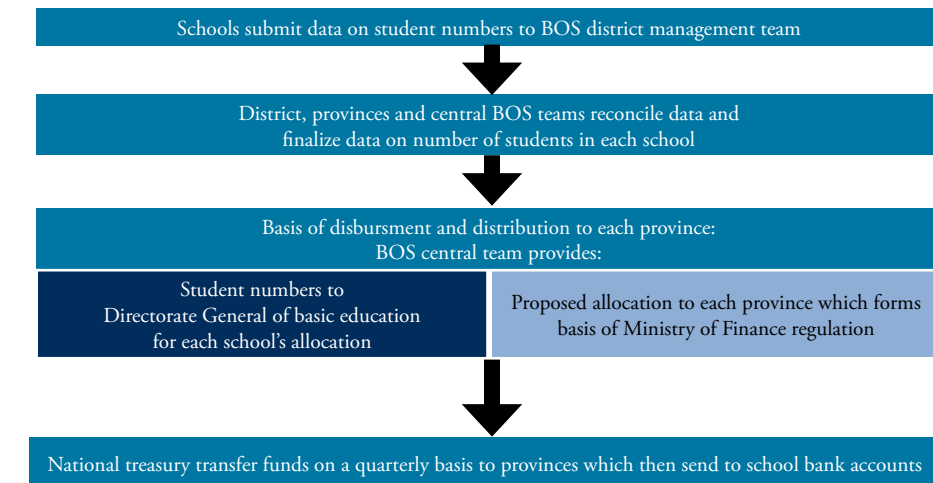
While there has been considerable debate about adjusting grant amounts for regional cost differences, the nominal value of the per-student grant has remained the same across Indonesia.<sup>12</sup> Given the huge geographical spread of Indonesia it is unsurprising that large regional cost differences exist. Regional price indices show that prices in the education, recreational and sports category can be twice as high in some regions compared to others.<sup>13</sup> This can result in significant differences in the goods and services schools in different regions

<sup>12</sup> Between 2009 and 2011, the per-student amount did differ between rural and urban schools. However, the difference was very small and provided an additional 1% to city schools.

<sup>13</sup> 2012 data from BPS ([www.bps.go.id/eng/tab\\_sub/view.php?kat=2&tabel=1&daftar=1&id\\_subyek=03&notab=11](http://www.bps.go.id/eng/tab_sub/view.php?kat=2&tabel=1&daftar=1&id_subyek=03&notab=11))

are able to purchase with their BOS funds. However, adjustments to account for price differences have not been made as they were seen to negatively affect the transparency of the program and increase the risk of fund leakage.

**Figure 1.7: Steps in BOS allocation process, 2014**



The BOS program has largely been administered and financed directly by the central government. In order to receive their allocations, schools are required to submit data on their enrolment numbers to their district administrations (Figure 1.7). This information passes up through the system to the central ministry where the allocations for each school are determined. This information forms the basis of an annual Ministry of Finance regulation determining the allocation for each school. Schools receive their grants on a quarterly basis and are able to check online to ensure they have received their full entitlement.<sup>14</sup> Implementation of the program has been good with schools, on the whole, receiving the appropriate BOS grant in full and generally on time (see Box 1.5).

#### Box 1.5: BOS program implementation down to the school level

Recent assessments of BOS program implementation show that the management of the program has been largely successful at providing schools with the correct amount of BOS funds. Schools receive grants on the basis of the number of students attending. A monitoring and evaluation exercise conducted in 2012 showed that 93 percent of schools received the correct BOS grant. Moreover, the difference between the amount received and the correct amount in the remaining 7 percent of schools was small. While the accuracy of allocation has generally been good since the outset of the program it has continued to improve through small changes to program implementation. For example, better data gathering systems were introduced to collect more accurate and timely information on student numbers over the course of implementation.

<sup>14</sup> Schools can check their allocations and when they are released on the dedicated BOS website: <http://bos.kemdikbud.go.id/>

**Box 1.5: BOS program implementation down to the school level (continued)**

In addition, the central government set up a buffer fund to address inaccuracies in student numbers which led to a much quicker resolution of these kinds of problems.

Schools also generally received their BOS grants on time which meant they had a predictable source of financing to carry out their plans. In 2012, it was estimated that 80 percent of all primary and junior secondary schools received their grants in the first month of the disbursement quarter. Delays in disbursement were usually associated with the late approval of the overall government budget which meant that most delays were seen in the first quarter of the financial year or the second semester of the school year.

The decentralization of the program to district governments in 2011 caused significant disruption to the running of the program. The requirement that schools fulfilled local government planning, budgeting and reporting guidelines led to significant delays. It also had a negative effect on the predictability of school-level funding and resulted in less transparency in overall school funding. Owing to the delays in receipt of BOS funds many schools borrowed from school committees, parents and staff and this lending went largely unrecorded. Faced with growing pressure from media reports of schools not receiving their funds on time the government reverted back to a provincial level funding model in 2012.

External audits of the BOS program have also been positive. The state audit agency audited the use of BOS funds and, with the exception of 2011, these audits resulted in an unqualified opinion. The 2011 audit gave a qualified opinion largely due to discrepancies in reported amounts transferred to schools. However, further investigation found that these differences were due to weaknesses in district reporting rather than to fund misuse.

While program implementation has generally been good the effectiveness of the BOS program rests on what schools decide to use their resources for. The management and governance of BOS resources at the school level is the subject of Chapter 3 of the report.

Source: Ministry of National Education (2009); World Bank (2013b)

In 2011, attempts were made to decentralize the program and transfer BOS funds through local government budgets. These changes met with little success and were reversed in the following year after delays in the allocation of BOS funds and complications in reporting requirements arose. Since then BOS funds have been allocated to provincial governments who directly transfer funds to schools.

The annual BOS manual provides the implementation guidelines for the program and outlines eligible and ineligible uses of grants (Table 1.3). Schools are given significant flexibility on the use of BOS funds which can be used for a wide range of improvement activities. With the exception of the payment of school hired contract teachers, schools and their communities are also left to decide the composition of their spending across the different allowable expenses. Restrictions on the proportion of BOS funds that can be used for spending on contract teachers was introduced in 2009 after concerns were raised about the over hiring of teachers and the very low student teacher ratios in some schools.

**Table 1.3: BOS allowable and unallowable expenditures, 2014**

	Allowable expenses	Unallowable expenses
1.	Purchase/reproduction of textbooks	Saving to earn interest
2.	Activities around new enrolment (e.g. registration fees etc.)	Lending
3.	Learning and extracurricular activities	Activities that are not priorities (e.g. study tours)
4.	Tests and examinations	Financing activities run by government offices
5.	Consumables (e.g. notebooks, snacks etc.)	Teacher bonuses and routine transport
6.	Utilities	Clothes for teachers and students (excl. poor)
7.	School maintenance and repairs	Medium and major rehabilitation
8.	Payment of honoraria teacher and education teaching personnel (max 20 percent in government schools)	Construction
9.	Teacher professional development	Materials that do not support learning process
10.	Contributions for poor students (e.g. transport, uniforms, shoes)	Buying shares
11.	BOS management	Activities already funded by other agencies
12.	Computers and printer/scanner	Activities unrelated to school operations (e.g. festivals, events)
13.	Other expenses when 1-12 are covered	Activities organized by non-government institutions related to BOS program
14.		Purchase of software for the purpose of BOS financial reporting

Source: BOS Manual, MoEC, 2014

The BOS manual also provides detailed guidelines on the roles and responsibilities of all stakeholders involved in the program. BOS teams are established in all levels of government and at the school level. These teams form the basis of the implementation, monitoring and evaluation of the program. The national BOS management team's main responsibilities include:

- Coordinating the collection of student enrolment data and calculating the allocations of BOS for all primary and junior secondary schools across Indonesia.
- Preparing annual implementation guidelines and disseminating changes of the program to the management teams responsible for BOS in local governments and at the school level.
- Handling grievances through the Public Complaint Service and Handling Unit.
- Monitoring and evaluation of the program.

A BOS team also exists at the school level and works with the school committee to manage BOS funds. The BOS team at the school level is made up of the school principal, a treasurer and a parent representative. The team is the main focal point in the school and manages all administrative procedures associated with the BOS program. The school committee oversees the planning and use of BOS funds as well as participating in the more general school improvement planning process. It is important to recognize that school improvement and annual work plans that are central processes of school based management are required for the implementation of BOS. Chapter 3 looks in more detail at the effectiveness of the school BOS team and the school committee in managing BOS funds and implementing school based management more generally.

## 1.5 Summary

This chapter has highlighted the significant reforms that have occurred in the Indonesian education sector over the last 10 years. The BOS program has been a central component of this overall agenda and has provided vital funding for school improvement and to support the necessary changes to their management that these reforms have demanded. The large share of the budget the program absorbs and its coverage of approximately 220,000 schools is testament to its importance to the reform process. The program is designed to contribute to the overall objectives of the sector by reducing the costs faced by households in sending their children to school and by providing schools with resources to implement better school based management. The extent to which the program has supported these ambitious objectives is the subject of the next two chapters. The next chapter looks at the role of BOS in reducing the costs faced by households and improving levels of participation and attainment. Chapter 3 then takes a closer look at the role that BOS has played in strengthening the implementation of school based management and how effective the management of BOS resources has been at the school level.

## CHAPTER 2

# Assessing the Effects of BOS on Household Education Spending and Participation



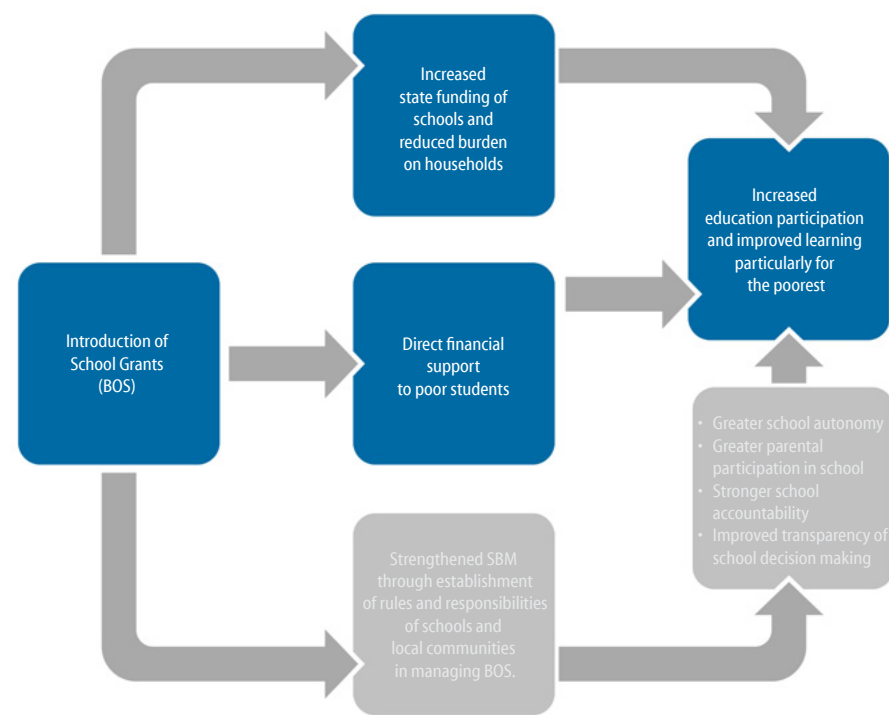
## 2.1 Introduction

Schools grants such as the BOS program are meant to increase state funding of schools, thereby reducing the need for schools to raise resources directly from parents. Chapter 1 noted that the BOS school grants program was expected to raise education outcomes through three main channels (Figure 2.1). This chapter focuses on two of the three channels:

- **Increased state funding of schools and reduced burden on households.** This channel has the potential to reduce fees and other charges made by schools on parents. BOS resources would reduce the need for schools to charge parents and shift the overall burden of education costs from households to the government.
- **Direct financial support to poor students.** Schools are also allowed to use BOS resources to support the ‘out of pocket’ expenses of poor students. This extra support would reduce the overall burden on poor households and again shift it to the school and the government.



**Figure 2.1: Channels through which BOS might influence households and students**



If BOS grants are successful in reducing the burden on households of sending their children to school it would be expected that participation and attainment would improve. Studies have highlighted the significant costs households face in sending their children to school. Efforts that make education more affordable for households are likely to result in more children starting and staying in school for longer (World Bank 2012b). Reductions in the burden are likely to be particularly important for poor households that typically devote a greater share of their income to education compared to better-off households.

This chapter assesses whether the BOS program reduced the costs faced by households and if this led to more children enrolling and completing primary and junior secondary school. While the available data to make this assessment are not ideal, the chapter attempts to answer the following questions:

1. How has household education spending and participation in basic education changed since the introduction of BOS?
2. Controlling for other determining factors what happened to spending and participation in basic education when BOS was introduced and when it was increased in subsequent years?

Since the BOS program only operated in primary and junior secondary schools it is instructive to compare these trends with those seen in senior secondary education. It would not be unreasonable to expect that given the additional support the BOS program provided to primary and junior secondary schools trends in spending and participation would be different to those seen in senior secondary. These differences in trends could be indicative of

what might have happened at lower levels of schooling had there been no BOS program. In light of this, the chapter also attempts to answer a third question:

3. Is there evidence of a different trend in basic education when compared with the trend in post-basic education?

Given that the BOS program transferred different amounts of funding to primary and junior secondary schools it is also likely that spending and participation trends will also vary between the two levels. The chapter also looks at differences in trends between government and non-government schools because the effect of BOS in lowering fees may have been stronger in government schools than in non-government schools.

BOS was introduced as a national program in 2005 and this limits the analysis that can be undertaken to assess its impact. For example, there are no exogenous sources of variation that would allow the causal impact of the BOS program on household education spending and student participation to be determined. Instead, an attempt is made to analyze the trends in these indicators before and after the start of the BOS program. The chapter also takes advantage of the fact that the per-student allocation changed over the life of the BOS program and explores whether subsequent increases, after the program's introduction, were associated with changes in spending and participation.

A major drawback of relying on an analysis of trends is that this does not control for other factors that may have also influenced household spending and participation decisions but which are not related to the BOS program. These include, but are not limited to:

- a. The growth in the Indonesian economy since 2005 which has in turn resulted in greater consumption overall and lower poverty rates.
- b. The introduction of scholarship programs which may have reduced household spending or eliminated it altogether for some households.

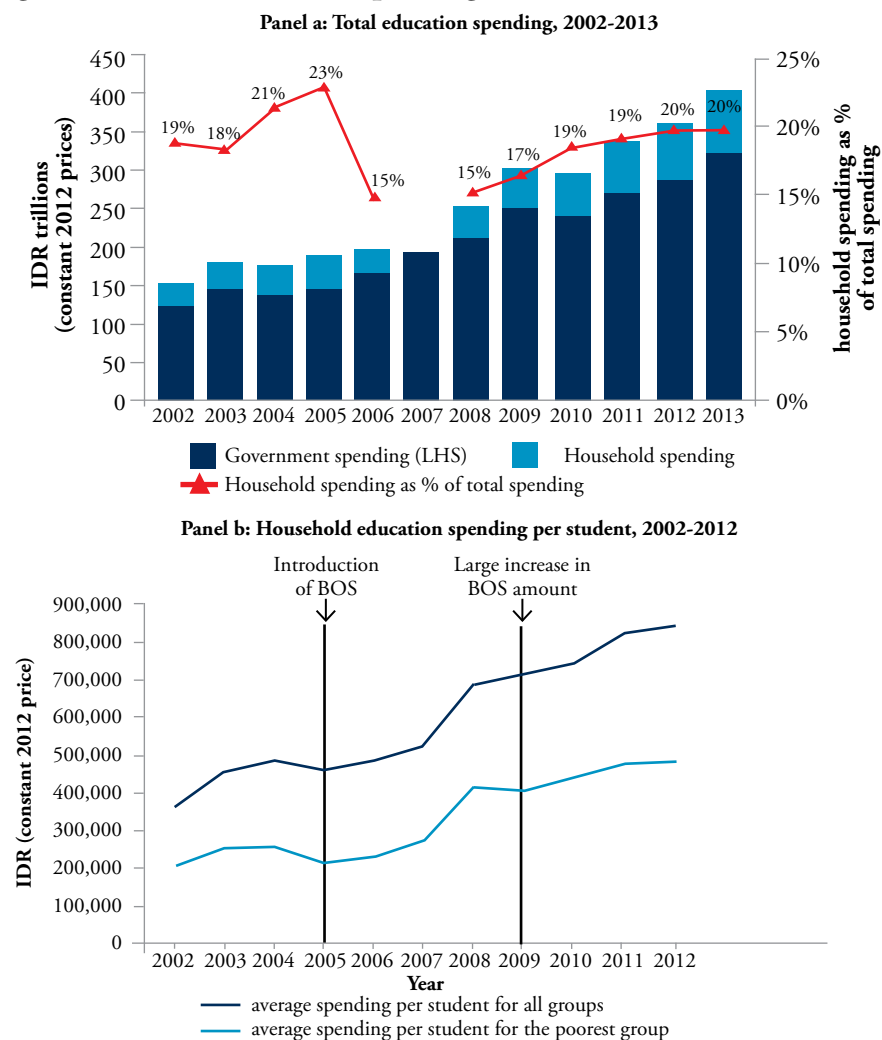
Such limitations notwithstanding, the chapter finds that the BOS program affected levels of household education spending in a limited way. Reductions in spending were seen immediately after the introduction of the program in 2005 and were particularly pronounced for poor children. These initial effects of the program were also larger at the junior secondary level. However, the magnitude of household education spending reductions was small relative to the size of the BOS grants. These findings which suggest that schools did not pass on much of the BOS grant to parents in lower charges are further supported by the large improvements seen in overall school funding since the introduction of the BOS program. The chapter also provides some evidence to suggest that the introduction of BOS was associated with a jump in junior secondary enrolment rates. However, a similar improvement in transition rates between primary and junior secondary was not found.

This chapter is organized as follows: Section 2 looks at trends in the level and composition of household spending on education. Section 3 examines trends in school participation before and after the BOS program and assesses whether there are any changes in enrolment and transition rates for children across different levels of education. Section 4 tries to assess the trends in household spending and participation controlling for other factors that may have influenced these outcomes. Section 5 examines overall school level finances to see if BOS had improved overall levels of school financing while Section 6 concludes.

## 2.2 Trends in education spending<sup>15</sup>

Total education spending – spending by households and the government – in Indonesia has risen rapidly over the last 10 years. In real terms total education spending has almost trebled in size since 2002 (Figure 2.2). Growth in total education spending has been more rapid in recent years, partly as a result of rapid increases in government spending since 2009 when the constitutional obligation to spend 20 percent of the total government budget on education was achieved.

**Figure 2.2: Two measures of spending on education, 2002-2013**



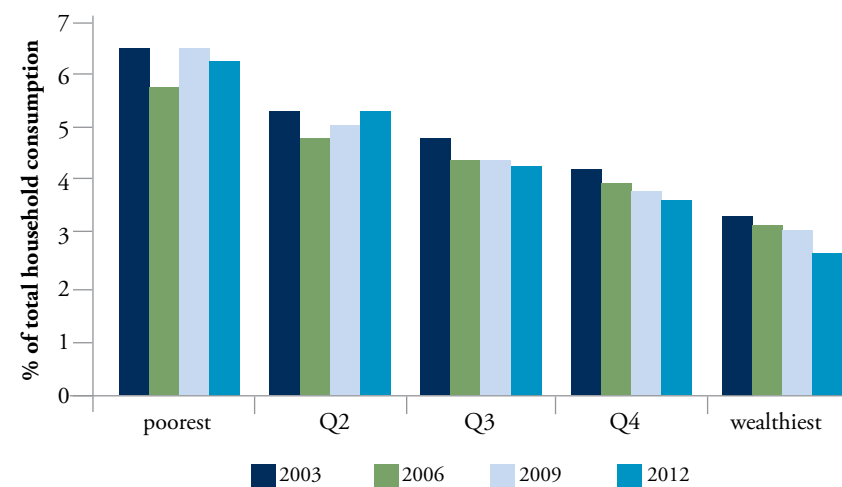
Note: Susenas data are from the consumption module collected annually. Since the structure of the household spending data for 2007 is different from other years, for comparability, it is omitted from the graph above. See Table 2.1 for items included in household spending. All amounts are in constant 2012 prices with differences in urban and rural prices taken into account to compute the national average.  
Source: 2012 revised plan budget laws, MoF and BPS for Susenas.

<sup>15</sup> In this section the focus is on looking at average trends in household education spending and trends for the poorest 20 percent of households. Detailed results for the other quintiles are provided in the appendix to the report.

Direct household education spending was growing before the introduction of BOS - having gone from 19 percent of total spending in 2002 to 23 percent of total spending in 2005. After the introduction of BOS, household spending fell sharply and reached 15 percent of total spending by 2006. However, since that initial reduction, household spending has been steadily increasing and represented 20 percent of total spending as of 2013. The second panel of Figure 2.2, shows that on average there were initial declines in per student spending – particularly among the poorest quintile – upon the introduction of BOS (2005) as well as for poor households when BOS was increased by a significant amount in 2009.

A key objective of the BOS program was to reduce the overall burden on households of sending their children to school. While Figure 2.2 provides a picture of how the burden of education spending shifted between households and the government it does not assess the change in the overall share of a household's budget that is required to send children to school. Figure 2.3 shows that this share dropped a little with the introduction of the BOS program but for the poorer quintiles has begun to rise again. Only the wealthier quintiles have seen a consistent drop in the overall share of spending needed to send their children to school. This reflects in part the faster consumption growth these households have experienced and the growing levels of income inequality seen over the period (World Bank 2014a).

**Figure 2.3: Average share of total household consumption required to enroll all children in primary and junior secondary school**



Note: The cost of sending all children to school is calculated by multiplying the average number of primary and junior secondary school aged children in a household by the average spending per student for each quintile. This cost is then divided by average household consumption to estimate the share of total consumption needed to send all children to primary and junior secondary school.  
Source: Susenas Education Module Data

### Box 2.1: Sources of data for household education spending and participation<sup>16</sup>

The analysis undertaken in this chapter draws on two sources of information on household education spending routinely collected as part of the Susenas household survey:

- 1. Education module information collected every three years.** This provides the most detailed and accurate source of information on household education spending. In particular, the education module provides information on education spending separately for each child currently attending school. It also collects information on all of the items of spending including spending on a variety of fees, transportation costs and pocket money. In general, information is collected for the school semester that ends just before the survey is conducted.
- 2. Consumption module information collected annually.** This module collects less detailed education spending information at the household level. Information on education spending is only collected for the month prior to the survey which means that many one-off payments made by households are not captured. A further drawback of this source is the inability to disaggregate information for individual students or for individual levels of education.

Given the differences in data collection it is perhaps not surprising that there are differences in overall levels and trends of education spending between the two sources. While the analysis conducted for the report has used both sources, the chapter predominantly reports results from the education module data as this provides the most accurate picture of household education spending over time. Results from the annual consumption module data are provided in an accompanying annex to the report.

Sections 2.3 and 2.4 of the chapter explore trends in education participation. Information from the annual March round of the Susenas household survey is used for this analysis.

As noted in Box 2.1, annual data on household education spending (such as that reported in Figure 2.2) is less accurate and cannot easily be disaggregated by different levels of schooling. For this reason the remainder of the chapter focuses on analysis that uses the three-yearly education module information. This source has the advantage of being very detailed in terms of composition of spending but has the limitation of not being available for every year since BOS was introduced. As a consequence, it is sometimes difficult to pick up the immediate effect of changes in the levels of BOS funding on household education spending. These difficulties do not arise for the analysis on education participation because data from the annual household survey is used to explore the effect of BOS.<sup>17</sup>

<sup>16</sup> Appendix Table 1 provides more information on differences in education spending information between the education and consumption module described in this box.

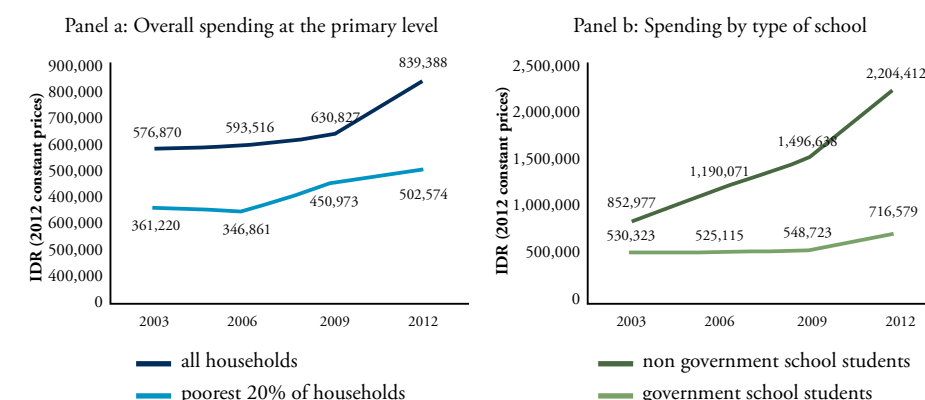
<sup>17</sup> Analysis was undertaken on the consumption module data as well. The findings were broadly similar and the results are available on request.

### Household spending at the primary school level

Average household primary education spending per student increased rather than declined after the introduction of BOS. Figure 2.4 (Panel a) plots household education spending for the average primary school student between 2003 and 2012. A comparison of spending before (2003) and directly after the introduction of BOS (2006) reveals that household spending increased. This is contrary to expectations given that the introduction of BOS was designed to reduce the burden on households of sending their children to school.

However, the effect of the BOS program seems to have differed between government and non-government students. Household spending for students attending government schools did decline a little after the introduction of BOS (see Panel b Figure 2.4). This perhaps reflects the stronger control the overall program had on government schools and in particular the greater importance that was placed on government schools to reduce the costs of education.

Figure 2.4: Household spending at the primary school level



Note: All amounts are in constant 2012 Indonesian Rupiah and adjust for price differences between urban and rural areas. Education spending is the sum of all components including transportation expenses as shown in Table 1 under the heading education module. Only pocket money is excluded.

Source: Education Module Susenas

After the program was introduced, average household spending on primary education has increased constantly. Average household primary student spending was 41 percent higher in 2012 compared to 2006. This is in striking contrast to the size of the BOS grant which also grew 41 percent over the same period. This suggests that on average schools did not reduce the amount they required households to pay but in fact increased it despite increases in the amount of BOS funds they were receiving. A closer look at the data (Panel b) reveals that spending for both public and private schools also increased over the period. On average, households report spending 36 percent more since 2006 on public primary school while they report spending almost 85 percent more since 2006 on private primary school.<sup>18</sup>

When spending is disaggregated by wealth quintiles, there is evidence to suggest that those in the poorest quintile benefited from the introduction of the BOS program. The average spending by a household in the lowest quintile in 2006 was 3.9 percent lower than in 2003 (Panel a Figure 2.4). This is small compared to the BOS grant amount and the drop was only temporary.

<sup>18</sup> These differences are driven in part by differences in the growth of fees. Between 2006 and 2012 fees in government schools increased by 28 percent and non-government schools by 108 percent.

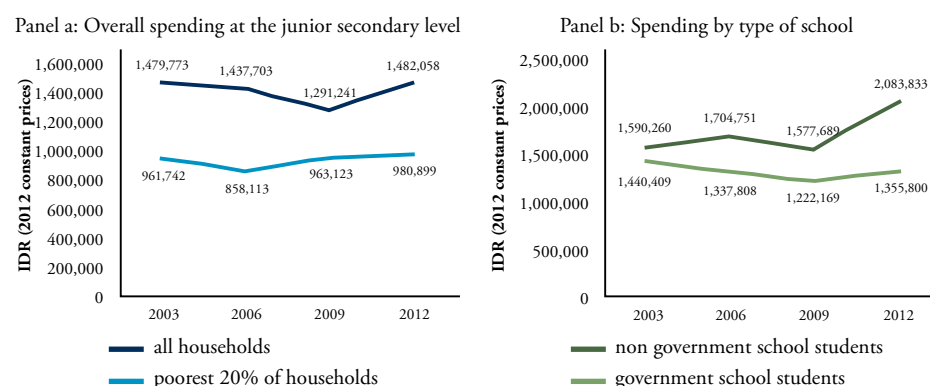
Between 2006 and 2009, household spending increased by around 30 percent and at a time when the BOS grant was growing.<sup>19</sup> Spending continued to grow between 2009 and 2012 albeit at a slower pace (11 percent).

### Household spending at the junior secondary school level

In contrast to primary, average levels of spending on junior secondary school students declined after the introduction of the BOS program (Figure 2.5). In particular the average household went from spending IDR 1.48 million to spending about IDR 1.44 million – a reduction of approximately 3 percent. Household spending declined further between 2006 and 2009 at a time when overall levels of BOS funding were also increasing (see Figure 1.4). However, spending began to rise after 2009 even though there were further increases in the level of BOS. These increases were large enough to bring spending back to pre-BOS levels.

While overall levels of household education spending declined the reductions represented only a small fraction of the per-student amount schools received under the BOS program. For example, between 2003 and 2006 average household spending declined by an amount equivalent to less than 10 percent of the overall BOS per-student grant.

**Figure 2.5: Household spending at the junior secondary school level**



Note: All amounts are in constant 2012 Indonesian Rupiah and adjust for price differences between urban and rural areas. Education spending is the sum of all components shown in Appendix Table 1 under the heading education module. Pocket money is excluded.

Source: Education Module Susenas

Households in the poorest quintile with children in junior secondary school fared somewhat better than average households – particularly at the outset. Between 2003 and 2006, spending per student for this group fell from IDR 961,742 to IDR 858,113 – a decline of about 11 percent. However, this reduction did not persist. By 2009 household spending among the lowest quintile was 12 percent higher than in 2006 and by 2012 it was 14 percent higher than the first year of the BOS program.<sup>20</sup> These results are striking given that household spending for poor households was increasing at the same time that BOS grants were being adjusted upwards.

<sup>19</sup> The increase in spending by the poorest households was largely driven by increased spending on uniform which declined subsequently. See Figure 2.7 for further details.

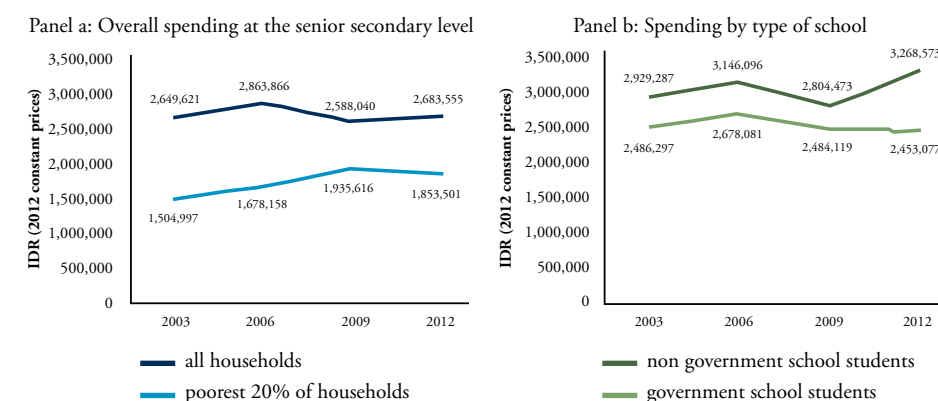
<sup>20</sup> The increase in spending by the poorest households was largely driven by increased spending on uniform and transport. While spending on uniforms in subsequent years declined, transport costs continued to rise. See Figure 2.7 for further details.

In a similar way to the analysis of primary school spending, reductions in the overall costs faced by households were limited to children attending government schools (Panel b Figure 2.5). Household spending fell by 7 percent after the introduction of BOS. While this was still a relatively small amount compared to the size of the BOS per-student grant it was much greater than the overall average suggesting that BOS had a more significant role in government junior secondary schools. The BOS per-student grant amount increased by 25 percent between 2006 and 2009 and household spending continued to fall for students attending government schools. However, by 2012 much of the reduction in household spending seemed to have been washed away even though spending in non-government schools was still slightly below its level in 2003.

### Household spending at the senior secondary school level

As mentioned earlier, there are no clear means by which to identify a causal impact of the BOS program. However, spending by households not covered by the BOS program may provide a reasonable proxy for what might have happened had there been no BOS program (a counterfactual). This is presented for all senior secondary schools (both general and vocational) in Figure 2.6.

**Figure 2.6: Household spending at the senior secondary school level**



Note: All amounts are in constant 2012 Indonesian Rupiah and adjust for price differences between urban and rural areas. Education spending is the sum of all components shown in Table 1 under the heading education module. Only pocket money is excluded.

Source: Education Module Susenas

Spending by households with children in senior secondary schools increased marginally between 2003 and 2012 (Figure 2.6). For households in the poorest quintile there was a steady increase between 2003 and 2009 followed by a slight fall in 2012. Spending per student at the senior secondary school level for households in the poorest quintile was 11 percent higher in 2006 than in 2003. By 2012, spending at this level was 23 percent higher than it had been in 2003.<sup>21</sup>

Comparing spending trends between basic education and senior secondary education does not reveal a significant effect of BOS at least over the long term. Recall that patterns of household spending at the senior secondary level are analyzed under the assumption that

<sup>21</sup> As with other levels of education, households whose students are in public or private schools seem to follow similar patterns of increased spending in the period under analysis.

this reflects what would likely have happened at all levels of education had there been no BOS program. Directly after the introduction of BOS household education spending rose significantly in senior secondary schools while spending in primary and junior secondary generally fell. However, at the primary level, overall household education spending increased by approximately 46 percent between 2003 and 2012 and was much higher than the overall increase in senior secondary education. In junior secondary school, spending followed a similar trend to senior secondary spending. This comparison suggests that overall household spending in primary and junior secondary education rose at a similar or even faster rate than at senior secondary between 2003 and 2012 which suggests that BOS had a limited effect over the longer term.

However, changes in household education spending immediately after the introduction of the BOS program reveals a different pattern. In general the introduction of the BOS program was associated with a fall in household education spending in primary and junior secondary schools (see Figures 2.5 and 2.6). These drops stand in contrast to the increase in household senior secondary education spending in Figure 2.6. This suggests that in the short-term the trend in spending in primary and junior secondary schools was different than in senior secondary school and may be associated with a short-term effect of BOS.

The trends in data shown in this section show some small reductions in spending immediately after the start of the BOS program. These reductions are most pronounced for junior secondary school children in the poorest quintile though there is some indication of reductions for primary school children in the poorest quintile as well. Overall, any reductions we observe are much smaller than the amount of the BOS grant suggesting that schools are using most of the grant amount in ways other than to lower household spending on education.

### The composition of spending

Thus far, the analysis has looked at trends in overall spending. We turn next to an analysis of how the composition of spending has changed over time. Figure 2.7 looks at the amounts spent by households on four main categories of education expenses – fees, uniforms, materials and transport.<sup>22</sup>

In primary schools, the fees faced by parents in sending their children to school dropped when BOS was introduced and only began to rise again after 2009. The main channel through which BOS should have operated is through a reduction in the amount of fees households report needing to pay. In the case of primary school students, these declined between 2003 and 2006 and again between 2006 and 2009 but increased substantially in 2012 – to levels above those seen in 2003.<sup>23</sup> It is important to note that this reduction in fees charged by schools only occurred in government schools (see Appendix Figure 1).

The composition of primary education spending has changed significantly with fees making up a smaller share and transportation a larger share of overall costs. In 2003, fees accounted for about 50 percent of education spending by households. This declined to 40 percent in 2006 and a little over 30 percent in 2009 but then rose back to almost 40 percent in 2012. The changes in spending composition for the poorest quintile followed this same general

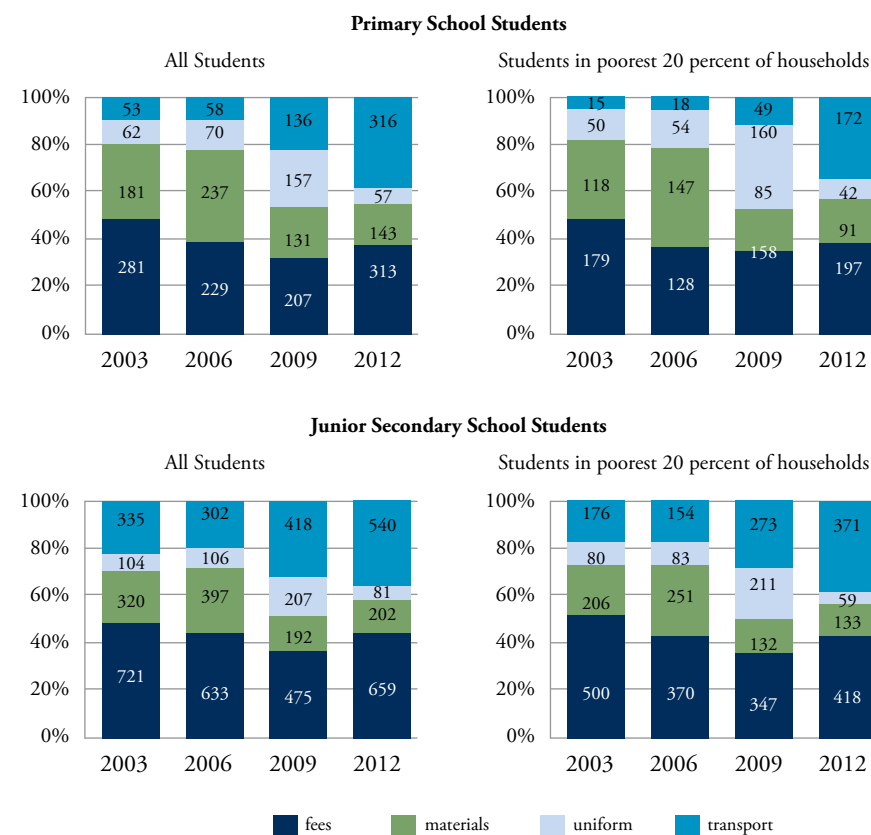
<sup>22</sup> This section does not include the comparison of government and non-government schools but these are provided in Appendix Figure 1.

<sup>23</sup> The drop in material spending after 2009 is largely due to drops in textbook and teaching supply costs which may in part be a reflection that these costs were covered by other school funding including BOS.

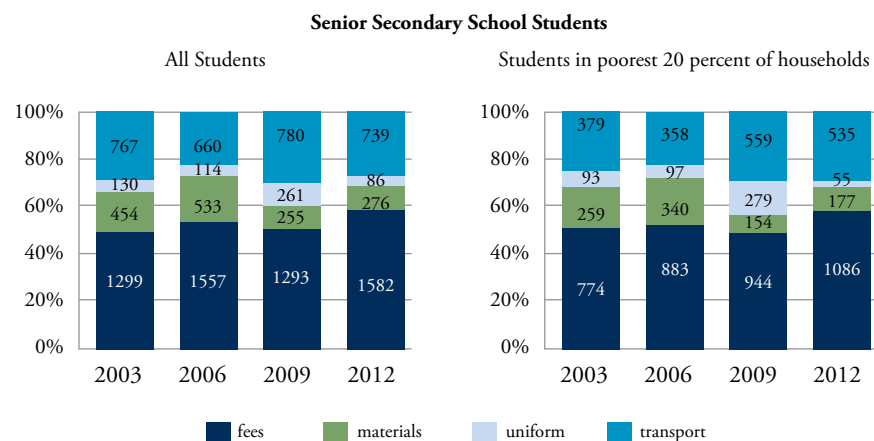
pattern. In both cases however, there was a substantial increase in the proportion of spending devoted to transport. While largely unchanged from 2003 to 2006 – the amount of spending reported on transport increased six-fold between 2006 and 2012 and became equal roughly to the amount households reported spending on fees.<sup>24</sup> Thus it appears that any reduction in fees was more than washed away by the increases in transport costs households report facing.

Trends in fee payments at junior secondary schools were similar to those faced by primary school students. In junior secondary schools, the fees charged to parents also fell with the introduction of BOS but began to rise again after 2009. For junior secondary school fees also represented about 50 percent of household spending before the start of the BOS program. This fell to 45 percent by 2006 and then again to 35 percent of the total educational spending of the typical household. Overall between 2003 and 2006, fees declined by 12 percent and between 2006 and 2009 they fell another 25 percent. Thus in the case of junior secondary school students spending on fees remained below pre-BOS levels. Household spending among those in the poorest quintile followed a similar pattern. However, as in the case of primary, this reduction in spending on fees was accompanied by large increases in transportation costs which resulted in overall higher levels of total spending by 2012.

**Figure 2.7: Composition of per-student Spending (IDR thousands), education module**



<sup>24</sup> Transport spending increased in part because of the rising price of fuel that resulted from periodic adjustments in the fuel subsidy and general increases in world prices. Average spending on transport also increased because the share of students walking to school declined.



Note: All amounts are in constant 2012 Indonesian Rupiah and adjust for price differences between urban and rural areas.

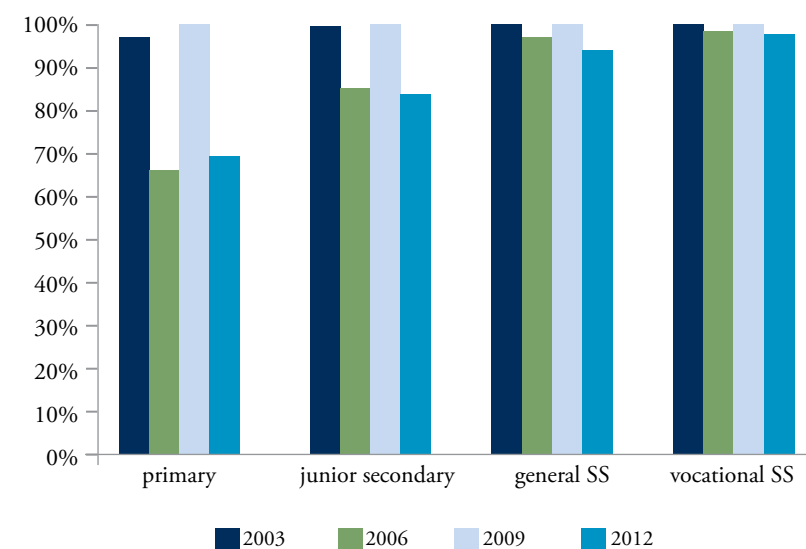
Source: Education Module, Susenas.

While fee payments declined in 2006 in schools receiving the new BOS grants they continued to rise in senior secondary schools that were not part of the program. Again, analysis of senior secondary school spending provides an opportunity to assess if the patterns in school levels covered by BOS differed at all from other levels of the education system. This is not an ideal comparison group against which to evaluate the BOS program but it is the only group available that is not eligible for BOS grants. This type of comparison is less conclusive when looking beyond 2006. Trends in fees after 2006 were similar across different school levels which suggest that if there was an effect of the BOS program on fees and charges at the primary and junior secondary school it was relatively weak.

Over the period 2003-2012, the incidence of fee payment has also been changing. Figure 2.8 shows the proportion of students reporting the payment of fees in each round for which we have data. It shows that the introduction of BOS in 2005 coincided with a big drop in the number of students reporting fee payments.<sup>25</sup> These drops are largest for primary school followed by junior secondary school. The incidence of fee payment increased again in 2009 before falling again in 2012. The fact that the percentage of students reporting fee payments is substantially smaller in 2012 than in 2009 coupled with the fact that average amounts of fees reported are higher in 2012 would suggest that those who do pay fees are paying substantially more than they did in 2009. It is possible that that the decline in the percentage of households that reported paying fees in 2012 is a result of regulations issued around that time which attempted to outline the contributions schools were allowed to seek from parents and contributions that were prohibited (see Box 4.1). This may have resulted in some schools dropping fee charges altogether while other schools increased the contributions they sought from allowable charges.

<sup>25</sup> Between 2003 and 2006 average fees (for those paying and not paying- including zeroes) dropped but given that far fewer households were being charged fees it seems as though the fee a student was paying increased.

**Figure 2.8: Students reporting fee payments**



Source: Education Module, Susenas

In principle, the BOS program could have reduced household spending on education through direct financial support to the poorest households. For example, in the beginning, schools could have used the grant to pay for the transportation costs of poor students. However, regional independent monitoring shows that only a limited amount of the funds were used for this purpose (see Figure 3.7). This is corroborated by the slight initial reductions in transport costs for junior secondary school students in Figure 2.7.

### 2.3 Trends in school participation<sup>26</sup>

A key objective of the BOS program was to raise participation in basic education particularly for the poorest households (see Figure 2.1). Figure 2.9 assesses whether net enrollment rates changed when BOS was introduced.<sup>27</sup> The figure indicates the school year in which BOS was introduced as well as subsequent years when its value was raised. The expectation would be that these years would result in an increase in primary and junior secondary enrollment rates. In contrast, it would be expected that a different pattern would emerge for senior secondary schools given that there was no BOS for schools at this level.

#### Enrollment rates

There does not appear to be a strong link between BOS and primary school enrollment rates (Figure 2.9). This is perhaps understandable since the previous section established that

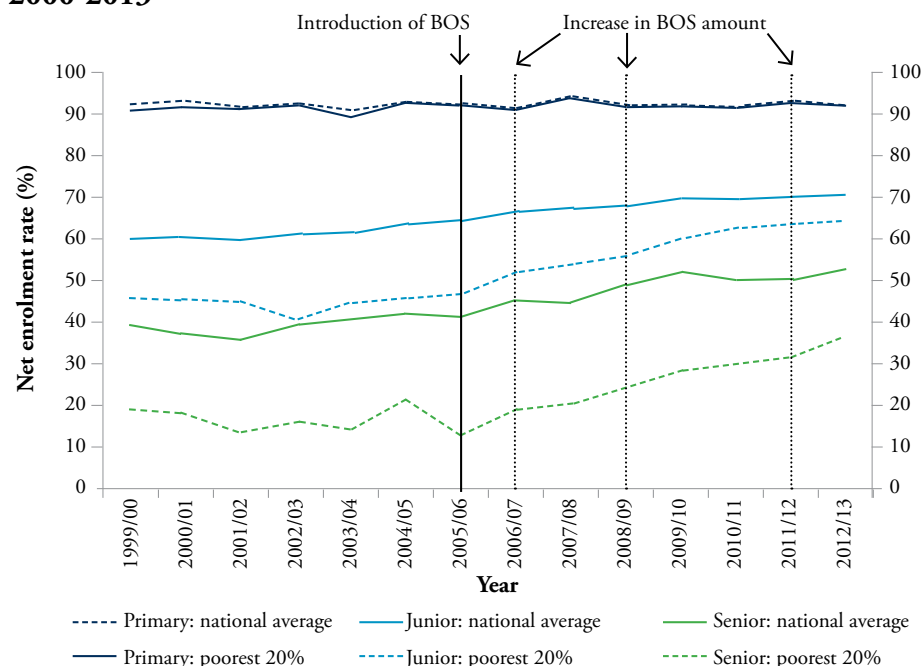
<sup>26</sup> Splits showing changes in participation between government and non-government schools are not included in this section. Annual data on enrolment rates disaggregated by government and non-government schools are not available from the annual household survey. While the education module data includes information on the type of school attended this is only for a sample of children and it is difficult to match up with the overall trends.

<sup>27</sup> Early enrolment in Indonesia is common so primary net enrolment rates can provide a slightly distorted view on access. A version of Figure 2.9 using adjusted net enrollment rates (the percentage of 7-12 year olds that are in school) shows virtually identical patterns.

household spending on schooling did not decline much as a result of BOS. Furthermore, primary school net enrollment rates had little room for improvement as they were very close to 100 percent throughout the period.

While school grants were originally introduced in targeted schools after the wake of the 1997 Asian financial crisis the national roll-out of the BOS program did not coincide with a negative shock of this kind. In fact, in 2005 when the BOS program was being introduced, economic growth was averaging 5.7 percent and the proportion of the population that fell below the poverty line stood at 16 percent down from 18 percent in 2002. Thus while it is possible that BOS prevented school participation from declining at a time when household consumption was rising we are unable to test this assertion.

**Figure 2.9: Primary, junior and senior secondary net enrolment rates, 2000-2013**



Note: The horizontal axis refers to the school year. BOS was introduced in the second half of 2005. Source: Susenas, 2000-2013

In contrast, there is evidence that the expansion of junior secondary school enrolment rates for the poorest children accelerated after the introduction of the BOS program. This is made clear by the fact that there is a greater than 10 percentage point gap between the poorest quintile and the average before the introduction of BOS – a gap that does not appear to close between the 1999/00 and 2005/06 school years. After the introduction of BOS there is a steady decline in the gap and by 2012/13 the junior secondary school enrolment rate for children in the poorest quintile is within 5 percentage points of the national average. It is possible that these increases in enrolment rates are linked to the declining share of fees documented in the previous section.

Trends in senior secondary school enrolment tend to reinforce the view that poorer children in junior secondary schools may have benefitted from the BOS program. Enrollment rates increased across the income distribution but the poorest quintile did not catch up as rapidly

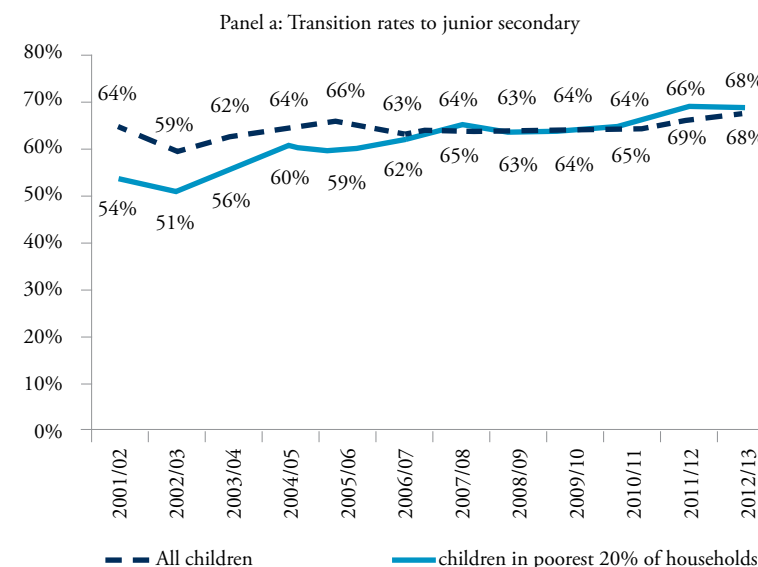
or by as much in the case of senior secondary. Thus, it is possible that BOS played a role in raising junior secondary school enrollment rates for the poorest quintile of children.

**Transition rates**

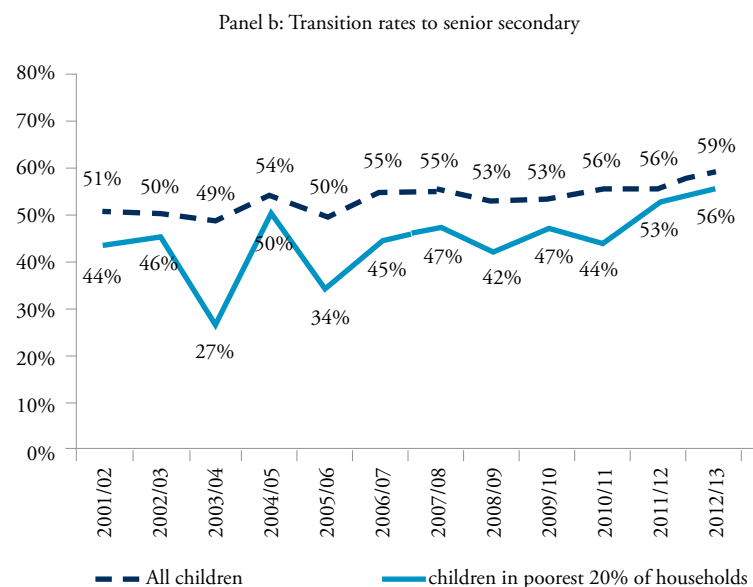
As an alternative to enrollment rates, crude transition rates between primary and junior secondary school were also examined. These transition rates measure the percentage of 12 and 13 year olds who complete the sixth grade of primary school and report enrolling in the seventh grade (i.e. starting junior secondary school).<sup>28</sup> It is possible that these transition rates provide a better measure of the effect of BOS because they focus on a key decision point that BOS aimed to affect. Put another way, if BOS improved education participation, changes in these transition rates would likely pick it up more clearly and quickly than overall measures of participation such as net enrolment rates.

Improvements in transition rates between primary and junior secondary school do not appear to be strongly associated with the introduction of BOS or changes in the program thereafter. Figure 2.10 shows that between the 2002/03 and 2005/06 school years there was a steady improvement in transition rates. The introduction of BOS in 2005/06 does not appear to have changed this upward trend significantly. Transition rates seem to have dropped after 2005/06 and only really began to improve after 2010/11. Transition rates for poor households followed a similar trend although they tended to improve more consistently after the introduction of the BOS program than the overall rate.

**Figure 2.10: Crude transition rates of children aged 12 and 13 years old into junior secondary school**



<sup>28</sup> The transition rates used in this section are not the same as those typically measured with administrative data which divide the number of new enrollees in the first grade of junior secondary by the number completing the final grade of primary in the previous year.



Note: Crude transition rates from primary to junior secondary are calculated from the number of children enrolled in grade 7 of junior secondary education divided by the number of 12 and 13 year old children who completed grade 6 of primary education. Crude transition rates from junior to senior secondary are calculated from the number of children enrolled in grade 9 of junior secondary education divided by the number of 15 and 16 year old children who completed grade 10 of junior secondary education.

Source: Susenas, 2002-2013

Transition rates from junior to senior secondary that would perhaps be less influenced by the BOS program show a similar upward trend.<sup>29</sup> Between 2001/02 and 2004/05 transition rates to senior secondary went from 51 percent to 54 percent (an increase of 5.8 percent). Between 2004/05 and 2009/10 the transition rate did not change much but from then increased to 59 percent by 2012/13 (an increase of 11.2 percent). A comparison of these trends with those seen for the primary-to-junior school transition rate does not reveal major differences. This suggests that if BOS was a factor in improving transition rates between primary and junior secondary school it was relatively weak.

## 2.4 Isolating the effect of BOS on household education spending and participation

The previous sections have documented trends in spending and participation before and after the BOS program. As noted earlier, because BOS was a national program there are no obvious comparison groups available to allow for a causal assessment of the impact of BOS. A variety of factors will have impacted both household spending and participation decisions. These include but are not limited to economic growth and sustained poverty reduction, economic and climatic shocks and other policy initiatives – most importantly the introduction of scholarship programs and increased government spending on education as a whole.

<sup>29</sup> Figure 2.10 also shows transition rates from junior secondary school to senior secondary school – specifically the percentage of 15 and 16 year old children who report completing 9th grade and report enrolling in 10th grade (i.e. starting senior secondary school).

Such issues notwithstanding, this section tries to isolate any effect of BOS by using a simple regression analysis to control for other factors that may have driven the changes in spending and participation. For example, improvements in the income of households, changes in the demographic structure and changes in the overall supply of education at the district level could have influenced the observed trends. These observable factors are controlled for by using simple OLS regression models of the following form:

$$Y_{ij} = \sum_{t=2003}^{2012} \beta_t I[T=t] + \sum_{k=1}^K \beta_k X_{ij} + \epsilon_{ij} \quad (1)$$

These regressions use data from the education module.  $Y_{ij}$  denotes household spending on education for child  $i$  in schooling level  $j$  measured in constant 2012 prices adjusting for differences between urban and rural areas. The right hand side of the regression includes binary variables which equal 1 if the year is 2003, 2006, 2009 or 2012. The time dummies capture the average amount of household spending in each year. We interpret the coefficient on the 2003 dummy as the amount of household spending in a pre-program year and the coefficients on 2006 and subsequent years as the amount of household spending in post-program years. A series of control variables which include household size and composition, mother's education, consumption per capita<sup>30</sup>, an indicator variable for whether or not the child receives a scholarship as well as dummy variables for province allows us to control for the influence of observable characteristics on spending. Regressions are run for the full sample as well as for each quintile.<sup>31</sup>

The main text reports the predicted spending using the regression coefficients and sample averages of characteristics between 2003 and 2012. The predicted spending provides an indicator of how household spending would have changed over the period if other observable factors (e.g. household income and educational support) had remained constant. This predicted spending indicator gives a clearer picture of the potential effect that BOS may have had on household education spending. For example, if predicted spending dropped after the introduction of the BOS program this drop would not have been driven by changes in the characteristics controlled for in the regression analysis. This would provide a slightly more refined view of the effect of BOS than the trends reported in Section 2.2.

Similarly, for enrollment and transition rates, a probit model of the following form is estimated:

$$Pr(Y_{ij} = 1) = \sum_{t=2002}^{2013} \beta_t I[T=t] + \sum_{k=1}^K \beta_k X_{ij} + \eta_{ij} \quad (2)$$

These regressions use data from the consumption module (see Box 2.1) and the dependent variable in the case of enrollment is a binary variable that takes the value of 1 if the child is enrolled at primary or junior secondary level and is zero otherwise. In the case of transition rates it is a binary variable taking the value of 1 if the child transitioned from one level to the next and zero otherwise. The coefficients on a series of indicator variables for all the years from 2002 to 2013 are the main items of interest. Other controls are as previously specified.

<sup>30</sup> Spending on education is excluded from consumption per capita since this is captured in the dependent variable.

<sup>31</sup> Single year regression estimates were calculated to see if estimated coefficients were different to the pooled estimates but this did not affect the results.



These regressions are also run for the full sample and for each quintile. In the interests of brevity – only the results of the average and lowest quintile are reported in the chapter.<sup>32</sup> Regular Susenas data are used from early 2002 to 2013<sup>33</sup> to investigate the changes in the enrolment rates before and after the policy implementation. The estimation covers children within the official age groups because according to 2005 BOS guideline, the program is given to individuals between 7-15 years old attending schools so they would receive educational services and complete 9 years of basic education.<sup>34</sup>

### a. The effects of BOS on household education spending

The results of the regression analysis do not alter significantly the findings from the trend analysis reported in Section 2.2. Figure 2.11 summarizes the results of regression (1) for each level of education and two groups – the average household and the poorest quintile. By and large, the trends in household spending observed earlier do not change much when other characteristics that may have had an influence on household education spending are controlled for.

Controlling for other factors shows that household education spending in primary and junior secondary schools dropped after the introduction of BOS. Figure 2.11 shows that household education spending, both on average and for the poorest households, fell after the introduction of the BOS program. Given that the predicted spending trends show this after controlling for other factors that may have influenced spending (e.g. household consumption) provides further evidence of an effect of BOS on household spending. However, these drops are relatively short lived. In primary, household education spending begins to rise soon after the introduction of BOS. A similar trend is also seen for households with children in junior secondary although spending only begins to rise after 2009.

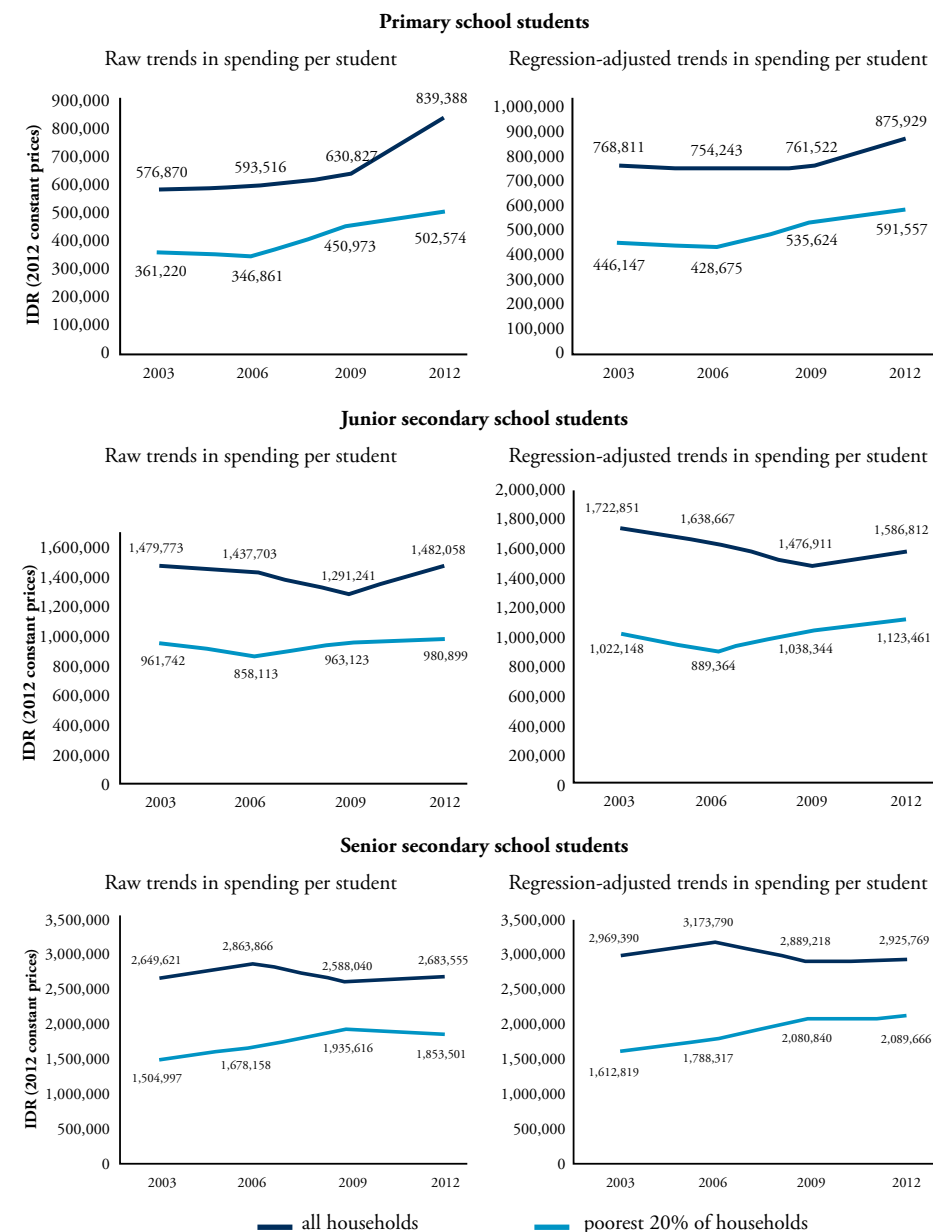
The effects of the BOS program on reducing household education spending were strongest in government schools. Regression analysis confirms the trends seen in Figures 2.4 and 2.5 (see Appendix Figure 2).

<sup>32</sup> The full results are provided in the appendix to the report.

<sup>33</sup> Since regular Susenas data used here are from March rounds, following the analysis on education spending from annual data later in the analysis we also adjusted the year where BOS was commenced. So, 2006 March round would be marked as 2005 because it belongs to 2005/2006 school year.

<sup>34</sup> However, those who are outside such a cohort might also attend schools given that early age enrolment is common in Indonesia. In analyses not reported here, we broaden the cohort using different age ranges to confirm these findings are unchanged.

**Figure 2.11: Trends in household education spending per student controlling for household characteristics<sup>35</sup>**



Notes: The left hand side of this table shows raw data. The right hand side shows the results of a regression-based analysis. The dependent variable in the regression model is per-student spending. Education spending is calculated from information on household spending for each child attending school in at the corresponding school level using fees, uniforms, materials and transport (as described in Figures 3-5). Regression controls for a set of household characteristics including household size and composition, number of enrolled children, mother's education, age,

<sup>35</sup> Appendix Figure 2 provides the same information but disaggregates by government and non-government schools. Regression adjusted trends in spending per-student for the poorest quintile in government schools were also estimated. These follow similar trends in primary and junior secondary to those shown in Figure 2.11

household per capita consumption (excluding spending on education), whether or not a child in the household received a scholarship and dummy variables for province. Predicted spending using sample averages are shown. All amounts are in constant 2012 Indonesian Rupiah and adjust for price differences between urban and rural areas. Source: Susenas Education Modules

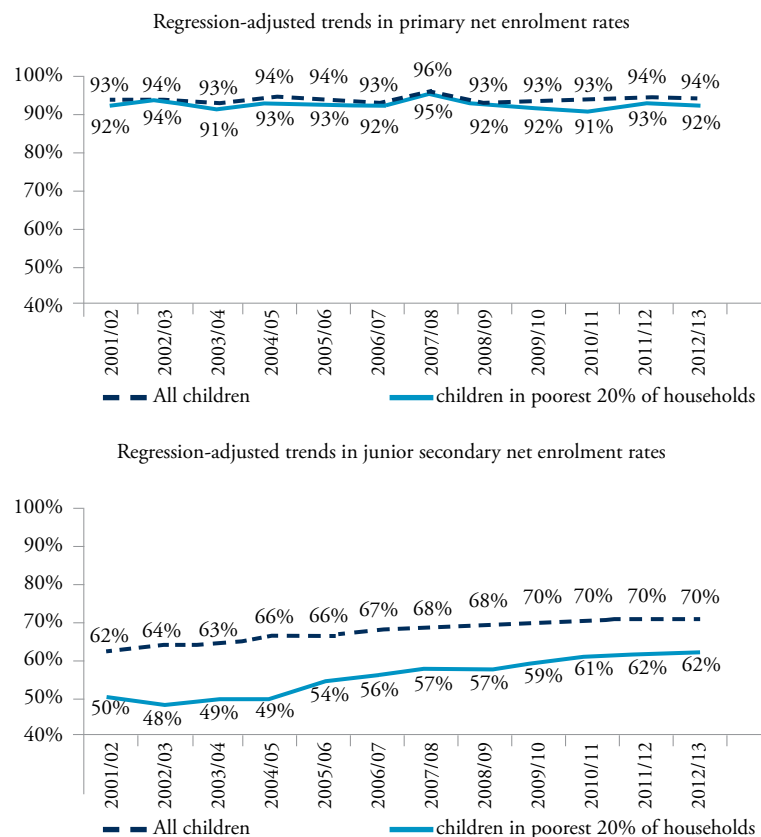
In a similar way to the raw trends reported in Section 2.2, spending on senior secondary school increased at the time the BOS program was introduced. This stands in contrast to the results in primary and junior secondary education and provides further weight to the initial positive effect that BOS had on the costs faced by households.

**b. The effect of BOS on enrollment and transition rates**

**Enrollment Rates**

Figure 2.12 corroborates the broad trends described in Section 2.3 – primary enrollment rates are high and do not seem to have been visibly influenced by the introduction of the BOS program or by the increases in the size of the BOS amount. Given that the impact of BOS on spending at this level was small and that enrollment rates were above 90 percent even before the BOS program started, these findings seem plausible.

**Figure 2.12: Regression-adjusted trends in primary and junior secondary net enrolment rates**

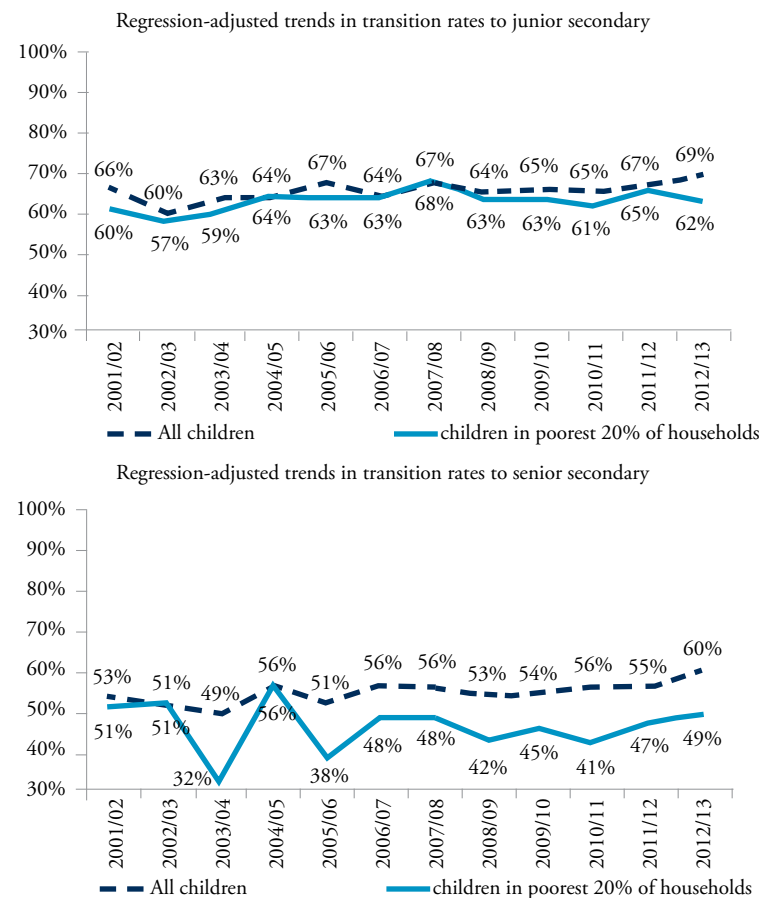


Source: Susenas, 2002-2013

The regression-based enrollment trends at the junior secondary level are also in line with the raw trends seen earlier (Figure 2.12). There was a fairly consistent gap between the lowest quintile and the average household between 2002 and 2005. Immediately after the introduction of the BOS program, enrollment rates for the poorest quintile jump up by 5 percentage points. Over time the gap between the bottom quintile and the average diminished and stood at 8 percent points in 2013 – substantially smaller than the 17 percentage point gap seen in 2005.

**Transition Rates**

**Figure 2.13: Regression-adjusted trends in junior and senior secondary transition rates**



Source: Susenas, 2002-2013

Controlling for household characteristics suggests that there was a slight increase in transition rates between 2002/03 and 2004/05 (Figure 2.13). The introduction of the BOS program led to a slight increase 2005/06 but then transition rates fluctuated and ended at a slightly higher level in 2012/13. For the poorest quintile, transition rates increased between 2002/03 and 2004/05 but when BOS was introduced rates stayed relatively flat. Overall this suggests little link between the introduction of BOS and the transition rates for children from primary to junior secondary. Given the small decreases in household spending seen in Section 2.2 this seems understandable.

It is hard to draw firm conclusions from a comparison between predicted junior and senior secondary transition rates. Figure 2.13 also paints a corresponding picture for the transition rates between junior secondary and senior secondary. In contrast to junior secondary rates, transition rates to senior secondary fell in the year that BOS was introduced but have since followed a similar path. It is not clear what may have driven the large fluctuations in transition rates at senior secondary for the poorest quintile between 2002/03 and 2005/06.

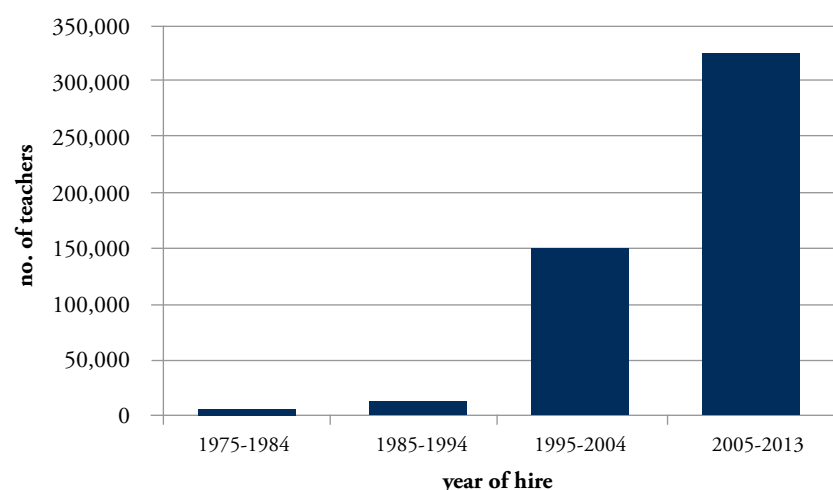
Taken together, the evidence on enrollment and transition rates tentatively suggests that the BOS program has been associated with an initial increase in junior secondary school enrolment rates for the poorest children. However, the evidence is not as clear cut as the trends outlined for household education spending seen in Section 2.3.

## 2.5 Effect of BOS on school level finances

The evidence that has been presented in this chapter suggests that the BOS program lowered household spending when it was introduced but that these reductions were small relative to the overall size of BOS grants. In turn, this would imply that the overall level of resources that schools had would have increased substantially with the introduction of the BOS program. Unfortunately, no detailed time series information on school funding in Indonesia is available to confirm this conclusion. However, it is possible to explore trends in the number of school hired teachers which gives a glimpse at the status of school finances before and after BOS.

Data from the national registry of teachers (NUPTK) shows that the introduction of BOS led to a sharp increase in the number of school-hired teachers. Figure 2.14 shows that approximately 325 thousand teachers were hired by schools after the introduction of BOS. Put another way, over half of all school hired teachers in primary and junior secondary schools were hired after BOS was introduced. Evidence, presented in the next chapter, also shows that a significant share of BOS grants went on hiring these teachers.

**Figure 2.14: School hired teachers by year of hire**



Source: NUPTK (2012), MoEC

These findings support evidence presented in earlier sections that suggests that at best only a small proportion of BOS funding went to reduce the household burden of education spending. In contrast, levels of school funding appear to have improved significantly with the introduction of the program. How effectively these resources are spent will depend crucially on how well schools are managed and operated. This is the subject of the next chapter. However, it is sobering to note that despite increased school level funding, levels of learning achievement, measured by the OECD PISA assessment, have remained relatively unchanged (OECD 2013).

## 2.6 Summary

It is important to recognize the limitations of the approach used in this chapter to assess the effect that the BOS program may have had on household education spending and participation. In particular, given that BOS was a national program that all students benefitted from, there are no good counterfactuals with which to compare recipients with. The chapter has made efforts to control for other factors that may influence trends in education spending and to use trends at the senior secondary level as a check on trends in earlier levels of education. However, it is recognized that these efforts do not allow the impact of the BOS program to be identified in a rigorous manner.

Notwithstanding these limitations the analysis outlined in the chapter has shown tentatively that the introduction of the BOS program led to an actual decline in household education spending. These reductions appeared to be concentrated in government schools, tended to be larger for poorer households and for junior secondary school students. However, the size of the reductions was small relative to both the level of the BOS per-student grant and levels of overall household education spending. This stands in contrast to another study that looked at the effect of school grants on household education spending in India and Zambia. The study showed that anticipated increases in school grants resulted in a similar decline in household education spending (Das, Dercon et al. 2011).

Subsequent increases in the overall level of BOS funding did not appear to have a consistent effect on household spending and education spending in 2012 was significantly higher than it was directly after the introduction of the BOS program.

There are a number of reasons why schools may not have passed on more of the BOS grant in the form of lower charges to households. First, it is possible that the increases in school funding that BOS provided were not sufficient to cover the overall operating costs of schools and schools still needed to rely on parental contributions to cover the full costs. It is also possible that schools did not receive the full amount of BOS funds and remained dependent on parent contributions. However, evidence on the implementation of the program suggests that, on the whole, most schools received BOS funds in an accurate and timely manner (see Box 1.4). Second, other sources of funding may have dropped off with the introduction of BOS. For example, a study on the predecessor to BOS found that local governments reduced their own school funding which reduced the overall funding schools had (Ridao-Cano and Filmer 2004). This may have meant that schools had to continue to rely on student contributions and charges to offset the reductions from other sources. It seems clear that it is important to ensure that the BOS grant is truly additional to other school funding and that the overall level of the BOS grant, in combination with other sources, is sufficient to fully cover school operating expenses. The report returns to these topics in the concluding chapter.

Finally, the BOS program does not appear to have materially affected participation rates at the primary level but is associated with a jump in participation rates for poor households at the junior secondary level. However, caution is warranted in this interpretation given the limited effect seen on the transition rate. Moreover, Indonesia has some way to go before junior secondary school participation and completion are universal and it is possible that BOS could do more to support further improvements.

## CHAPTER 3

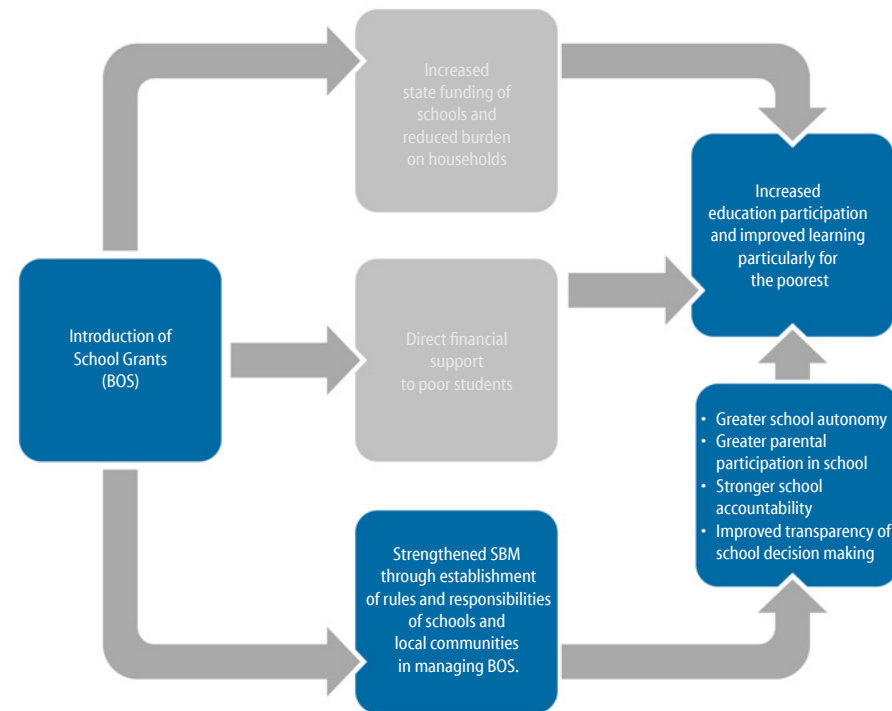
# BOS and School Based Management



### 3.1 Introduction

Decentralization of decision making to the school level or School Based Management (SBM) has been widely adopted across the world in an attempt to improve the teaching and learning conditions for children. The idea behind SBM is that by shifting decision making authority closer to the end users, who are better informed of their needs, the teaching and learning environment in schools may be improved (Caldwell 2005).

School based management is not a uniform or standard operational system and SBM programs vary in the level of authority devolved to schools and the how key decision making agents are held accountable. Another important dimension of school based management reforms is the resources that are made available to schools to implement the activities they have deemed necessary for improvement. The objective behind the introduction of SBM also varies as much as some of these key dimensions. In some countries such as Australia, the United Kingdom and the Netherlands, SBM was introduced to improve the efficiency of the education system. In others, including Canada, New Zealand and Czech Republic reforms were introduced to increase parental and community participation in school management and to democratize education. And a number of other countries (e.g. Thailand, El Salvador and Mexico) have identified improvements in the quality of teaching and learning as the major objective (Malen, Ogawa et al. 1990; World Bank 2007).

**Figure 3.1: Channels of BOS support to school based management**

In Indonesia, the formal introduction of school based management occurred at around the same time as far broader decentralization reforms were being introduced. In 2003, a new education law outlined the new roles and responsibilities for different levels of government and also gave schools significant autonomy over their own affairs. The same law mandated the establishment of school committees as a key mechanism to both hold schools accountable but to also foster greater participation of parents and the local community in supporting their local schools.

It was not until the introduction of the BOS program that schools received the resource boost necessary to execute their new roles and responsibilities. The program not only provided needed funding but also stipulated that these funds had to be managed using the newly created school based management structures (e.g. school committees) and processes (e.g. school improvement planning etc.). In this way the BOS program provided an important incentive to schools to adopt school based management. It also underpinned key government objectives to raise education participation rates and improve quality (Figure 3.1).

This chapter reviews the implementation and outcomes of the school based management approach in Indonesia and in particular how it has influenced and been influenced by the BOS program. The specific focus is on the utilization of funds by the school based agents to achieve the objectives of BOS. In order to do this the chapter reviews the existing literature and analyzes data from a survey of schools that included a comprehensive survey of 10 key stakeholders in the SBM process. While the information in the survey is from 2010, it is invaluable in providing critical and detailed information on the working of the SBM process. Moreover, anecdotal evidence from recent school visits and reviews of other recent

literature appear to suggest that it still represents a recognizable picture of the current status of school based management.

### 3.2 The contribution of school based management to improved education outcomes in Indonesia

International literature suggests that the involvement of parents and community in SBM can lead to improvements in education quality and student learning. For instance, Gertler, Patrinos et al. (2008) find that in Mexico, the provision of grants amounting to US\$500-700 and training to parent associations reduced repetition and failure rates by five percent although there appeared to be no effect on dropout rates. However, a doubling of the grant amount did reduce drop-out rates and also improved test scores in Spanish and mathematics (Gertler, Patrinos et al. 2010). In the Philippines, Khattri, Ling et al. (2010) show that a combination of grants and training offered to principals and head teachers resulted in a 1.5 percentage point increase in test scores.

Evidence in Indonesia also points to the potential of school based management reforms to improve the quality of education. A recent quantitative study showed that good quality school based management led to better decisions at the school level which in turn improved student learning outcomes (Box 3.1). A mixed-methods evaluation of a USAID project that supported the implementation of school based management in 50 Indonesian districts also highlighted a number of important benefits. The evaluation found that the support for school based management had resulted in high quality and relevant school development plans. These plans supported additional professional development activities for teachers and better learning resources such as supplementary readers and teaching aids. The evaluation found that through the project's support, schools exhibited more 'transparent, participatory and responsive management practices' and this demonstrated that school based management could be successfully implemented in Indonesia (Heyward, Cannon et al. 2011).

### Box 3.1: The role of school based management in improving school decision making and student learning outcomes in Indonesia

A recent study explored the factors that drove better school level decision making in primary schools across Indonesia. The study focused on two key decisions that schools had the most control over; the hiring of non-civil service teachers and the allocation of discretionary resources.

The results of the study provide some evidence of the importance of school based management on the quality of decision making and ultimately student learning outcomes. In particular, the study found that schools that provided better information on the use of BOS funds tended to spend more of their resources directly on activities to support students rather than on other items such as infrastructure. The study also found that the characteristics of the school committee chair were important factors in better decision making. For example, a greater share of discretionary resources was allocated to student learning activities in schools where the school committee chair had senior secondary education or above. Moreover, higher spending on student activities was associated with statistically significant improvements in student mathematics scores.

The study also highlighted the importance of an effective district in supporting better school decision making. For example, the share of resources devoted directly to student activities tended to be higher in districts that were judged to play a very influential role in budget allocation decisions.

The study's authors conclude:

'..although the scope of school based management in Indonesia is limited today, it has begun to help schools make the right decisions on allocation of resources and hiring additional teachers, and to create an enabling environment for learning.'

Source: Chen (2011).

### 3.3 BOS and school based management

The formal introduction of school based management in Indonesia occurred at the same time as the devolution of responsibility for the delivery of pre-tertiary education services to local district governments. The education law of 2003 devolved the responsibility for school management to primary and junior secondary schools (see Box 3.2).

While the necessary policies and regulations formally introducing school based management were developed, only a small proportion of funding fell under the control of schools. The introduction of the BOS program significantly increased the resources schools had to implement their own improvement plans. BOS funding came with relatively few conditions attached as long as school based management structures and processes were used in its management. For example, schools must have a medium-term school improvement plan and a related annual activity plan and budget in order to fulfil BOS management conditions.

### Box 3.2: The 2003 education law and school based management

School-based management was enacted in Indonesia with the introduction of an education law in 2003. This was a part of the broader decentralization efforts in the country and came in effect with decentralization of certain other responsibilities to the districts including public works and health. The 2003 Education Law also established national content and competency standards and learning assessments. The law states that "The management of pre-school, primary and secondary education units shall be based on a minimum service standard by applying the principles of school/madrasah-based management".

The Education Law (Act 20/2003) enacts a "moderately strong" system of school based management as in essence, the law transfers a high level of authority and autonomy to schools and communities. The law gives communities the right to provide community-based education in accordance with the religious, social and cultural norms of the community. It also devolved the design and implementation of curriculum and management of education programs and funds to the school level. The hiring and firing of civil service teachers however, remains within the central government's authority.

School Committees are mandated by the education law as autonomous bodies to ensure community participation in school management (established under Decree of the Minister of National Education No. 044/U/2002 on Educational Board and School Committee). The school committees are given an advisory role and a monitoring role for school management as well as an oversight role for financial matters at the school level (see Table 3.1).

In 2005, the general standards for the application of SBM in schools were issued. These standards directed schools to:

1. formulate a school vision, mission and goals with input from all stakeholders and decided by a school board meeting;
2. develop a four year mid-term plan that focuses on quality of learning by students and the enhancements to be made in the educational programs to improve quality;
3. develop an annual plan covering managerial issues such as student affairs, teachers and their professional development plans, learning activities and finance and infrastructure among other issues;
4. engage in self-evaluation on the quality of education.

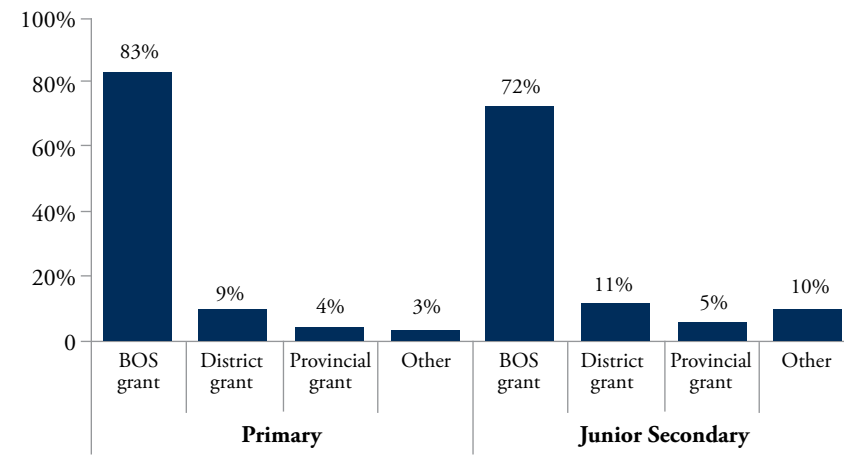
Source: World Bank (2012e)

BOS makes up the bulk of education resources that schools have control over. While many resources, such as teachers and equipment, are provided directly to schools by local and central authorities, the BOS program gave money directly to schools to manage. In 2010, BOS made up the vast majority of the total resources that primary and junior secondary schools had available to them (Figure 3.2). While there is evidence that schools may understate the overall level of support they receive from parents and their communities,

it is clear that BOS represents an extremely important source of funding for schools. This is likely to be particularly true for poorer communities where the level of financial support schools can expect from parents is likely to be much less.

It is also important to recognize that the BOS grant provides a predictable and reliable source of funding that schools can use to plan improvements over the medium term. This stands in contrast to the fluctuations in parental contributions and the unpredictability of the government budget cycle (World Bank 2013d).

**Figure 3.2: BOS as a proportion of total school-level funding, 2010**



Note: Other include school fees, parents or community contributions, donations etc.

Source: SBM Survey, 2010

While BOS provided the resources to support school based management reforms it is also important to recognize that the success of BOS itself depends critically on the effectiveness of school based management systems. These systems are responsible for allocating school-level funding to activities that support the BOS objectives of improving school participation and levels of learning. It is expected that schools with transparent and accountable systems of governance are more likely to make better decisions on the use of BOS resources. In contrast, the quality of decision making is likely to be weaker in schools where decisions are made by the school principal alone and information on the use of funds is unavailable. Similarly, the quality and education of key personnel within the system will also help achieve the end goals of SBM. For instance, Chen (2011) finds that schools whose school committee chairs are better educated and more experienced have better teacher attendance rates.

### Box 3.3: Connections between BOS funds and school based management

BOS funds have been a key source of implementation funds for school based management in Indonesia. BOS operational manuals describe an elaborate hierarchy of management and oversight of BOS funds from national level, all the way to the individual school levels, including steering committees at national provincial and district levels as well as BOS management teams at all three levels consisting of an executing person at every level supported by an implementing team. Detailed roles and responsibilities of the implementing teams are also spelled out in the operational manual. Based on the description of responsibilities, the most critical functions that connect the BOS funding to SBM, as mandated by the Education Law, 2003 are assigned to the district/city level and to the school level BOS management team. The district level BOS implementing teams are responsible to inter alia, carry out socialization and school level trainings, plan and carry out monitoring and evaluation, provide public services and handle public complaints. These activities are critical to ensure that BOS funds are utilized by the school based agents as per the specific needs of a school within the specified BOS allowable expenses. This also helps reduce the possibility of misallocation or misappropriation of funds.

At the school level, the BOS management teams are responsible for inter alia, announcing the amount of funds received and managed by the school and the BOS use plan on the school notice board, producing monthly reports on BOS fund expenditures and on goods purchased by schools. All reports have to be signed by the Principal, Treasurer and School Committee Chairperson. The schools are also responsible for cases of discrepancies in the use of funds at the school, in addition to providing public services and handle public complaints. The executing person for the BOS funds is the school principal, as such BOS funds are withdrawn by Principals (or school BOS treasurers) with the knowledge of the School Committee Chairman and this may be done from time to time as needed. The key aspect is that the actual use of BOS funds by schools should be based on mutual agreement and decision among the School BOS Management Team, Board of Teachers and School Committee. Therefore, there is a strong role played by school based actors in ensuring appropriate use of BOS funds.

Source: BOS Manuals, various years.

The school committee and the BOS team provide the direct links between BOS and school based management reforms at the school level (Box 3.3 and Table 3.1). The BOS management team consists of the school principal, a treasurer (generally a teacher) and a parent who is not a member of the school committee. The recent school based management survey found that while about two-thirds of primary schools had a BOS team, parents were only represented in about a third of them (World Bank 2012e). This is in part due to the limited knowledge in local communities about the BOS team but also because the overall authority to determine the composition of this team lies with the school principal alone.

School committees are intended to have an advisory as well as oversight role in supporting the implementation of school educational policies and transparency and accountability of allocation of funds, budget plans and other school matters. In addition, they are intended to motivate parents and community to pay attention to the quality of education. School committees need to be composed of no less than 9 members including representation from parents, alumni and current students, community members, education professional organizations and specialists.

While the members of school committees are supposed to be elected this happens relatively infrequently and in general member selection is opaque. A preparatory committee is tasked with organizing the initial selection of candidates to sit on the school committee and arranges local elections. However, in 2010, a survey of schools found that less than 15 percent of school committee members were directly elected. In practice, most selection was based on consensus or direct appointment by the principal (World Bank 2012e).

**Table 3.1: The main roles and responsibilities for BOS at the school level**

School body	Roles and membership
<b>BOS team</b>	
Role	<ul style="list-style-type: none"> <li>Overall responsibility for BOS funds</li> <li>Provide information on student numbers to MoEC</li> <li>Check that school receives correct amount of BOS</li> <li>Publicize the receipt, amount and use of BOS funds on a school notification board</li> <li>Develop school budget activity plans (RKAS) including all sources of school revenue (BOS-K1 and BOS-K2)</li> <li>Support the development of the annual school budget plan</li> <li>Produce quarterly reports on BOS fund use and upload information into an online system</li> <li>Submit annual report to Regional Working Unit (SKPD) of Education at district/city</li> <li>Handle complaints on BOS fund usage</li> <li>Sign off on a letter stating that the BOS funds have been used according to guidelines</li> </ul>
Members and selection	<ul style="list-style-type: none"> <li>Principal</li> <li>Treasurer - usually a teacher nominated by principal</li> <li>Parent who is not a member of the school committee – elected by principal and school committee</li> </ul>

School body	Roles and membership
<b>School committee</b>	
Role	<ul style="list-style-type: none"> <li>General role in providing support and advice on school management (e.g. policies, programs), ensure school is transparent and accountable and strengthen engagement with community</li> <li>Participate in producing and signing off school development plan (RPS)</li> <li>Acknowledge they have seen annual school budget and specifically the BOS budget</li> <li>Sign off on the list of poor students who are exempt from any charges and fees</li> <li>Sign off on the list of books bought by schools and funded from the BOS book fund</li> <li>Sign off on a notification sheet and report of BOS fund utilization</li> <li>Sign off on withdrawal plan of BOS fund by principal</li> <li>Sign off on quarterly reports on actual BOS fund use (BOS K-2)</li> </ul>
Members and selection	<ul style="list-style-type: none"> <li>Independent institution consisting of members of: <ul style="list-style-type: none"> <li>Public (e.g. parents, community members, alumni, business, relevant figures in the educational field etc.)</li> <li>Community representatives (e.g. teacher councils) and village government (maximum of 3 members)</li> </ul> </li> <li>School committees should have a minimum of 9 members and should be an odd number</li> <li>Selection is arranged by a preparatory committee which organizes candidates and elects members</li> <li>School committee elects chair, secretary and treasurer and the chair is not allowed from the head of education unit</li> </ul>

### 3.4 The state of school based management in Indonesia

This section explores the quality of school based management in Indonesia to assess its usefulness in allocating school level resources, such as BOS, to support the goals of improved education participation and learning. In line with the existing literature it assesses school based management across three main dimensions (Bruns, Filmer et al. 2011). It first explores the degree of autonomy that schools have to make their own decisions. When schools have limited authority over key decisions their ability to materially affect education outcomes is seriously circumscribed. However, autonomy is a necessary condition but on its own is not enough to realize effective school management. Greater participation of a wider group of stakeholders in school-decision making is also an important feature. A central component of reforms of this kind has been to encourage greater participation of parents and other members of the community in providing support to schools. This almost always entails the establishment or strengthening of representative school committees. A third dimension to assessing management practices at the school level is to determine the strength of accountability relationships between the school and its community. The transparency of school decisions and the quality of information provided to stakeholders outside of the school are essential qualities of strong accountability relationships.

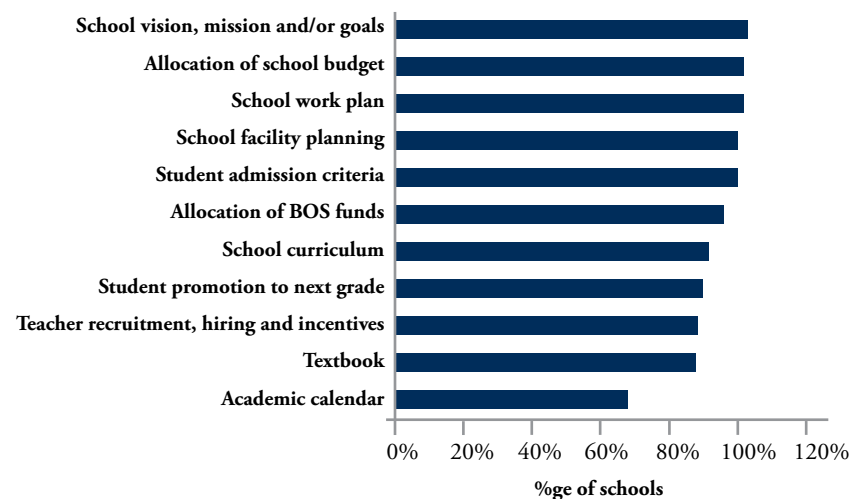


## Autonomy

Schools have a considerable degree of autonomy over many important decisions that have important effects on student outcomes. The recent school based management survey showed that school principals have significant autonomy over a number of important areas of their schools' affairs (Figure 3.3). For example, almost all interviewed principals felt that they set the overall vision and goals of the school and were the final decision maker on school planning and budget decisions.

While overall decision making responsibility lies with the school principal, they rarely take decisions on their own. In many cases, including BOS, the BOS team, the teacher board and the school committee are important contributors to the decision making process. In the SBM survey principals rarely reported making decisions on their own. For example, the most common areas where school principals acted alone were in setting the school's vision and developing the school's work plan. However, even in these domains less than a third of principals said they worked alone. In terms of the allocation of the overall school budget and BOS funds, less than a fifth of principals reported making these decisions on their own.

**Figure 3.3: Percentage of primary and junior secondary school principals reporting they had final decision making authority**



Note: Percentage of school principals reporting that they had final decision making authority. In most cases final decision making authority rested with more than one individual (e.g. principal in conjunction with teachers etc.)

Source: School based management national survey, 2010

It is important to recognize that the resources provided to schools through BOS grants provide an important source of flexible and predictable funding for schools to act on this autonomy. For example, it can provide the additional teaching and learning materials that schools feel are necessary to support their students and the resources to support teacher professional development. Chen (2011) utilizes a curriculum based test administered to 5<sup>th</sup> grade students as part of the SBM survey to determine the important correlates of improved quality in schools. She finds that teacher quality and management stand out as important factors in improved test scores. The share of teachers receiving training, and the share of

teachers receiving performance evaluations from principals have a significant effect on test scores.

The ability to hire teachers, largely through the resources that BOS has provided, allows schools an element of autonomy in teacher management issues. While school principals only have limited authority over civil service teachers they report that they have significant authority over teacher management issues (Figure 3.3). It is likely that this authority refers to their role in the management of school hired rather than civil service teachers. At the primary and junior secondary level, school hired teachers make up approximately 30 percent of the teachers in the surveyed schools and almost all schools employ teachers of this kind.<sup>36</sup> Schools can use the ability to hire local teachers to adjust for any short fall in civil service teachers and provide additional teaching resources in areas that the school may feel are necessary (e.g. extra-curricular activities, remedial coaching etc.). The administrative data from the 2010 SBM survey reports that approximately 22 percent of discretionary funds available to schools were used for the hiring of non-PNS teachers. The limited literature in Indonesia linking the learning outcomes to the use of SBM report that the number of non-civil service teachers, and the teacher attendance rate have significant positive effects on math scores, controlling for other school and parent characteristics (Chen 2011).

## Participation in school decision-making

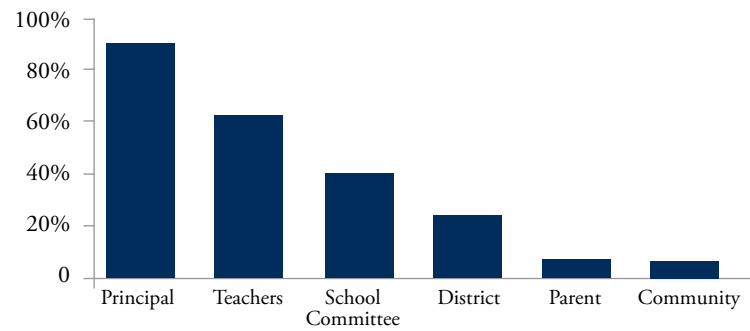
The current rules and regulations for school based management provide for broad based participation in school affairs. A critical aspect in many SBM programs, as in the Indonesian context, is the broad based participation in school decision making processes (Box 3.2 and 3.3). Though in the Indonesian context, the key decision making process of the use of BOS funds lies with the school principal, approval of the overall BOS budget plan is required from the teacher board and the school committee. Therefore, *de jure*, the SBM model in Indonesia ensures participation of parents and community as well as the lower levels of government agencies, specifically for the utilization of school level funds.

However, in reality participation of school committees and the wider community is generally low. *De facto*, however, many systems fail in guaranteeing the participation of other key stakeholders. The recent school based management study asked school principals who was involved in the final decisions on ten school related matters (Figure 3.4).<sup>37</sup> School principals were involved in all key decisions with the exception, in some schools, of setting the academic calendar. The school principal involved teachers in the decision making process particularly when decisions involved student issues (e.g. promotion etc.). Teachers were less likely to be involved in teacher recruitment issues. School Committees (SC) appear to be involved in only 40 percent of the ten domains on average and parents and wider community are the least involved.

<sup>36</sup> 88% of primary schools surveyed in the school based management survey had at least one school-hired teacher.

<sup>37</sup> The ten areas are: a) School vision, mission, and/or goals, b) school work plan, c) school curriculum, d) teacher recruitment, hiring and incentives, e) academic calendar, f) textbooks, g) allocation of BOS funds, h) allocation of school budget, i) student admission criteria, j) student promotion to next grade.

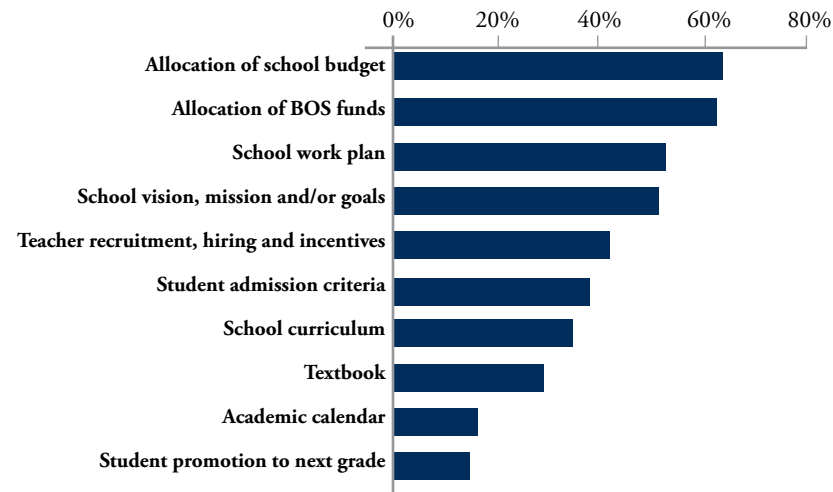
**Figure 3.4: Average participation in final school decision making**



Note: The bars show the average participation of each actor in ten school matters (e.g. school committees are involved in approximately 40 percent of decisions made at the school level)  
 Source: School based management national survey, 2010

However, the SC's strongest role centered around the use of BOS funds and overseeing financial matters more generally. In 2010, more than 60 percent of school principals reported that school committees were involved in final decision making in these areas (Figure 3.5). Perhaps unsurprisingly, school committees were rarely involved in decisions about pedagogy and instructional issues. These findings highlight the importance of the BOS program in opening up school decision-making to the broader school community.

**Figure 3.5: School committee participation in key decisions**



Note: %age of primary and junior secondary schools where school committee is involved in final decision in selected areas, 2010  
 Source: School Based Management Survey, 2010

While BOS may have improved the participation of school committees in some areas of school decision making, significant concerns remain over the quality of this participation. A number of qualitative studies have explored the inner workings of school committees and their relationships with the school principal and teachers (SMERU 2006; Chen 2011; World Bank 2012e). A common finding of these studies is that school committees were often only passive participants in school decision making. For example, the school based management study found that the school principal and teachers would agree on the allocation of BOS

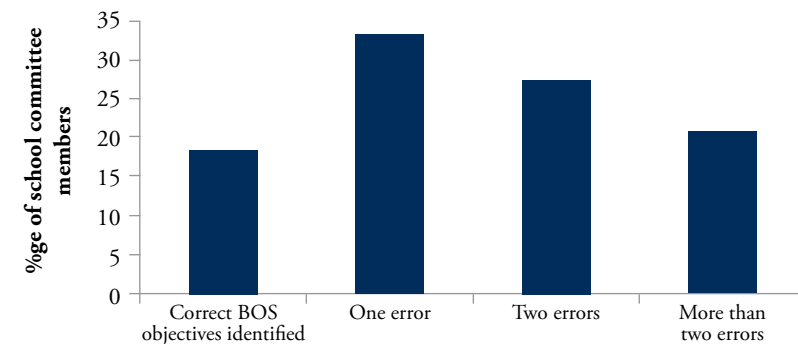
funds, and only then communicate their decisions to the school committee chair and ask for his or her signature on the appropriate forms (World Bank 2012e).

A key factor explaining the limited role that school committees have in school decision making is their lack of representativeness. Of the 446 schools that had a school committee in the 2010 SBM survey, almost 60 percent had between five or less parents in the school committee whereas only 31 percent had six or more parents.<sup>38</sup> As mentioned in the previous section, a large number of school committee members were selected by consensus rather than being directly elected.<sup>39</sup> This may, in part explain the limited role the school committee plays in decision making. A recent randomized controlled trial highlighted the importance of committee elections in raising levels of learning achievement in primary schools in Indonesia. The trial found learning outcomes were significantly better in schools where elections for school committee members were held and efforts were made to forge stronger links with local village councils (Pradhan, Suryadarma et al. 2011).

The limited knowledge of key school issues also limits the participation of school committees and parents more generally. Despite the role that BOS has provided for school committees, parents are still not well informed about the use of funds. For example, the SBM survey revealed that about 94 percent of the parents knew about the BOS program but only 43 percent say that they received any information on the use of the funds. Further, only about 18 percent of parents reported that they knew that their school had designated a staff member to receive complaints and respond to inquiries from the community and about the same share of parents indicated that they had filed a complaint in the previous year.

Interestingly, the knowledge of school committee members of their overall role and their specific role on the BOS program was also relatively weak (Figure 3.6). Committee members were given a series of statements and asked to identify which were objectives of the BOS program. Only 19 percent correctly identified the objectives of the program while the remainder either did not respond or included or excluded a number of the real objectives of the program. With limited information on the objectives of BOS, it is unlikely that the committee would be able to play a significant role in the use of BOS funds.

**Figure 3.6: Committee members' response to identifying objectives of BOS**



Source: SBM survey, 2010. School Committee module.

<sup>38</sup> There were outliers with no parent and more than 20 parent members as well.

<sup>39</sup> This has been identified as a problematic issue in terms of effective SBM by an RCT. See Pradhan et al (2011).

A further factor underlying the weak capacity of school committees was the limited availability of good quality training opportunities on their role in the BOS program. While the data is relatively old the 2010 SBM survey revealed that around three quarters of the surveyed school committee members had not received any training on their role in the BOS program. Moreover, where training opportunities were available these were typically only provided to the school committee chair. Much of the training on offer was also provided by the central government. Less than 60 percent of the districts where surveyed schools were located provided any kind of training on the BOS program.

More recent efforts to improve school committee capacity to carry out their roles have also suffered from limitations on the number of school committee members trained. However, a recent evaluation highlights the potential that a well-organized training program with follow up activities at the school level could have on strengthening the role of school committees in improving education outcomes (see Box 3.4).

#### **Box 3.4: A recent evaluation of BOS training activities**

In 2011, a comprehensive BOS training program was delivered to almost all junior secondary schools across Indonesia. Approximately 650,000 people attended the training. The program provided training on the core elements of school based management including planning, budgeting and financial management. Each school sent a team consisting of the principal, BOS treasurer and a member of the school committee to a three day training event held in each district. Conclusions to an evaluation of the training program included:

- A follow-up survey found that the materials covered under the training program were relevant to the needs of schools in terms of school based management.
- The training program contributed to a number of changes at the school level particularly in terms of school governance. These positive findings were confirmed by interviews with parents and community members that schools were using BOS funds in a transparent and accountable way.
- Schools reported that they were able to more accurately follow BOS reporting guidelines which improved the overall transparency and accountability of the program.
- Results of follow-up visits highlighted overall improvements in the knowledge of the management of the BOS program particularly amongst school committee members
- The quality of training varied greatly across regions. There was a lack of supervision at the district level which resulted in differences in training duration, class sizes, capacity of trainers and the quality of training facilities.
- The majority of trainees interviewed in follow-up visits felt that more guidance and assistance was needed to help them implement training elements in their own schools.

Source: Shaeffer (2013)

### **Transparency and accountability**

An important aspect of SBM is the importance that it places on establishing stronger mechanisms of accountability between the school and the local community but also between the school and in the case of Indonesia, the local district government.

In Indonesia, since BOS constitutes a large part of a school's discretionary funds, monitoring effective use of these funds becomes an integral part of the accountability process for the implementation of SBM. Socialization and training play an important role in familiarizing the community and parents on the role that can be played by them and the expectations they should have from the schools. Similarly, the actual school based managers, including the principal and the teaching board also need to be fully aware of the role they have in effective management of funds and delivery of better quality education. However, as the previous section has shown, even in 2010 – the sixth year of implementation of BOS, the functions of school committees were not fully understood by principals, and they still lacked some information on the role of BOS (World Bank 2012e). The teachers also lacked information on the role of BOS, as did school committees and members (Figure 3.6).

Information on the overall functioning and performance of the school is a vital component of efforts by the school committee and the local community in holding their schools to account. Without information on the quality of education, the total resources the school has and the key challenges the schools face, the task of holding school managers accountable is impossible. However, school committee members reported low levels of information being available to them about their schools. Specifically, about 60 percent reported not being informed of academic programs in their schools and about 45 percent of not receiving information about school expenditures. Such limited information sharing could be a consequence of the insufficient information of the roles of the school committee and its members as well as the overall representativeness of the committee (see previous section).

Information on overall school performance appears to be lacking in many primary and junior secondary schools across Indonesia. The 2010 SBM survey reported that only 30 percent of primary schools had sent information on the school's performance to parents over the course of the last year and only around one in five had sent any information to parents on how they were using BOS funds. As part of the BOS guidelines, schools are required to post information on planned and actual use of BOS funds on a quarterly basis on a school notification board. However, monitoring surveys revealed that only around a third of primary schools and 40 percent of junior secondary schools actually complied with this requirement (World Bank 2011). These findings highlight the difficulties that parents might face in holding their schools more accountable.

This limited information on the overall performance of schools may also be a driver of what appears to be the low emphasis on education quality. In terms of selection of schools, parents reported accessibility to be of high priority in selecting schools for their children (76 percent of parents). Approximately 86 percent of the parents reported that quality was not an important factor when selecting schools for their children. Without meaningful measures to understand how their schools are performing in relation to other schools it seems unlikely that a focus on quality will emerge and the potential for school committees to hold schools more accountable for performance will be lost.

The SBM survey also revealed that there was minimal parental and community pressure to improve education (Table 3.1). The highest proportion of teachers reported having no pressure from parents or the community to improve the quality of teaching. This could

be due to cultural norms in the country. As suggested in the literature, in some cultures, parents are reluctant to give critical feedback to teachers and principals either due to the high respect accorded to these professions, or in certain rural settings, simply by the virtue of the teachers being the highest qualified individuals in the village (Patrinos and Fasih 2009). In the 2010 SBM survey, the supervisors reported having more pressure both from parents and community (Table 3.1). This seems to indicate that the understanding of how the actual school based actors, including teachers and principals can be held accountable to provide better services for the students is not well-developed in the social norms of the country. In such situations, additional efforts of socialization can improve the role played by the SCs and parents. Another approach that also proved successful in improving student learning outcomes was highlighted in a randomized controlled trial in Indonesia that linked schools and their committees with village councils and influential individuals in the village (Box 3.5, Pradhan et al, 2011). Interestingly, this may also point to the political economy of the society, where the accountability pressure is higher when the more influential members of the community are considered as a part of the process.

**Table 3.2: Percentage of stakeholders reporting pressure from parents and the community to improve student achievement, by type of stakeholder, 2010**

Stakeholder	Parents	Community
District head	37	39
Sub-district head	45	59
Supervisor	24	26
Education board chair	42	44
Principal	37	48
Teacher	57	65

Source: SBM Survey, 2010

The monitoring of the overall use of BOS funds at the school level seemed to be equally shared between the school committee and district level officials. The 2010 SBM survey found that school committees undertook school monitoring exercises, including looking at the use of BOS funds, in approximately 80 percent of surveyed schools. While only around 60 percent of schools reported visits from district or sub-district staff almost all reported receiving visits from the local school supervisor. Most frequently monitoring visits occurred on a quarterly basis and may be indicative of a pattern where these key monitoring agents are just carrying out routine tasks of signing off on BOS funds use, rather than a regular in depth monitoring and interaction.

As the previous section highlighted the role of the school committee appears relatively passive in its day-to-day interaction with the school. The focus group discussions undertaken as part of the SBM survey found that in no school did the school committee ever question the use of BOS funds and ask for changes in its use. This passive role is also reinforced by the relatively limited authority that the BOS guidelines give to school committees for this oversight role. Most of the documents and forms that form the foundation of the management of BOS funds are only required to 'be seen' by the school committee rather than being approved or accepted.

### Box 3.5: Improving educational quality through enhancing community participation

A Randomized Control Trial (RCT) with four different interventions aimed at strengthening the role of school committees and subsequently improving learning outcomes was conducted in Indonesia. The study took place in 520 randomly selected rural public schools in central Java and Yogyakarta between 2007 and 2009. Under the RCT design, school committees were randomly allocated to receive a grant and a combination of one of three other interventions:

- Training of the school committee,
- Election of the school committee
- Fostering ties between the school committee and a local governance body called linkage

The impact of these different interventions was measured on a host of education outcome indicators including school committee activities, parent's effort and engagement, teacher motivation and student learning.

The findings of the trial show that there are no effects on learning from interventions that strengthened the school committees internally, that is, by providing grants and training, even though, it does improve parental knowledge on SCs, and cooperation between school and non-educational community organizations. This is in contrast to similar grant and training interventions, for instance in the Philippines (Khattari et al, 2010) or in Mexico (Gertler et al, 2008 and 2010). These studies find an increase in test scores and a reduction in repetition and failure rates respectively. Other similar interventions around the world also show some impact on intermediate or final outcomes. For instance, in Madagascar, providing parents with school report cards and information about their role in improving quality of education and providing teachers with pedagogical tools, improved test scores by 0.1 standard deviations and improved attendance rates.

The RCT does find significant effects on learning for interventions that strengthened ties between school committees and external bodies. This includes democratic election and linkage which together result in a 0.22 standard deviation improvement in Indonesian test scores. Linkage alone led to an improvement of 0.17 SD in learning.

The factors driving these positive results appeared to be a combination of broader community action on school related issues (e.g. enforcing study hours in the village) and in the case of elections an effect on improved school committee effectiveness. This reiterates that in the Indonesian case, efforts to improve the representativeness of school committees and finding ways to strengthen accountability mechanisms through the involvement of broader community members, particularly those who have clout and voice, can foster greater transparency and accountability and enhance learning outcomes.

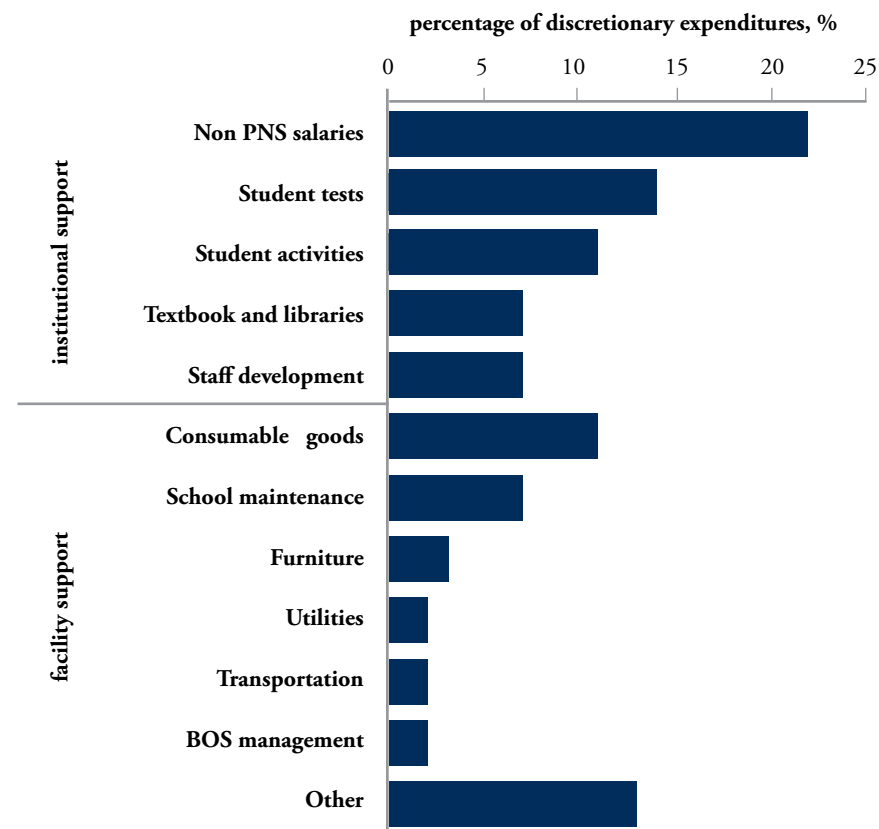
Source: Pradhan, Suryadarma et al. (2011).

### The outcomes of school based management

The introduction of school based management was aimed at increasing the role and participation of parents, teachers, principals and the community in improving education outcomes. Funds allocated through BOS play an important role in increasing the discretionary funding available and give operational freedom to the schools (Figure 3.2). However, given the weaknesses in school based management outlined in previous sections it is interesting to explore how schools use BOS funds.

A significant share of BOS resources go to supporting teachers and in particular in hiring school hired teachers. The SBM survey suggests that of the discretionary funds available to the schools, about 60 percent are used for instructional support on average, a large proportion of which goes to hiring non-PNS (non civil service) teachers (Figure 3.7). However, it does reveal substantial variation in the utilization of funds across the schools.

**Figure 3.7: Composition of discretionary spending at the school level, primary schools, 2010**



Note: Other spending includes registration formalities, school uniform spending, computers etc.  
Source: Reproduced from World Bank (2012e), Figure 6.1

Recent studies have questioned whether the large resources that have been devoted to the increased hiring and remuneration of teachers have had any significant effect on education outcomes. The recent education public expenditure review highlighted the significant inefficiencies in Indonesia's education system that have resulted from very low student teacher ratios. The analysis also shows that the increased hiring, brought about in part through BOS (see Chapter 2), has not been associated with any improvements in learning outcomes (World Bank 2013d). Moreover, a large teacher certification program that provided a professional allowance equivalent to basic pay for teachers who qualified also had limited effects on learning (Chang, Shaeffer et al. 2013). This evidence suggests that BOS spending on teachers may be exacerbating these inefficiencies and could perhaps be more effective.

While overall trends in levels of learning achievement are not driven completely by the BOS program it is important to note that these have not improved significantly in recent times. In general, the 2010 SBM survey of various stakeholders reported a relatively positive perception of the BOS program. Stakeholders highlighted their views that BOS had contributed to increased transition to junior high school, better availability of textbooks, and better student performance. Unfortunately, the perception of improved performance does not really emerge when the trends in learning achievement are examined. For example, the latest OECD PISA results show that student learning in mathematics and reading have only improved marginally and in science have fallen (OECD 2013). Though there are a number of other factors that contribute to this performance, it does not appear that the overall objective of improved learning outcomes are being achieved through the implementation of SBM and the allocation of BOS funds.

### 3.5 Summary

The chapter focuses on the role of SBM in utilizing the BOS funds and tries to identify whether it has led to the improved outcomes expected of these types of reforms. The review of survey data and literature suggests that SBM has played an important role in bringing school committees, and to some extent, parents, into school decision making on BOS. Given that the BOS grants link into other aspects of school decision making, most notably school development planning and budgeting, it has opened up these aspects of decision making to school committees. Despite these improvements, the role of school committees remains weak and is unlikely to be influencing significantly the decisions made by the school principal and teachers.

A number of factors appear to weaken the potential role that school committees and the broader community can play in supporting the use of BOS funds and providing greater oversight. First school committees do not appear to be particularly representative and this has the potential to hamper their role as an accountability mechanism. Second, the chapter has shown that school committees have relatively little knowledge on what their role should be and this is partly related to issues around the limited training opportunities available to most school committee members and the lack of follow-up activities from training. Third it appears that the flow of information to parents and SCs is limited. Open sharing of information is a cornerstone of the theory of school based management. Without transparent sharing of information, the stakeholders are unlikely to be able to hold school based agents accountable for better services. Fourth, the monitoring role of school committees on BOS funds outlined in the guidelines provides a relatively weak role for school committees. And finally, parents do not appear to have the information necessary to be overly concerned,

in general, about seeking better quality education. This reduces the pressure on schools to improve quality. Socialization on the importance of seeking or demanding better services from schools and teachers can improve this apparently socio-cultural inertia in terms of pressure from parents.

Despite these weaknesses, the evidence in Indonesia points to the potential that these reforms can have on education outcomes. Research shows that where school based management is working effectively it has the potential to improve education outcomes and by consequence make better uses of the resources available to schools through BOS. Evidence from other countries also points to the relatively long length of time that reforms of this kind take to deliver results (Bruns, Filmer et al. 2011). It seems clear that further efforts to reinvigorate and strengthen school based management reforms could have significant pay-offs.

## CHAPTER 4

# Strengthening the BOS Program



The BOS program continues to be a central component of government efforts to raise education outcomes particularly for the poorest households. Since its introduction the budget for the program has increased continually and has led to an ever increasing availability of resources in primary and junior secondary schools across Indonesia. Its effectiveness at delivering ever increasing amounts of resources to schools has led to its replication throughout the rest of the education system. The aim of the report has been to assess the broader contribution of the program to education objectives and to identify ways in which the program can be strengthened to maximize impact.

The report has shown that the BOS program had a temporary and small effect on reducing the costs of schooling faced by households. These findings were strongest amongst the poorest households and for households who sent their children to government schools. Results on student participation were less conclusive but suggest that the program may have contributed, at least initially, to increases in junior secondary school enrolment rates amongst the poorest children. While these findings are promising they suggest the need to explore ways in which BOS can more effectively support the education outcomes of poor households in Indonesia.

The program has also supported efforts to provide schools with more autonomy and to strengthen links with local communities. In other countries, school based management reforms have improved educational attainment and in some cases levels of learning achievement. However, it is not clear that these gains have so far been realized in Indonesia. The findings of Chapter 3 suggest that greater efforts are needed to establish and deepen the implementation if outcomes are to be improved through this route.

This chapter outlines four main areas where efforts could be made to strengthen the role of BOS in supporting overall education objectives:

1. Shifting the focus of BOS towards quality and linking to education standards
2. Strengthening the poverty focus of BOS
3. Making better use of BOS funding through improved coordination with other funding sources
4. Revitalizing the role of the BOS program in empowering schools and local communities

Table 4.1 provides a summary of the main suggestions for strengthening the current BOS program that hold out the potential for increasing the impact of school funding on improving education outcomes.

**Table 4.1: Summary of policy suggestions**

Area	Issue	Policy suggestion
Adjusting BOS to enhance its focus on improving education quality	Identified need to strengthen the link between BOS program and improving education quality	Link levels of BOS funding more explicitly with national standards of education
		Link eligibility for BOS funding to regular school accreditation
	Schools are prohibited from using BOS funds to purchase some items that are required to improve education quality	Review lists of eligible and ineligible BOS expenditures to ensure that items associated with better education quality are allowed
Strengthening the poverty focus of BOS	The real value of the BOS grant differs across Indonesia and declines over time because of inflation	Adjust the value of BOS periodically to account for regional price differences and inflation
	Schools serving predominantly poor and disadvantaged children require additional support that could be provided through BOS	Introduce an additional component into the BOS formula to provide schools with additional resources for poor and vulnerable children
	BOS funds can be used to provide direct support to the 'out of pocket' school expenses of poor students despite a number of large cash transfer programs designed more specifically for this purpose.	Change BOS guidelines to phase out the use of funds to cover poor children's 'out of pocket' expenses.
	Regulations on school fees and contribution policy are not clear and have adverse consequences on the role BOS plays in reducing education costs faced by households.	Clarify further the costs BOS is intended to cover and the fees and contributions schools are allowed to charge  Strengthen the role of school committees and parents in determining acceptable charges and contributions  Consider adjusting eligibility rules for the BOS program to exclude non-government schools charging high fees

Area	Issue	Policy suggestion
Improve coordination of BOS with other funding sources	Many local governments have their own school grant programs and better coordination with the national BOS program has the potential to improve spending effectiveness and raise education outcomes	Encourage local governments to introduce school grant programs
		Support local governments to link total school grant funding to defined education standards and equity objectives  Experiment further with the use of local school grants to incentivize performance
Revitalizing the role of BOS to empower schools and communities	BOS management team at the school level does not have any school committee representation	The parent representative of the BOS team should also be a school committee member to ensure greater oversight from the community in BOS decision making
		School committee's oversight function on use of BOS funds is weak  Increase authority by requiring school committees to approve rather than acknowledge school plans for the use of BOS  Complement the oversight role of the school committee by tying it more strongly to existing government structures
	Weak capacity of school committees to fulfil their role effectively	Build the capacity of school committees by increasing the coverage of members trained and providing in-school follow up support  Develop methods (e.g. school report cards) to provide school committees with information required to utilize resources more effectively  Explore ways to strengthen the role of local governments to support and monitor the BOS program

### 4.1 Adjusting BOS to enhance its focus on improving education quality

In recent years and in recognition of significant progress on improving educational access, the Ministry of Education and Culture has started to shift the focus of the BOS program towards education quality. This shift also coincides with a growing concern about the quality of primary and secondary education and recognition that efforts to improve the skills student's leave school with need to be strengthened. The latest guidelines for the implementation of the program state that:

*“The School Operational Assistance (BOS) program that was launched in July 2005 has made a significant contribution to accelerating the completion of the 9-year compulsory education program. Therefore, from 2009 onwards the government has changed the BOS’ objectives, approach and orientation from outreach to quality improvement” (Ministry of Education and Culture 2014)*

A shift of the focus of BOS towards quality can provide a strong signal to schools about the importance of education quality and align the program more closely with other efforts to raise learning achievement. The government has embarked on an ambitious reform agenda to improve the quality of primary and secondary education and the BOS program has the potential to support this agenda.

Indonesia already has a set of defined education standards and the overall value of BOS funding should be reassessed to ensure alignment with these existing criteria. Chapter 1 has already shown that Indonesia has developed a set of detailed education standards which can be used to estimate average school operating expenses (see Box 4.3). In turn, these estimates can form the basis of overall BOS funding levels which can be linked more explicitly to a defined education standard. For example, existing levels of BOS are similar to levels of non-salary operating expenses associated with current minimum service standards (See Table 1.2). BOS funds could be explicitly linked to this standard of education.

While the government has already used operating cost estimates for specific standards to set the value of BOS it has not articulated this link to schools and their communities. Socializing this link could clarify the role of BOS in insuring a minimum standard of education provision and provide a basis for local communities to hold their schools more accountable.

Linking BOS funds more closely with quality assurance mechanisms in the long run could further strengthen the link between BOS funding and standards. A recent review of the main quality assurance systems highlighted the lack of incentives and sanctions of key parts of the system. For example, incentives and sanctions associated with accreditation and fulfilling minimum service standards were relatively limited. While it is too early to link the achievement of minimum service standards to eligibility for the BOS program, funds could be made conditional on schools seeking regular accreditation.

Adjusting the allowable expenses under the program would also facilitate a greater focus on education quality. While there have been adjustments to the items that are allowed to be purchased with BOS funds in the past it is useful to review them in light of a stronger focus on quality. For example, the purchase of audiovisual aids and learning media should always be allowable expenditures under BOS instead of the current situation where they are only allowed after all other items have been purchased.

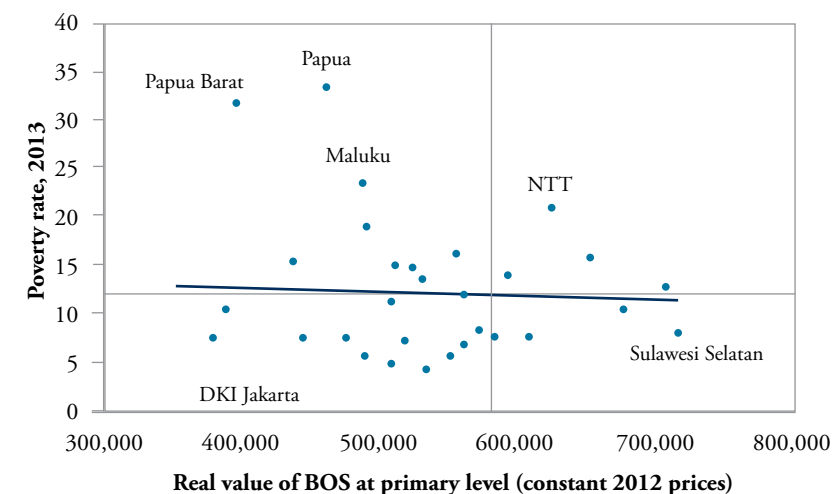
## 4.2 Strengthening the poverty focus of BOS

A key objective of the BOS program from its outset has been to improve education outcomes particularly for the poorest children. The report has shown that the introduction of BOS was associated with a small drop in the costs faced by poor households but this was relatively temporary and education costs have risen relatively rapidly since. It also shows that other factors apart from BOS were at play in explaining the narrowing of education inequality seen in recent times. Notwithstanding these improvements, large disparities in education persist and strengthening the poverty focus of BOS could narrow these education inequalities further.

Large disparities in education outcomes exist between children born into families in different parts of Indonesia and with different social and economic circumstances. The chances of a child entering primary school in Papua and completing the full 9 years of basic education are approximately half those of a child going to school in Jakarta. There are many drivers of these outcomes that fall well beyond the education sector but differences in the quality

of schooling are also important. For example, the proportion of teachers with a bachelor's degree and above teaching in primary school is approximately 61 percent in urban areas of Indonesia compared to only 37 percent in remote areas.

**Figure 4.1: Provincial poverty rates and the real value of BOS, 2013**



Note: The horizontal line included in the figure shows the provincial average poverty rate. The vertical line shows the value of the BOS grant for primary schools

Source: Susenas, 2013

Differences in the real value of BOS also drive differences in the resources available to schools to meet education standards and can reinforce education inequalities associated with poverty and marginalization. For example, the price of school supplies can vary significantly between accessible and more remote areas because of associated transportation costs. A school in a remote part of Papua can purchase fewer textbooks and other supplies than a school in Jakarta even with the same amount of BOS. Frequently, the schools facing the disadvantage of higher costs also tend to serve populations that are poorer and more marginalized. For example, Maluku and Papua provinces have some of the highest rates of poverty but due to high costs have some of the lowest real values of BOS (Figure 4.1). Schools in these areas tend to need more rather than less support to achieve similar outcomes as schools serving wealthier children.

Adjusting the per-student amount of BOS to account for regional cost differences could address at least some of this imbalance and provide all schools with the non-salary operating resources needed to meet set standards. It could also lead to a more equitable allocation of school funding. An annual cost index across the major regions of Indonesia is published on a monthly basis by the Bureau of Statistics and this could, in the first instance, be used to adjust for the differences in costs across districts or provinces. In the longer term, cost adjustments could be based on a more refined index that was driven more closely by the goods and services usually bought by schools with their BOS funds.<sup>40</sup>

<sup>40</sup> Addressing BOS values across districts would not account for intra-district cost differences which can also be quite large. Ensuring that these differences are included in local school grants program is an important aspect of coordination discussed in the next section.



The per-student allocations for BOS also need to be adjusted periodically to ensure that overall levels of school funding are not eroded by inflation. Previous chapters have shown that adjustments to the BOS amount have happened irregularly and between adjustments the real value of BOS declined significantly. For example, between 2009 and 2011 the real value of BOS allocations declined by 12 percent before adjustments were made in 2012 which just covered these losses at the junior secondary level. Ensuring a more regular and explicit updating of the BOS per-student amount to adjust for inflation could reduce the need for schools to ask households for additional contributions and in particular avoid placing additional burdens on poor households.

Indonesia already has programs that provide support to help poor households with the costs of education but programs to support the teaching and learning of poor children once in school are less common. Cash assistance is provided to poor families through a variety of programs to assist in the 'out of pocket' expenses associated with school attendance. The largest of these programs, *Bantuan Siswa Miskin*, provided scholarships to approximately 15 million children in 2014 (around a quarter of all children of primary and secondary school age).<sup>41</sup> While evidence from other countries has shown that these programs can be successful at getting children into school they are less successful in raising learning outcomes (Fiszbein, Schady et al. 2009). These findings demonstrate the need to provide additional support to disadvantaged children or schools serving these groups to make up for earlier deficiencies in education investments. For example, schools serving poor children may need to provide more reading materials to encourage literacy compared to schools in wealthier areas where children's own homes might be expected to provide much of this additional literacy support.

BOS could be used to provide this complementary 'supply side' assistance to programs designed to reduce the costs to poor families of sending their children to school. Many other countries have used school funding mechanisms like BOS to target supply side support to poor children. In Chapter 1, England's pupil premium was shown to provide additional support to poor children that schools used to introduce special programs to support the learning of disadvantaged students (see Box 1.2). BOS could follow a similar approach and the unified database of poor households in Indonesia could provide the information necessary to adjust BOS funding in this way.

While BOS has a strong role to play in supporting poor children through the provision of good quality and appropriate education services, its role in supporting the direct costs of schooling for poor children is less clear. Indonesia has a large and growing national scholarships program that covered over 15 million students in 2014. Moreover local governments have similar programs which cover additional children. In total it is estimated that in 2012, around a quarter of all children in primary and junior secondary school had access to some form of scholarship. In addition, extremely poor households also participate in other programs that provide these households with conditional cash transfers to support the 'out of pocket' expenses to send children to school. Despite some weaknesses in these programs they provide the best means to channel government support for the education of poor and vulnerable children (World Bank 2012a). As these programs continue to be strengthened it would be possible to phase out BOS funding for poor children's direct school costs. This would avoid confusion and remove any duplication of effort in supporting poor children.

<sup>41</sup> The newly elected government introduced at the end of 2014 the Indonesia Smart Card (*Kartu Indonesia Pintar*) as part of a commitment to expand universal education from 9 to 12 years. The new program is expected to take over from the *Bantuan Siswa Miskin* program but with an increase in coverage and changes to targeting and benefit delivery.

## Clarifying school fee and contributions policy

The alignment of the BOS program with other sources of school funding has the potential to improve the overall effectiveness of the program and at the same time provide greater support to poor students. The results of Chapter 2 have shown that while BOS may have reduced costs in the short term, poor households continue to face large direct costs in sending their children to school. Moreover, a significant share of these direct costs consists of fees charged directly by schools.

A number of regulations have been issued governing the amounts and purposes of fees and contributions that schools are allowed to seek from parents. However, these regulations lack clarity and provide an opportunity for schools to ask parents for contributions in areas that are intended to be covered by the BOS program (see Box 4.1). Moreover, evidence from household surveys, described in the report, have shown that a large proportion of household education spending goes to paying fees at school even in government primary and junior secondary schools. Poor households are also confronted by these direct fees and may be a factor in explaining why poor children continue to drop out of school before completing junior secondary schooling.

### Box 4.1: The 2012 regulations on fees for primary and junior secondary schools

In 2012, the Ministry of Education and Culture issued a set of regulations on the fees and contributions schools were allowed to collect. This built on previous regulations that tried to define an appropriate cost sharing policy for primary and junior secondary schools.

The regulation differs on the type of schools that are able to charge fees for regular school operating expenses. The regulation defines regular operating expenses to include investment and operating costs, tuition assistance and scholarships. Regular government schools may not charge students or parents for these operating expenses whereas community, private and all international standard schools can.

All schools can charge or seek contributions from students and parents for activities and expenses that lie outside of these regular operating expenses. For example, schools can charge parents for extra-curricular activities, additional instructional materials and uniforms. However, charging fees to cover expenses in the following areas are prohibited:

- Academic requirements for student admission
- Student learning assessment
- Costs associated with student graduation
- Welfare of teachers, school committee members or local and central government staff

While schools are not able to ask for contributions in these areas or for the regular operating expenses to schools they are allowed to accept voluntary contributions and donations from parents and the wider community. However, there is room for parents or the community to refuse paying charges that the school imposes.

**Box 4.1: The 2012 regulations on fees for primary and junior secondary schools (continued)**

The revenue from these additional charges must be used in accordance with the school's improvement plan and its annual work plan. Charges must be discussed in a school committee meeting and a letter must be sent to all parents and students outlining the amounts and the use of charges that are sought. Moreover, schools must allocate at least 20 percent of the funds collected to support education quality improvements.

While the regulations reflect efforts by the Ministry to outline a coherent policy on fees it has a number of weaknesses:

- The regulation provides no clear definition of the regular operating expenses of schools which can be interpreted in different ways and lead to schools charging for a greater range of items than intended by the regulation.
- There is no clear mechanism to evaluate the use of these funds.
- School committees and parents are provided with limited opportunities to influence school decisions on fees.
- The regulation exempts poor households from additional charges but provides no definition of the kind of households that would be exempted.
- Private and community schools that receive government assistance, through for example the BOS program, are allowed to set their own charges and fees.

Source: Ministry of Education and Culture (2012)

The BOS program is designed to remove the need for schools to charge households for basic operating expenses. It is vital therefore that schools do not charge households for these costs and that parents are aware that contributions can only be sought for activities that go beyond these operating expenses. To the extent that the BOS program is tied to a defined standard of education, contributions could be permitted only where schools and their communities agree to raise standards above this minimum.

Regulations governing school contributions policy need to provide greater clarity for schools and parents. While the regulations provide some definitions of the items that schools are prohibited from charging households for, these are very general and open to different interpretations. Providing a more detailed list of the eligible and ineligible items schools are allowed to seek contributions for would be an important first step. In addition, it is important that regulations ensure that in the first instance school operating expenses are covered by existing school resources (e.g. BOS, local school grants etc.). For example, government schools should not, on the whole, seek contributions from households to pay for items that can be funded through BOS (e.g. consumables or the costs of organizing examinations).

It is also important that the regulations clarify which children are exempted from school charges. Existing regulations prohibit schools from asking for contributions from poor households. However, no definition of poverty is provided and this runs the risk that poor children will not be considered poor by schools. It is possible that the unified database on

poor households in Indonesia and the associated scholarship scheme could provide the basis of a definition that could be used in revised regulations to clarify exemptions.

The role of the school committee and parents more generally could be strengthened to ensure a fair school contributions policy. First, the school planning processes could be used to identify the financing gaps that the school is seeking to fill with contributions from parents. In this way, a school's contribution policy can be determined as part of broader school planning and trade-offs between the ambition of the school's plan and the community's ability to pay discussed. Second, school committees or parents more generally should be given voting rights on a school's contribution policy. For example, in Chile two-thirds of parents are required to approve the school's contribution policy before it can be introduced (Cuadra and Moreno 2005).

Existing provisions of the BOS program allow all non-government schools to receive support regardless of the level of fees they charge. Non-government schools are allowed to charge fees to parents to cover differences in the value of BOS support and their own operating costs. No limits are set on the fees that schools can charge and while evidence on school fee levels is difficult to compile, anecdotal evidence suggests that some non-government schools receiving BOS funds charge high fees (see for example, Chapter 2). The rationale for providing government funding through the BOS program to schools catering for households capable of paying high levels of fees is unclear. Setting an upper limit on fees schools are allowed to charge if they are to be eligible for the BOS program has the potential of increasing the programs overall effectiveness and reduce overall costs.

A socialization program to outline changes to government policy on the role of BOS and parental contributions in covering school operating costs is vital. Overall government policy on school contributions has two potentially contradictory objectives. On the one hand, it is important that schools do not seek contributions that prevent children from attending or continuing in school. On the other hand, it is important that where parents and communities can contribute and these contributions raise the quality of education they do. In order to ensure that communities are aware of their entitlements and obligations it is important that a comprehensive socialization program accompanies any changes to regulations in this area. Indonesia has had some success in delivering messages on the BOS program and its relationship with school fees using innovative dissemination techniques (see Box 4.4). The design of any new socialization program could draw lessons from these earlier programs to ensure clear messages are communicated to the greatest number of communities.

### 4.3 Making better use of BOS funding through better alignment with other school funding

The report has also highlighted the need for central and local governments to look at the overall funding schools have. While there is no reliable time series information on the overall funding situation of schools in Indonesia, there is some evidence to suggest that local governments, in particular, adjust their funding depending on the support schools receive from the central government (Amin, Das et al. 2008). This may be one reason for the results in Chapter 2 that showed that schools passed on a relatively small share of BOS resources to households in terms of lower fees and charges.

It is also important to encourage schools to use all of the funding available to support improvements in education quality and participation. Greater coordination between central

and local government funding of schools and linking this funding to agreed standards holds the potential of raising the effectiveness of education spending generally as well as within the BOS program.

### Collaborating with local governments in the provision of school funding

Many local governments have introduced schemes similar to BOS that provide additional funding to schools. These programs represent a very important potential source of additional non-salary support to schools and the available evidence suggests that they are associated with better education outcomes (see Box 4.2). While every effort should be made to encourage local governments to introduce school funding mechanisms like this there has so far been little effort to coordinate these programs with the national BOS program and this runs the risk that schools will not utilize these additional resources effectively.

#### Box 4.2: Local school grant programs

Using resources of their own, many regional governments supplement school grants provided by the national BOS program. The recent education public expenditure review highlighted a positive association between learning outcomes and the receipt of local school grants.

In 2012, a survey found that approximately half of all districts provided additional support in the form of BOS Daerah (BOSDA). In a similar way to the national BOS program, the majority of districts allocated BOSDA to schools based on the number of students they enroll. While the amount provided for each student differed across districts it tended to be lower than amounts provided under the national BOS program. A survey in 2011 found that the average grant was equivalent to about a third of the national BOS grant schools received.

A recently completed pilot in 12 districts and 2 provinces supported efforts of local governments to include additional components in funding formula to improve the equity of allocations. Pilot provinces and districts worked on developing a formula-based BOSDA with three main components; a basic allocation, an allocation to address school inequalities (e.g. additional allocations for small and remote schools) and a component that provided additional resources to schools that demonstrated outstanding performance over the previous school year.

The pilot also demonstrated that these kinds of grant programs can be developed even in the most difficult circumstances. Kaimana, a remote district in Papua province with challenging terrain and communication difficulties, participated in the pilot and introduced a program that combined all three elements of the formula.

A recent assessment showed that the pilot program had resulted in a more equitable allocation of BOSDA resources in participating regions. And while it was too early to assess the impact of these changes on education participation and learning, feedback from participating local governments was positive.

Source: World Bank (2012c); World Bank (2013a); (World Bank 2013d)

Local government school grant programs can be a natural complement to the national BOS program and together can drive better education standards. BOS funding can be seen to provide a minimum level of non-salary operating expenses to schools. Additional resources from local governments hold out the potential to raise standards above this minimum level (see Box 4.2). However, in order to fulfil these additional objectives it is important that schools are provided with clear guidelines on how local funds can complement BOS resources and what the expectations are for the use of these funds in terms of education standards and performance. A recent exercise conducted by the DKI Jakarta government demonstrates how levels of local school funding can be calculated in line with different education standards (see Box 4.3).

#### Box 4.3: Calculating the appropriate value of non-salary operational support in Jakarta schools

Indonesia has a set of education standards for primary and junior secondary schools that have been used as the basis of calculating the non-salary operating needs of schools. There are three main standards:

1. Minimum service standards (MSS). These are a set of minimum service standards for schools that can be seen as a first step to the more comprehensive national education standards
2. National education standards (NES). These standards are the key reference point for the education system and cover 8 areas including teacher standards, equipment and infrastructure, management and financing.
3. International education standards (IES). Building on the NES and define a slightly higher standard of education.

In order to better understand appropriate levels of school funding the DKI Jakarta government carried out a study of the resources required by different schools to cover their non-salary operating resource needs. The regulations that lay out the three different education standards coupled with earlier estimates carried out by national standards agency (BSNP) provided the starting point to calculate the non-salary operating expenses for each education level. To supplement this information a small school survey was conducted to identify a comprehensive list of the items required to fulfil different standards and also to collect information on prices. On this basis, the average per-student needs for non-salary operating expenses were calculated for schools across Jakarta (see table).

	Estimated per-student needs for different standards (IDR '000s)			Current per-student allocations (IDR '000s)		
	MSS	NES	IES	BOS	BOP	Total
<b>Primary schools</b>	1,084	1,783	4,909	580	720	1,300
<b>Junior secondary schools</b>	1,261	2,142	4,911	710	1,320	2,030

**Box 4.3: Calculating the appropriate value of non-salary operational support in Jakarta schools (continued)**

These estimates have been used to assess the standard of education possible given existing allocations provided to schools through the national BOS program as well as the Jakarta school grant program (BOP). The Jakarta administration is using these estimates as the basis of proposals to adjust their own school grants program to provide schools with sufficient funds to achieve national standards. In this way the funding that schools receive from both central and local government will be better coordinated to ensure set standards are met. This basic allocation is also being supplemented by a component to address the large cost differences between mainland Jakarta and Kepulauan Seribu and a performance incentive based on school rankings on the national examinations.

Local government school grant programs can also address intra-district funding inequalities more effectively than the national BOS program. The previous section outlined ways in which the national BOS program could address some of the cost differences between districts in the real value of BOS. In a similar way, local grant programs can complement BOS by addressing some of the within district inequalities associated with the costs of school provision as well as to account for differences across schools in terms of the populations that they serve. These local government programs are better placed to address these within district inequalities given that the specific drivers of cost differences and markers of disadvantage are likely to vary considerably from one district to the next.

Some local governments have begun to utilize school grant programs to introduce performance incentives for schools. For example, DKI Jakarta has introduced a component to their overall school grant program that rewards schools for improvements in their ranking in national examination scores. Performance based components of this kind can improve education outcomes further by providing schools with further incentives to align spending with education objectives. While it is too early to tell how incentive schemes of this kind will affect behavior they do provide a useful example of ways to link resource allocations more closely to performance in the education sector.

#### 4.4 Revitalizing the role of BOS to empower schools and local communities

The effectiveness of the BOS program rests on how well schools are managed and governed. Evidence from Indonesia as well as other countries demonstrates the potential of school based management to improve education outcomes. However, as Chapter 1 outlined the success of school based management depends on how well it is implemented. The report has identified a number of areas where efforts to strengthen school based management implementation could realize improvements in the effectiveness of BOS resources. In particular, the report has highlighted the need to strengthen the role of the school committee in the management and governance of BOS resources.

In order to ensure greater transparency and better BOS decision making non-school members of the school committee should be represented on the BOS team. Currently the day to day

management and the main decisions on the use of BOS funds are carried out by the school BOS team in the absence of the school committee. While a parent is supposed to be part of the BOS team, existing regulations stipulate that this parent should not be a member of the school committee. This represents a missed opportunity to provide a stronger oversight role for the school committee on BOS management. Altering the make-up of the BOS team to ensure that the parent representative is also a member of the school committee would be a relatively easy adjustment that may strengthen the link with the school committee and increase transparency around the use of BOS funds.

The report has also shown that a number of other issues weaken the oversight function of school committees. In many cases, the role of school committees in BOS is limited to reviewing or acknowledging that key planning documents such as the school activity plan have been prepared. For example, the school BOS team is only required to obtain the signature of the school committee chair to acknowledge that they have seen the appropriate plan. This severely limits the role of the school committee in ensuring the best use of BOS resources to improve the school and ultimately levels of learning achievement. It is possible to increase the authority of the school committee by requiring schools to obtain the approval of the school committee for the use of BOS funds. In particular, the school committee should have approval authority over the school activity and budget plan associated with the BOS funds.

The report has also shown that in most cases school committees are selected rather than elected. The school based management survey found that less than a quarter of school committee members were elected. It was much more common for schools to agree on candidates by consensus or for the school principal to directly appoint members.

In order to function effectively it is crucial for school committees to maintain a degree of independence from the school management. Increasing the proportion of school committee members that are directly elected can be a key strategy to achieve this objective. Regulations on the school committee election process are already in place but it is not clear whether schools and local communities are really aware of these provisions. It would be essential for socialization and capacity building activities to reaffirm the importance of these provisions.

Consideration should also be given to introducing a more formal channel for schools to discuss their activities with village governments. This has the potential to provide broader support for the school particularly with the introduction of the village law. In addition, fostering greater links with the village government through, for example, holding an annual meeting on the school improvement plan has also been shown to be effective (Pradhan, Suryadarma et al. 2011).

While it is important for school committees to exercise some authority in overseeing the use of BOS funds and be broadly representative of the local community it is also essential that these committees have the relevant capacity to run effectively. Chapter 3 highlighted many of the weaknesses of school committees in terms of participating in school affairs and holding schools more accountable. Recent efforts to train school committees on their role in the management of BOS funds need to continue (see Box 3.4). However, it also seems necessary to extend training to a large number of school committee members and to the parents of students more generally. Moreover, as the evaluation on the recent BOS training revealed there is a need to provide some follow up support to help committee members implement the approaches they learnt in training (Shaeffer 2013). Local district education offices and their network of school supervisors are well placed to provide this

ongoing support. Efforts to build the capacity of local education offices to undertake this role and the provision of funding could play a pivotal role in ensuring the sustainability of efforts to strengthen school committees.

A recent study in Indonesia has also shown that well-designed information campaigns can improve overall knowledge of the BOS program and also increase parental participation (Cerdan-Infantes and Filmer 2014). An impact evaluation, carried out in 2011, explored different methods of providing information to parents on the BOS program (Box 4.4). The evaluation found that parent's knowledge of the program and participation in school affairs could be enhanced through the organization of school meetings to discuss the role of BOS and the use of simple SMS text messages.

#### **Box 4.4: Increasing the knowledge of parents on the BOS program and their participation in school affairs through school meetings and SMS text messages**

A recent randomized controlled trial evaluated the impact of providing information on the BOS program to parents through four different channels:

- A school meeting for parents where
- An SMS text to parents from the school principal
- A letter from the school principal to parents
- Giving parents a colorful notebook containing information on the program

The study explored how these different approaches affected parental knowledge about the BOS program and the extent to which improvements in knowledge affected parental participation in school affairs. In each approach, information on what the program was about, levels of per-student funding, allowable fund use and how parents were expected to participate were provided to parents.

The impact evaluation found that school meetings and SMS interventions had a significant impact on increasing parent's knowledge of the program. In terms of raising parental knowledge, the school meetings had the largest impact. The study found that school meetings increased a parental knowledge index by 0.3 standard deviations. The SMS intervention had a smaller overall effect because very few parents received or remembered receiving the message. When the impact is measured only amongst parents who received the text message, the magnitude of the impact is similar to that of the school meeting. No impact on parental knowledge of the BOS program was found for the letter and pocketbook interventions.

The evaluation found similar results of the different interventions on parental participation in school affairs. The study found that meetings and text messages increased the overall participation of parents in schools but in different ways. The effect of school meetings seemed to be largely limited to increases in parental visits to schools - a result in part of the school meeting itself. The text messages appeared to increase direct communication between parents and the schools through, for example, direct interactions between parents, the principal and the school committee.

#### **Box 4.4: Increasing the knowledge of parents on the BOS program and their participation in school affairs through school meetings and SMS text messages (continued)**

However, neither approach increased the participation of parents in the formal BOS planning process. The study acknowledges that even though schools are required to involve the school committee in the planning process, opening this up further to all parents would require additions to the guidelines associated with the BOS program.

Beyond improving the knowledge and participation of parents, the information interventions also appear to have improved program transparency. In particular, school meetings increased the number of parents who felt that the use of BOS funds at the school was transparent. This may have been as a direct result of the increased knowledge and efforts by the school to make information on the use of BOS funds available on school notice boards.

Source: Cerdan-Infantes and Filmer (2014)

A successful pilot in Pakistan also used a similar information strategy to strengthen the use of school councils (Cambridge Education 2014). The pilot hired a call center and used inbound and outbound calls, robot calls and SMS text messages to deliver important information on the role of school councils to their members. While no impact evaluation has been carried out of the program, an assessment of the pilot showed that school council members' knowledge of their roles and responsibilities had increased and school principals reported greater participation of the council in school affairs. The methods experimented with in the Indonesian study and the ongoing work in Pakistan could serve as important strategies to deliver the information school committees need to take on the role envisaged for them under the BOS program.

The report and recent surveys have shown that parents and school committees have relatively little information about the schools their children attend (World Bank 2012e). In general, parents are provided with information on their own child's progress but little information on the school he/she attends or its performance relative to other schools in the district or province. The provision of information of this kind can expand the role of parents in supporting the school as well as a tool to hold schools more accountable for the quality of education they provide. In some countries, school report cards have been introduced to provide this kind of information and as a vehicle to increase local community participation in school affairs. Evaluations of these programs have not been altogether positive but in some countries have been shown to have a significant impact on school outcomes (see Box 4.5)

### Box 4.5: School report cards for community based monitoring in Uganda

A randomized controlled trial in Uganda explored the impact of different interventions that used school report cards as a tool for school managing committees to monitor performance. The two interventions tested were:

- Standard scorecard. School committee members were trained and supported in the use of a school report card that was developed by education officials and NGOs
- Participatory scorecard. School committee members were trained and supported in the use of a school report card that they themselves had developed and included agreed indicators of school progress

Information interventions like these are expected to improve education outcomes by providing good information for local communities to hold their schools accountable. Moreover, the provision of good quality information of this kind also aims to encourage better school performance either through social pressure or through better collaboration between the school and community.

The experiment found that the participatory scorecard approach had statistically significant impacts on education outcomes. In terms of student learning, schools where the participatory scorecard was introduced saw a statistically significant advantage in primary school test scores of approximately 0.2 standard deviations compared to control schools. Teacher attendance also improved: teachers working in participatory scorecard schools were 13 percentage points more likely to be present than teachers in control schools.

Results for the standard scorecard approach were less promising. The experiment found no statistically significant effects on student learning although it did appear to have an effect on the attendance of some teachers.

The authors argue that the better impact of the participatory scorecard was driven primarily by fostering greater cooperation between the school and the local community rather than because of differences in the information contained on the different scorecards. These findings suggest that participatory methods to develop school report cards may improve education outcomes and strengthen the supporting role of school committees.

Source: Barr, Mugisha et al. (2012)

Given the current weaknesses in school based management it is important to also make the best use of existing systems to monitor the use of BOS funds. Recent studies have shown the relatively strong link that schools have with local education offices and the potential role they can play in both providing support for the use of funds and holding schools accountable (World Bank 2012e). Local education offices have BOS teams that are tasked with monitoring the program, providing support to schools for fund use, ensuring funds are used appropriately and providing a focal point for BOS grievance mechanisms. Beyond the school committees local government BOS teams are really the only external check on school

use of BOS funds at the local level. However, given that these funds are not part of local government budgets concerns have been raised about the perceived reluctance of some local governments to fund the monitoring activities required of them under the program.

An obvious way of strengthening the role of local governments would be to transfer BOS resources directly into their own budgets. This would result in local governments being directly accountable for BOS funds and ensure that financial control and management procedures associated with district budgets were followed. However, this approach was tried in 2011 and was not wholly successful. In particular, local government rules and regulations seriously undermined the ability of schools to use the BOS resources in a flexible way and delays in disbursement meant that the predictability of funds was also compromised. While revisiting the experience of BOS decentralization may be warranted, shorter term measures to strengthen the role of local governments in the BOS program could be explored. For example, where the costs to the local government are prohibitive funding from the central government to cover the costs of monitoring BOS could be provided.

## 4.5 Looking further ahead

Many other countries have used formula funding mechanisms similar to BOS to address broader challenges in the education sector. The improvements outlined in the previous sections of this chapter have largely focused on changes that are consistent with the BOS program's current role of providing national level funds to cover school operating expenses. However, many other countries have used similar funding mechanisms to improve the long term efficiency and equity of education sector financing at a time when the demands for education services are changing.

Recent studies in Indonesia have highlighted large inefficiencies in public education spending. For example, the latest education public expenditure review found that despite large increases in government spending improvements in overall education quality had been disappointing (World Bank 2013d). The report demonstrated growing levels of inefficiency in public education spending driven in part by the combination of a large number of small primary schools and staffing standards that did not take this into account.

These inefficiencies are likely to be exacerbated by current demographic shifts in Indonesia. Over the next 20 years the size of the primary and secondary school age population will continue to fall and with it the need for primary and secondary school places. Moreover these trends will be uneven in part due the rapid rates of urbanization that are being projected for Indonesia. For example, it is estimated that over two-thirds of the population will live in urban areas by 2025 up from about a half in 2012 (World Bank 2014a). These shifts coupled with existing ways of providing schools and school places are having a profound impact on the efficiency of the education system. For example, between 2010 and 2013, the proportion of schools in East Java with fewer than 120 students increased from 39 percent to 47 percent. These reductions have not been accompanied by significant declines in teacher numbers and will have resulted in large increases in the education costs per student and increased inefficiency.

Countries facing similar challenges to these have reformed financing mechanisms to shift the bulk of funding allocations from inputs (e.g. teachers, textbooks etc.) to outputs (e.g. number of students taught in a year). For example, during the 1990s and early 2000s many countries in East and Central Europe faced significant challenges brought about

through declining population growth and increased rates of out-migration. As school-aged populations decreased, the number of schools and teachers remained unchanged because decisions on the allocation of public resources were input-based. This reduced the efficiency of public education spending and led to significant imbalances in funding across regions. In response, a number of countries introduced school funding formula that covered the bulk of education funding (e.g. including teacher salaries) and were allocated mainly on the basis of the number of students or the size of the school age population. This had the effect of increasing allocations to urban areas that were experiencing rapid population growth and less to rural areas with declining populations. (Alonso and Sanchez 2011). The introduction of formulas of this kind also meant that efficiency gains were maintained without the need for one-off adjustments to allocations that were frequently difficult to achieve and politically costly.

Innovations of this kind could also be useful in Indonesia as a way of allocating a greater proportion of overall education funds. As Chapter 1 showed, local governments provide the bulk of education financing to schools and they could use formulas of this kind as the basis of allocating all funds, including teacher salaries, to schools. This would not only reduce the fragmentation of school financing (see Figure 1.2) but would also build in an automatic check to ensure more efficient input use because schools would receive funding based on the number of children actually taught.

The central government could also expand the BOS program to incorporate other central government funding for primary and secondary education and provide this greater level of resources to schools directly. Alternatively, formula funding mechanisms of this kind could be used as part of the broader inter-governmental transfer system to allocate central government education funds (including BOS) and transfers to local governments. Local governments could add this to local sources of resources and allocate to schools on the basis of a single formula. This would also eliminate coordination issues between central and local government grant programs and reduce the fragmentation of the overall education budget.

The formula funding approach pioneered by the BOS program has spread to all levels of education and provides a vital source of funding for most education institutions. In the 10 years that BOS has been operating it has established itself as a program that is able to deliver resources to schools on a regular and timely basis. It is popular among parents and is becoming increasingly well known. Other countries having successfully established programs of this kind have further developed them to address other education challenges that now confront Indonesia. Given the initial success of the BOS program it is perhaps timely to explore how the BOS program and the mechanisms it has introduced for allocating and managing resources can be adapted to make an even bigger contribution to improving education outcomes in Indonesia.

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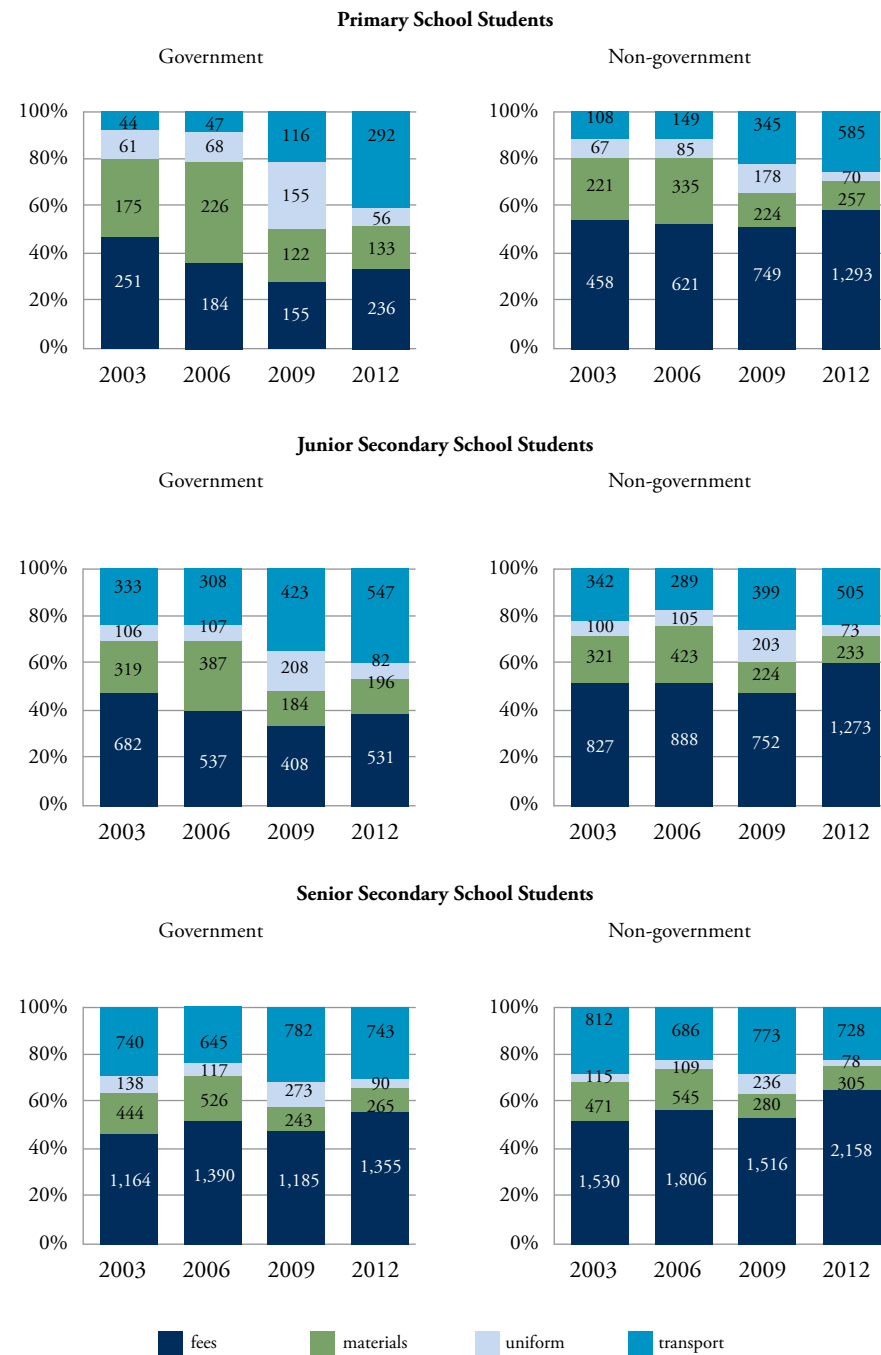
## Appendix

**Appendix Table 1: Comparing education spending in the education and consumption modules**

Education Module (Collected every 3 years)	Period of Recall ('03)	Period of Recall ('06, '09, '12)	Consumption Module (Collected annually)	Period of Recall (Feb 02-07 and Mar 08-13)
Registration cost	July - Dec	School Year 2005/2006, 2008/2009 and 2011/2012	Registration Cost	One month prior to the survey
School Fee (SPP)	July - Dec	Jan - June	School Fee (SPP) and school committee	Combined into one answer and conducted one month prior to the survey
School Committee	July - Dec	Jan - June	-	-
Laboratory Fees	July - Dec	Jan - June	-	-
Student Organization Contribution	July - Dec	Jan - June	-	-
Test/Evaluation Fee	July - Dec	Jan - June	-	-
Course fees (including enrichment)	July - Dec	Jan - June	Course fees	One month prior to the survey
Other fees	July - Dec	Jan - June	Other school fees (proficiency, course, test etc.)	One month prior to the survey
Student Worksheet (LKS)*	N/A	Jan - June	-	-
Teaching Materials Expenditure	July - Dec	Jan - June	-	-
Uniform and Sport Expenditure	July - Dec	Jan - June	-	-
Textbooks/Manual/Lecture notes	July - Dec	Jan - June	Textbooks, photocopies of learning materials	One month prior to the survey
Stationary and other equipment	July - Dec	Jan - June	Stationary	One month prior to the survey
Transportation cost	July-Dec	Jan-June (2006) and 2 trips (2009 and 2012)	-	-
Pocket Money	N/A	N/A (2006), daily (2009 and 2012)	-	-

Note: \*only available in 2012. Spending from the consumption module is calculated based on information one month prior to the survey in line with the BPS approach. Due to changes in the survey methodology, spending between 2011 and 2013 from the consumption module is computed from total household expenditures on education in the three months before the survey. - indicates that these items were not explicitly asked about in the consumption module.

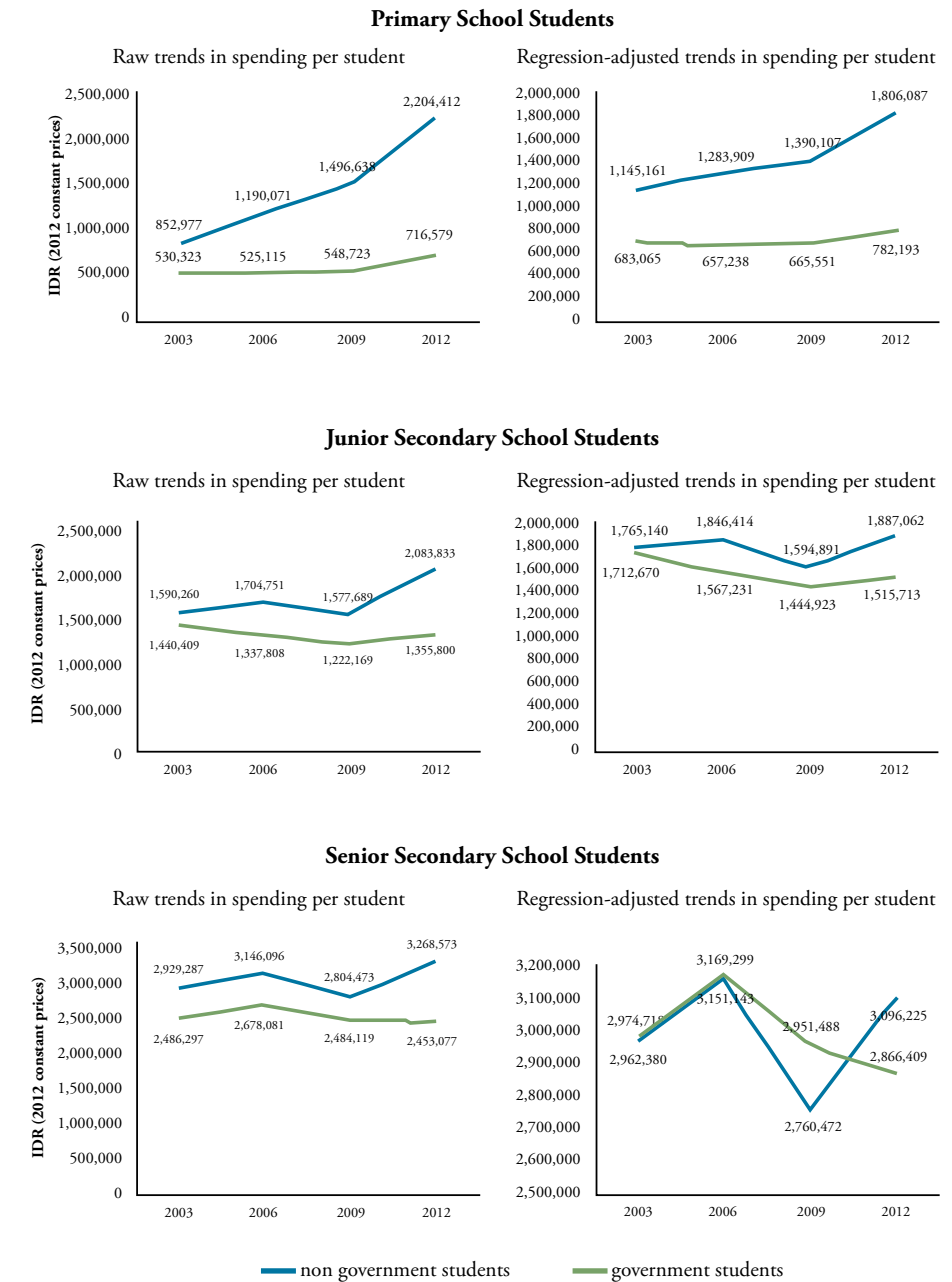
**Appendix Figure 1: Composition of per-student spending (IDR thousands), education module**



Note: All amounts are in constant 2012 Indonesian Rupiah and adjust for price differences between urban and rural areas.

Source: Education Module. Susenas.

**Appendix Figure 2: Trends in household education spending per student in government and non-government schools**



Notes: The left hand side of this table shows raw data. The right hand side shows the results of a regression-based analysis. The dependent variable in the regression model is per-student spending. Education spending is calculated from information on household spending for each child attending school in at the corresponding school level using fees, uniforms, materials and transport (as described in Figures 3-5).



