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# Enhancing the Effectiveness of Social Policies in Indonesia

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# ENHANCING THE EFFECTIVENESS OF SOCIAL POLICIES IN INDONESIA

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**By Margherita Comola and Luiz de Mello**



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## ABSTRACT

### Enhancing the effectiveness of social policies in Indonesia

Indonesia has made considerable progress over the years in improving the social conditions of its population, especially among disadvantaged groups, not least by raising government spending and strengthening social protection programmes. Nevertheless, in some respects social outcomes remain sub-par in relation to regional peers. In particular:

- A rapid increase over the years in government expenditure on education has yet to deliver marked improvements in student performance, which is somewhat weaker than in comparator countries. Enrolment is particularly low in secondary education, suggesting the need to improve the transition from primary to higher levels of education. Efforts are also needed to enhance the quality of teaching. Indonesia will need to at least sustain current levels of education spending in relation to GDP over the longer term to ensure durable improvements in outcomes.

- Government spending on health care and utilisation rates are lower than in comparator countries. Outcomes are also comparatively poor. As in the case of education, regional discrepancies in the health status of the population are narrowing, possibly due in part to the decentralisation of service delivery since the early 2000s. A publicly funded health insurance plan was launched in 2005 to protect vulnerable individuals against the risk of falling into poverty as a result of illness. The programme is being expanded to cover the entire targeted population of very poor, poor and near-poor individuals.

- Indonesia has a number of social-assistance programmes for protecting vulnerable groups against adverse income shocks in periods of crisis. These programmes are reasonably well targeted, but there is considerable room for improvement. Social protection has been strengthened since 2005 with the implementation of government-funded conditional cash transfers and community-based development programmes. Emphasis is now shifting from crisis mitigation towards an extension of the coverage of unconditional and conditional income support. The main challenge in this area is to extend social protection, especially through social security, to informal-sector workers, while strengthening co-ordination and seeking synergies among the existing programmes.

This Working Paper relates to the 2010 *OECD Economic Review of Indonesia* (www.oecd.org/eco/surveys/Indonesia).


*JEL classification codes:* I10; I20; I30.
*Keywords:* Indonesia; education; health care; social protection

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## RESUMÉ

### Renforcer l'efficacité des politiques sociales en Indonésie

Au fil des années, l'Indonésie a réalisé des progrès considérables dans l'amélioration des conditions sociales de sa population, notamment des groupes défavorisés, surtout en augmentant les dépenses publiques et en renforçant les programmes de protection sociale. Néanmoins, les résultats restent à certains égards en deçà de ceux enregistrés par d'autres pays de niveau comparable dans la région. En particulier :

- L'augmentation rapide au fil des années des dépenses publiques d'éducation ne s'est pas encore traduite par des améliorations marquées des résultats des élèves, qui restent un peu moins bons que dans les pays de comparaison. La scolarisation est particulièrement faible dans l'enseignement secondaire, ce qui met évidence la nécessité d'améliorer le passage du primaire aux échelons supérieurs du système scolaire. Des efforts sont aussi requis pour accroître la qualité de l'enseignement. L'Indonésie devra au moins maintenir à long terme les niveaux actuels des dépenses d'éducation par rapport au PIB afin d'assurer une amélioration durable des résultats.

- Les dépenses publiques en soins de santé et les taux d'utilisation sont plus faibles que dans les pays de comparaison. Les résultats sont aussi relativement médiocres. Comme dans le cas de l'éducation, il est vraisemblable que les divergences régionales concernant l'état de santé de la population se réduisent, en raison pour partie de la décentralisation de la prestation de services depuis le début des années 2000. Un plan d'assurance maladie financé par le secteur public a été mis en place en 2005 pour protéger les individus vulnérables du risque d'une dérive vers la pauvreté suite à une maladie. Le programme est élargi de manière à couvrir la totalité de la population cible, à savoir les personnes très pauvres, pauvres et quasi pauvres.

- L'Indonésie a mis en place plusieurs programmes d'aide sociale pour protéger les groupes vulnérables contre des chocs de revenu négatifs en période de crise. Ces programmes sont raisonnablement bien ciblés, mais des améliorations importantes sont possibles. La protection sociale a été renforcée depuis 2005, avec la mise en place de transferts en espèces conditionnels et de programmes de développement communautaire financés par l'État. L'accent est aujourd'hui mis davantage sur un élargissement de la couverture du soutien conditionnel et non conditionnel du revenu que sur les mesures d'atténuation des effets de la crise. Le principal enjeu dans ce domaine consiste à étendre la protection sociale, aux travailleurs du secteur informel, en particulier par le biais de la sécurité sociale, tout en renforçant la coordination et en tirant parti des synergies entre les programmes existants.

Ce Document de travail se rapporte à l'*Étude économique de l'OCDE de l'Indonésie*, 2010 (www.oecd.org/eco/etudes/Indonesie).


*Classification JEL :* I10 ; I20 ; I30
*Mots clefs :* Indonésie ; éducation ; soins de santé ; protection sociale

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# ENHANCING THE EFFECTIVENESS OF SOCIAL POLICIES IN INDONESIA

by Margherita Comola and Luiz de Mello[1]

## 1. Introduction

Indonesia's social programmes – especially in the areas of education, health care and social protection – are being strengthened. Government social spending has risen concomitantly. Educational outcomes are somewhat weaker than in regional peers and compare particularly unfavourably against OECD benchmarks. As for health, Indonesia often fares poorly in comparison with regional benchmarks, suggesting ample room for policy action. Emphasis is now being placed on a much needed strengthening of insurance mechanisms for poor and near-poor households. Indonesia's experience with targeted support for vulnerable social groups in periods of economic duress provides invaluable lessons for countries with a comparable level of development. The focus of policy in this area is now rightly shifting towards increasing support to population groups that have so far been left behind, as well as a strengthening of conditional cash transfers to the poor.

This paper reviews Indonesia's main programmes in the areas of education, health care and social protection. The main challenges policymakers will have to face in the coming years will be to make room in the budget for the increase in coverage of formal social protection and health insurance and to ensure that cost-effective initiatives are put in place to improve educational attainment and the population's health status. Discussions on the design of social policies will need to include the tradeoffs associated with different financing instruments. Moreover, given the long periods of time required for social policies to come to fruition, Indonesia will need to formulate appropriate policies and to be able to maintain them over many years to gradually close the performance gap that currently exists in some areas with respect to regional peers and, especially, with the wealthier countries in the OECD area.

## 2. Education

### *Main issues*

Successive Indonesian governments have placed increasing emphasis on human capital accumulation since the return to democracy in the late 1990s. Government spending on education has risen considerably over the last ten years, and Indonesia's education expenditure-to-GDP ratio now exceeds the average of

1. Margherita Comola is in the Paris School of Economics and Luiz de Mello is in the OECD Economics Department. This paper reports on background work for the 2010 *OECD Economic Survey of Indonesia*. The authors are indebted to Andrew Dean, Robert Ford, Peter Jarrett, Annabelle Mourougane, Mauro Pisu and colleagues in the OECD Economics Department; Vivi Alatas, Sjamsu Rahadja and officials at the World Bank office in Jakarta; M. Chatib Basri, Stephen Grenville, Hal Hill, Arianto Patunru, Thee Kian Wie, officials in the Indonesian government, and delegates to the Economic and Development Review Committee (EDRC) for helpful comments and/or discussions. Special thanks go to Anne Legendre for research assistance and to Penny Elghadab and Mee-Lan Frank for editorial support.

regional peers, although it is still significantly lower than that of OECD countries (Table 1). As in other Southeast Asian countries, education accounts for a comparatively high share of total government outlays in Indonesia, in part as a result of the introduction in 2002 of a targeted spending floor for education, at 20% of government spending, which was reached in 2008. Recurrent spending has also risen over time, due predominantly to increases in teachers' compensation, which has reduced to some extent the room in the budget for financing capital outlays. Spending levels nevertheless vary a great deal across the provinces (Table 2). Although empirical evidence suggests that Indonesia's spending ratio is in line with the country's income level and socio-demographic indicators (Arze del Granado *et al.*, 2007), the composition of government spending is tilted towards primary schooling to the detriment of higher levels of education, where private financing is predominant (Box 1).

Table 1. **Basic education indicators: International comparisons**

| | Indonesia | | | Southeast Asia, 2007 | OECD, 2007 |
|---|---|---|---|---|---|
| | 1990 | 2000 | 2007 | | |
| **Inputs** | | | | | |
| Public spending on education | | | | | |
| in per cent of GDP | .. | 2.5[3] | 3.5 | 2.7[4] | 5.5[5] |
| in per cent of government expenditure | .. | 11.5[3] | 17.5 | 16.1[3] | 12.0[5] |
| Pupil-teacher ratio | | | | | |
| Primary | 23.3 | 22.4 | 18.8 | 19.3 | 15.3 |
| Secondary | 12.9 | 15.8 | 13.0 | 17.8 | 13.3 |
| **Outputs and outcomes** | | | | | |
| Net enrolment rates (per cent)[1] | | | | | |
| Primary | 98.1[2] | 94.3 | 94.8 | 93.1 | 95.6 |
| Secondary | .. | 49.7 | 69.7 | .. | 91.3 |
| Tertiary (gross) | 9.5[2] | 14.8[3] | 18.0 | 22.5 | 71.6 |
| Completion rate, primary (per cent of age group) | 93.6 | 98.2[3] | 108.1 | 99.8 | 98.5 |
| Persistence to grade 5 (per cent of cohort) | .. | 95.3 | 92.8[5] | .. | .. |
| Repetition rate (per cent of primary school enrollment) | 9.8 | 6.2[3] | 3.3 | 1.6 | 0.4[5] |
| Literacy rate (per cent of 15+ population) | 81.5 | .. | 92.0[5] | 93.1[6] | 99.4 |
| Males | 88.0 | .. | 95.2[5] | 96.0[6] | 99.6 |
| Females | 75.3 | .. | 88.8[5] | 90.1[6] | 99.3 |

1. Net enrolment rates adjust gross enrolment by age-grade mismatches.
2. 1991.
3. 2001.
4. 2004.
5. 2006.
6. 2008.

*Source*: World Bank (*World Development Indicators*).

Table 2. **Education and health care: Total spending by province, 2008**

In per cent of household non-food expenditure

| | Education | Health care |
|---|---|---|
| Aceh | 4.63 | 7.29 |
| Sumatera Utara | 7.25 | 7.38 |
| Sumatera Barat | 7.14 | 6.46 |
| Riau | 5.85 | 5.78 |
| Jambi | 5.13 | 6.47 |
| Sumatera Selatan | 6.25 | 6.47 |
| Bengkulu | 7.30 | 6.88 |
| Lampung | 6.06 | 7.35 |
| Bangka-Belitung | 4.55 | 5.35 |
| Kepulauan Riau | 5.35 | 5.01 |
| Jakarta Raya | 6.95 | 5.84 |
| Jawa Barat | 7.93 | 7.12 |
| Jawa Tengah | 8.68 | 6.76 |
| Yogyakarta | 10.55 | 6.58 |
| Jawa Timur | 9.10 | 7.62 |
| Banten | 7.63 | 6.48 |
| Bali | 4.81 | 7.68 |
| Nusa Tenggara Barat | 7.35 | 6.78 |
| Nusa Tenggara Timur | 4.64 | 6.26 |
| Kalimantan Barat | 7.42 | 7.18 |
| Kalimantan Tengah | 3.60 | 4.49 |
| Kalimantan Selatan | 4.50 | 5.89 |
| Kalimantan Timur | 6.04 | 4.91 |
| Sulawesi Utara | 4.73 | 7.14 |
| Sulawesi Tengah | 4.65 | 6.30 |
| Sulawesi Selatan | 5.68 | 5.33 |
| Sulawesi Tenggara | 6.21 | 5.30 |
| Gorontalo | 7.69 | 8.24 |
| Sulawesi Barat | 4.90 | 5.44 |
| Maluku | 5.77 | 4.47 |
| Maluku Utara | 5.88 | 5.22 |
| Papua Barat | 3.29 | 3.93 |
| Papua | 4.30 | 4.17 |
| *Memorandum item:* | | |
| **Indonesia** | **6.62** | **6.48** |

*Source*: BPS (*Susenas*).

Box 1. **Indonesia's education system: An overview**

**The education system**

The Indonesian education system comprises pre-school education (kindergarten, two years), primary education (six years), lower-secondary education (three years), upper-secondary education (three years) and higher education. Compulsory education includes the primary and lower-secondary levels (children aged 7-15 years). Secondary education can be formal or vocational.

Education services are provided in a decentralised manner. As a result of comprehensive fiscal decentralisation in 2001, the provinces and local governments (*kota* and *kapubaten*) are responsible for service delivery and the maintenance of schools. Policymaking and standard setting are prerogatives of the central government. The provinces are responsible for planning and quality oversight. School management is carried out by the schools themselves.

Public institutions are under the authority of the Ministry of National Education, whereas the private or non-governmental sector is dominated by religious institutions under the oversight of the Ministry of Religious Affairs. Private *madrasahs* account for 12% to 15% of enrolment in primary and lower-secondary education. These institutions follow the general curriculum of regular schools in addition to providing religious teaching.

Private schools play an important role at the secondary level of education: only 7% of primary schools are private, as against 56% at the lower-secondary and 67% at the upper-secondary levels.

Performance assessment and eligibility for enrolment at higher levels of education are carried out on the basis of a national exam (UAN, *Ujain Akhir Nasional*) at the end of lower-secondary and upper-secondary education. Students also sit exams designed by individual schools at the end of primary education.

**Recent legislation**

Legislation was enacted in 2003 (Law on National Education and the Constitution Amendment No. 3) to introduce the right to publicly funded basic education for all Indonesians aged 7-15 years. A spending floor was introduced for education at 20% of total government expenditure at all levels of administration (OECD, 2008).

The 2005 Teacher Law changed employment conditions, compensation and certification requirements for teachers. The Law introduced new benefits for teachers depending on their functional area, place of work and qualifications on the basis of national certification exams. Teacher certification applies to all schools (public and private) and levels of schooling, for teachers with at least undergraduate education or four-year diplomas (Ministry of National Education, 2007; SMERU, 2009). Certification is carried out on the basis of an assessment of the teacher's competencies. Implementation started in 2007.

A three-pillar strategic plan for 2005-09 was set up by the Ministry of Education focusing on efforts to increase access to education, improve the quality of education and enhance the governance of the education sector. In addition, the government launched the School Operations Fund (BOS, *Bantuan Operasional Sekolah*) in 2005, allowing public funds to be channelled directly to schools and greater managerial autonomy at the school level.

**Selected targeted programmes**

Indonesia's experience with targeted education-related programmes dates back to the 1998 crisis. The social safety net that was put in place at the time of the crisis (JPS, *Jaring Pengaman Sosial*) also included a targeted scholarship system for poor students enrolled in primary and secondary education. The programme was introduced at the beginning of the 1998-99 school year and was maintained for five years. The main aim of the programme was to safeguard access to education for vulnerable groups, which are most adversely affected by transitory income losses related to economic crises. Targeting was carried out in a decentralised manner at the community and district levels.

Empirical evidence suggests that the programme was fairly pro-poor and that as a result enrolment rose to its pre-crisis level, especially for poor primary-school children living in rural areas (Sparrow, 2007).

During 2001-05, a targeted scholarship programme (BKM) was introduced using part of the budgetary savings arising from lower fuel subsidies. BKM was downsized in 2005 and in part replaced by BOS, intended to protect the poor from further reductions in fuel subsidies in March and October 2005. BOS consists of per-pupil block transfers to primary and lower-secondary schools to cover part of non-payroll operational expenditures. Funds are disbursed directly to schools, reducing the scope for leakages and misuse. By covering part of the schools' recurrent outlays, the programme aims to reduce the need for user charges. Virtually all schools now benefit from the measure. A new sub-programme now focuses on assistance for the purchase of school books. Schools enjoy considerable discretion over the use of funds.

Empirical evidence suggests that BOS has been successful at improving motivation among students from disadvantaged backgrounds, although the programme's impact on drop-out rates at the lower-secondary level has been small (SMERU, 2006).

Enrolment has risen over the years but remains comparatively low for secondary and higher levels. This suggests that there may be obstacles to the transition from primary education, where attainment is already relatively high, to higher levels of education. Empirical evidence shows that children from low-income households, girls and those living in areas with abundant employment opportunities are most likely to drop out of school after primary education (Suryadarma *et al.*, 2006) and therefore to have comparatively low educational attainment (Table 3). Repetition rates are also higher in Indonesia than in comparator countries, even if they have come down sharply. In addition, there are important discrepancies in educational attainment across the different regions, with a number of poor provinces lagging far behind the more prosperous parts of the country (Table 4).

An increase in school enrolment has not been accompanied by commensurate improvements in student performance. Indonesia fares poorly in international standardised tests, even after taking socio-economic conditions into account. In 2003, Indonesia ranked 33$^{rd}$ out of 45 countries in the Third International Mathematics Science Study (TIMSS) and 50$^{th}$ out of 57 countries in the 2006 PISA in science, reading and mathematics. The relatively poor performance of Indonesian students is due to a large extent to poor health conditions (discussed below), given that the incidence of child malnutrition and the prevalence of water-borne diseases are considerably higher than in comparator countries. Low educational attainment and hence literacy among women is also known to affect student performance adversely.

Despite a sustained expansion of the school network over the years, supply constraints continue to pose important obstacles to raising educational attainment. The empirical evidence reported in Annex A1, based on Indonesia's experience with large-scale school infrastructure development in the 1970s, shows that each new school built per 1 000 children results in an additional 0.2 average years of educational attainment.[2] A case could also be made for tackling supply constraints by improving the quality of school infrastructure and improving teacher qualifications (Table 5). Only a minority of teachers have the minimum qualification required by the Ministry of Education, a feature of the Indonesian education system that indicates the need for increasing emphasis in policy design and evaluation on teacher training and certification. Despite a predominance of private institutions at higher levels of education, there do not appear to be significant differences in the quality of schools, teacher qualifications and pupil-teacher ratios between public and private institutions.[3]

Table 3. **Educational attainment by income level, 1996 and 2008**

Highest qualification, in per cent of population aged at least 5 years

| | 1996 | | 2008 | |
|---|---|---|---|---|
| | Lowest quintile | Highest quintile | Lowest quintile | Highest quintile |
| No primary education | 52.66 | 27.09 | 45.87 | 23.82 |
| Primary education | 35.85 | 26.01 | 34.73 | 19.80 |
| Lower-secondary education | | | | |
| General | 6.52 | 15.73 | 11.85 | 16.08 |
| Vocational | 0.88 | 2.08 | 0.40 | 0.82 |
| Upper-secondary education | | | | |
| General | 2.12 | 14.20 | 4.97 | 20.33 |
| Vocational | 1.68 | 8.79 | 1.71 | 7.01 |
| Higher education | | | | |
| Diploma I/II (One/two years of higher education) | 0.10 | 0.93 | 0.18 | 1.90 |
| Diploma III (Three years of higher education) | 0.08 | 1.84 | 0.11 | 2.53 |
| Diploma IV (Four years of higher education) | 0.11 | 3.33 | 0.20 | 7.71 |

*Source*: BPS (*Susenas*).

2. Indonesia engaged in a massive programme to build schools (*Sekolah Dasar INPRES*) between the school years of 1973-74 and 1978-79 using the revenue accruing from the development of oil and gas reserves. As a result more than 61 000 primary schools were built during 1973-79. Empirical evidence shows that the cohort of individuals born in the districts that benefited from the programme was more likely to stay longer at school and to earn more once joining the labour force. In addition, the increase in the proportion of educated workers as a result of the programme encouraged the participation of both educated and uneducated workers in the formal labour market (Duflo, 2001 and 2004).

3. Nevertheless, there appears to be a considerable gap in earnings between graduates from public and private schools. Based on survey data, Fahmi (2009) shows that graduates from public schools earn 25% and 35% more than their counterparts from private non-religious and private religious schools, respectively.

Table 4. **Educational attainment by province, 2008**

Highest qualification, in per cent of population aged at least 5 years

| | No primary education | Primary education | Lower-secondary education | | Upper-secondary education | | Higher education | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | General | Vocational | General | Vocational | Diploma I/II | Diploma III | Diploma IV |
| Aceh | 29.3 | 26.0 | 18.4 | 1.2 | 17.0 | 2.7 | 1.4 | 1.1 | 3.0 |
| Sumatera Utara | 31.6 | 23.9 | 18.2 | 0.7 | 15.6 | 5.7 | 0.8 | 1.1 | 2.5 |
| Sumatera Barat | 34.8 | 22.1 | 16.1 | 1.0 | 14.0 | 5.7 | 1.5 | 1.4 | 3.4 |
| Riau | 31.6 | 26.6 | 16.8 | 0.8 | 15.1 | 4.6 | 1.1 | 1.0 | 2.4 |
| Jambi | 34.3 | 28.3 | 16.9 | 0.5 | 12.1 | 3.8 | 1.2 | 0.8 | 2.2 |
| Sumatera Selatan | 34.4 | 30.0 | 15.3 | 0.6 | 12.7 | 3.4 | 0.7 | 0.9 | 2.1 |
| Bengkulu | 33.7 | 27.3 | 17.4 | 0.6 | 13.2 | 3.5 | 1.0 | 0.7 | 2.7 |
| Lampung | 34.7 | 28.4 | 17.4 | 0.6 | 10.7 | 4.7 | 0.9 | 0.8 | 1.9 |
| Bangka-Belitung | 35.3 | 28.5 | 13.9 | 0.8 | 12.4 | 5.2 | 0.8 | 1.1 | 1.9 |
| Kepulauan Riau | 30.1 | 25.0 | 14.6 | 0.8 | 17.3 | 7.7 | 1.1 | 1.3 | 2.2 |
| Jakarta Raya | 19.2 | 19.5 | 17.3 | 1.0 | 20.9 | 10.8 | 0.7 | 3.3 | 7.4 |
| Jawa Barat | 30.0 | 33.2 | 14.9 | 0.7 | 11.2 | 5.3 | 0.8 | 1.3 | 2.9 |
| Jawa Tengah | 31.4 | 32.2 | 16.3 | 0.6 | 9.8 | 5.2 | 0.9 | 1.2 | 2.5 |
| Yogyakarta | 22.4 | 23.5 | 16.5 | 0.6 | 17.4 | 9.2 | 1.2 | 2.5 | 6.7 |
| Jawa Timur | 30.6 | 30.4 | 16.1 | 0.8 | 11.5 | 5.7 | 0.7 | 0.8 | 3.5 |
| Banten | 32.6 | 27.6 | 15.8 | 0.5 | 12.4 | 5.9 | 0.6 | 1.3 | 3.3 |
| Bali | 27.6 | 27.3 | 15.2 | 0.5 | 17.5 | 5.3 | 1.8 | 0.9 | 4.0 |
| Nusa Tenggara Barat | 35.4 | 25.4 | 15.1 | 0.5 | 15.5 | 2.8 | 1.2 | 0.8 | 3.4 |
| Nusa Tenggara Timur | 43.4 | 29.8 | 11.2 | 0.4 | 8.6 | 3.2 | 0.7 | 0.8 | 1.9 |
| Kalimantan Barat | 40.9 | 26.4 | 15.1 | 0.6 | 10.5 | 3.2 | 0.8 | 0.9 | 1.6 |
| Kalimantan Tengah | 30.9 | 33.6 | 17.3 | 0.5 | 11.4 | 2.4 | 1.3 | 0.6 | 2.0 |
| Kalimantan Selatan | 35.8 | 28.7 | 15.7 | 0.5 | 11.2 | 3.6 | 1.2 | 0.7 | 2.6 |
| Kalimantan Timur | 29.3 | 24.8 | 17.2 | 0.8 | 16.7 | 5.8 | 1.0 | 1.2 | 3.2 |
| Sulawesi Utara | 31.6 | 24.0 | 17.3 | 1.3 | 15.9 | 5.3 | 0.8 | 0.9 | 2.9 |
| Sulawesi Tengah | 31.8 | 31.4 | 16.1 | 0.5 | 12.3 | 3.2 | 1.5 | 0.6 | 2.6 |
| Sulawesi Selatan | 36.1 | 27.1 | 14.5 | 0.6 | 12.9 | 3.5 | 1.1 | 0.9 | 3.4 |
| Sulawesi Tenggara | 34.1 | 25.6 | 16.4 | 0.4 | 15.2 | 2.8 | 1.6 | 0.7 | 3.0 |
| Gorontalo | 44.2 | 28.0 | 11.8 | 0.5 | 9.3 | 2.8 | 0.7 | 0.8 | 1.8 |
| Sulawesi Barat | 39.4 | 29.9 | 13.7 | 0.4 | 9.9 | 2.8 | 1.1 | 0.6 | 2.3 |
| Maluku | 33.8 | 26.7 | 15.8 | 0.7 | 15.4 | 3.5 | 1.4 | 0.6 | 2.1 |
| Maluku Utara | 36.4 | 25.7 | 15.9 | 0.5 | 14.5 | 2.6 | 1.5 | 0.6 | 2.4 |
| Papua Barat | 34.6 | 24.1 | 17.4 | 0.5 | 13.6 | 4.9 | 0.7 | 1.1 | 3.0 |
| Papua | 36.9 | 23.8 | 14.9 | 1.1 | 14.6 | 4.7 | 0.6 | 0.9 | 2.7 |

*Source*: BPS (*Susenas*).

Despite progress in recent years, teacher absenteeism remains a problem in many parts of the country. Although reliable information is scarce, according to a survey conducted in ten local governments in 2002-03, about 19% of teachers had not shown up to work on the days the survey was conducted. Absent teachers are predominantly male, better educated and on temporary contracts (Usman *et al.*, 2004). According to the survey, the main reasons for absenteeism are a lack of adequate transportation to schools and poor quality of school facilities. To some extent, absenteeism can also be related to the structure of compensation for teachers, given that salaries are typically low and grade schedules are flat, leaving limited room for career progression and compensation for incremental qualifications (Ministry of National Education, 2007). Better educated teachers may therefore seek opportunities in more rewarding activities while maintaining a formal attachment to the school system. In any case, empirical analysis shows that absenteeism impinges on student performance, at least for primary school pupils (Suryadarma *et al.*, 2004), which calls for remedial policy action.

Reliance on private institutions at the pre-school and secondary levels creates problems of access for students from disadvantaged backgrounds. Only about 57% of schools at the lower-secondary level are public, against over 91% at the primary level. Co-payments also put a burden on household budgets, which are often prohibitive for low-income families, and have helped to motivate the introduction of the BOS programme in 2005 (described in Box 1 above), which consists of direct block transfers to schools on a per-student basis to finance non-payroll recurrent expenditures. Expenditure on tuition fees, transport,

uniforms, books and supplies rises with household non-food expenditure, which implies that children in lower-income households do not in general enrol beyond the primary level (Table 6).

Table 5. **Teacher qualifications and school conditions, 2001-02 and 2007-08**

| | Public | | | | | Private | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Share of public institutions (per cent) | Teacher qualification (at least minimum requirement) (per cent) | Classroom conditions (at least good) (per cent) | Pupil/ teacher ratio | Pupil/ class ratio | Teacher qualification (at least minimum requirement) (per cent) | Classroom conditions (at least good) (per cent) | Pupil/ teacher ratio | Pupil/ class ratio |
| **2001-02** | | | | | | | | | |
| Kindergarten | 0.6 | 81.9 | 91.2 | 11 | 20 | 52.6 | 81.3 | 13 | 20 |
| Primary | 93.2 | 45.1 | 35.6 | 22 | 26 | 44.5 | 70.3 | 20 | 26 |
| Lower secondary | 52.0 | 65.1 | 86.5 | 17 | 40 | 61.7 | 85.6 | 13 | 37 |
| Upper secondary | 30.2 | 67.3 | 89.5 | 15 | 40 | 59.5 | 88.9 | 13 | 36 |
| General | 37.6 | 69.1 | 89.7 | 15 | 41 | 59.7 | 89.7 | 12 | 35 |
| Vocational | 17.6 | 57.5 | 88.9 | 13 | 37 | 56.1 | 88.0 | 15 | 38 |
| **2007-08** | | | | | | | | | |
| Kindergarten | 1.1 | 26.0 | 78.0 | 11 | 21 | 25.9 | 53.8 | 12 | 20 |
| Primary | 91.7 | 2.0 | 49.7 | 19 | 27 | 21.1 | 63.3 | 17 | 26 |
| Lower secondary | 57.2 | 87.9 | 77.6 | 15 | 38 | 82.8 | 81.1 | 11 | 33 |
| Upper secondary | 36.7 | 86.8 | 88.0 | 13 | 37 | 81.6 | 86.9 | 11 | 37 |
| General | 43.9 | 83.3 | 88.2 | 14 | 36 | 70.0 | 88.1 | 11 | 34 |
| Vocational | 25.9 | 79.2 | 87.2 | 12 | 39 | 75.8 | 85.8 | 12 | 40 |

*Source*: Ministry of Education.

Table 6. **Household expenditure on education and health care, 1996 and 2008**

In per cent of household non-food expenditure

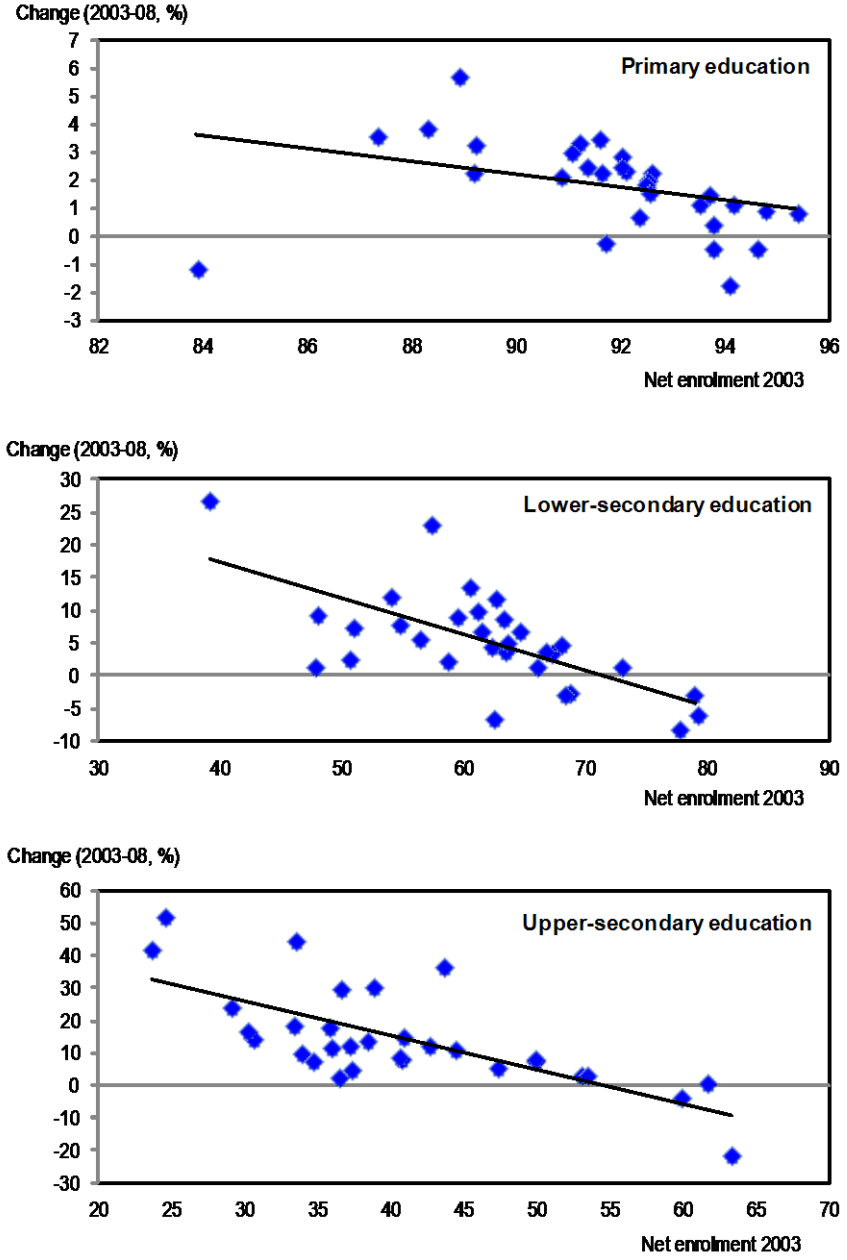
| | Education | | Health care | |
|---|---|---|---|---|
| | 1996 | 2008 | 1996 | 2008 |
| Lowest quintile | 2.85 | 4.10 | 6.50 | 7.27 |
| Quintile 2 | 5.13 | 6.37 | 6.78 | 6.81 |
| Quintile 3 | 6.43 | 7.08 | 6.92 | 6.50 |
| Quintile 4 | 7.60 | 7.41 | 7.11 | 6.07 |
| Highest quintile | 8.83 | 8.14 | 6.71 | 5.76 |

*Source*: BPS (*Susenas*).

Education services are provided in a decentralised manner by the provinces and local governments. Although they account for the bulk of spending on education, local authorities have had limited autonomy in personnel management and in the allocation of funds transferred to them by the central government. Recurrent expenditure is based essentially on historical budgeting, and most investment programmes are designed and financed by the central government through grants. The governance of the education system is nevertheless beginning to change with the implementation of the BOS programme since 2005. Although it is now fully implemented, decentralisation may well be contributing to the reduction in disparities in school enrolment across the country (Figure 1).

Figure 1. **The effect of decentralisation on educational enrolment at the provincial level**

The dots represent the provinces




*Source*: BPS.

### *Policy considerations*

School enrolment needs to be raised at the secondary and tertiary levels. Emphasis on secondary education is justified on the basis of estimated social rates of return, which seem to be higher in Indonesia at the secondary level than for primary education (Arze del Granado *et al.*, 2007). A case can be made for raising government spending – notwithstanding the 20% spending floor introduced in 2002 and met for the first time in 2008 – in support of initiatives to improve school enrolment. Incremental spending could be

financed by eliminating fuel and electricity subsidies (as recommended in Chapter 2), which are inequitable and inefficient. There is also likely to be room for reallocating budgetary resources within the education sectors towards cost-effective programmes. Higher spending would allow supply constraints to be tackled, including by improving the quality of schools, which is much needed. Efforts to boost school enrolment beyond primary education would be supported by extension of the PKH income-support programme (discussed below) to the whole country, because PKH conditions assistance on enrolment of school-age children in primary and lower-secondary education. This measure would go in the direction of increasing the opportunity cost of dropping out of school, which is currently low for low-income individuals living in areas with plentiful employment opportunities.

The quality of teaching needs to improve. Indonesia does not suffer from a shortage of teachers, although they are in general poorly qualified. The 2005 Teacher Law is an important development in the direction of creating incentives for teachers to engage in training. The Law recognises that the current career streams and compensation packages do not create the necessary incentives for teachers to invest in human capital accumulation throughout their working lives. To remedy this situation, the Law introduces compensation for staff on the basis of certified qualifications. However, for these initiatives to deliver better educational outcomes, they will need to be complemented by efforts to monitor progress in teaching quality through regular assessments of teachers' pedagogical skills. Continued effort to tackle absenteeism would also be needed. At a minimum, teacher attendance will need to be monitored more effectively.

Financial assistance to schools could be strengthened through various means. There has been increasing emphasis on direct transfers to schools, rather than to students from disadvantaged backgrounds. This is the case of a shift from BKM scholarships to BOS funding in 2005 (described in Box 1), which is welcome. While existing support mechanisms could be used to enhance the ability of schools to improve teaching conditions in general, it should be recognised that it is often costlier to provide adequate services to students from disadvantaged backgrounds than for their more affluent counterparts. BOS assistance could therefore target schools located in remote areas and catering predominantly for poor students through a higher per-student transfer. International experience with differentiated transfer mechanisms, such as that of Chile's education vouchers, suggests that they go in the direction of equalising expenditure needs at the school level by recognising the existence of service delivery cost differentials arising from students' socio-economic backgrounds (OECD, 2007).

There is scope for improving the targeting of financial support to students from disadvantaged backgrounds. Indonesia has a long experience of using geographical and community-based mechanisms for identifying the intended beneficiaries of government-funded income-support programmes, especially in periods of economic strain. Assessments of these mechanisms are in general very positive, although they are not perfect, and leakages often occur. Indonesia is in a privileged position in relation to most countries with comparable income levels in that it has large household, labour market and village-level surveys, such as *Susenas*, *Sakernas* and PODES, that are conducted regularly and provide a wealth of information on the socio-economic characteristics of individuals and households, which can be – and have been – used extensively for proxy means-testing. These proxy devices are appropriate, because means-testing is very difficult in countries with a large informal labour market. A focus on primary education in targeted support is justified on the grounds that Indonesian households tend to protect education for older children at the expense of younger siblings when faced with transitory adverse income shocks (Thomas *et al.*, 2004).

Decentralisation could be deepened by giving local governments greater policymaking autonomy. The main advantage of decentralised service delivery is its scope for boosting cost-effectiveness and accountability by allowing the local authorities, who are closer to the people, to match provision to local preferences and needs. Decentralisation is obviously not without pitfalls, including those related to governance and the risk of capture of the benefits of provision by local interest groups. Notwithstanding these caveats, Indonesia could gain from greater autonomy at the local level, especially as far as human

resources management is concerned. Efforts in this area would complement the ongoing strengthening of the BOS programme, which relies on decentralised (school-level) management of central government support for non-payroll recurrent expenditure.

## 3. Health care

### *Main issues*

Total spending – public and private – on health care is fairly low in Indonesia, even by the standards of neighbouring countries (Table 7). This is despite a rapid increase in government outlays following fiscal decentralisation in 2000-01 (Box 2). Legislation introduced in 2009 requires the central government to spend 5% of its budget and the local governments to spend 10% of their budgets on health care (excluding personnel outlays). Local governments already account for about one-half of government outlays, a proportion that is likely to rise when the health insurance scheme for the very poor, poor and near-poor (*Jamkesmas*, see below) is fully operational. Low spending also reflects administrative and managerial weaknesses, given that budgetary appropriations are often not fully executed. Private sources account for the bulk of expenditure, and most private spending is out of pocket, due to low health-insurance coverage. There is no pricing regulation or quality-control mechanism for private health-care providers. Spending levels vary considerably among the provinces (see Table 2 above). Curative and out-patient (as opposed to preventive) care accounts for the bulk of spending (Ministry of Health, 2008).

Table 7. **Basic health indicators: International comparisons**

| | Indonesia | | | Southeast Asia, 2007 | OECD, 2007 |
|---|---|---|---|---|---|
| | 1990 | 2000 | 2007 | | |
| **Inputs** | | | | | |
| Expenditure | | | | | |
| Total (per cent of GDP) | .. | .. | 2.2 | 4.1 | 11.4 |
| Private (per cent of GDP) | .. | .. | 1.0 | 2.2 | 4.4 |
| Public (per cent of GDP) | .. | .. | 1.2 | 1.9 | 7.0 |
| Public (per cent of government expenditure) | .. | .. | 6.2 | 9.9[6] | 17.1 |
| Per capita (current USD) | .. | .. | 41.8 | 96.2 | 4618.4 |
| Hospital beds (per 1 000 people) | 0.7 | .. | .. | 2.1[6] | 6.2[6] |
| Physicians (per 1 000 people) | 0.1 | 0.2 | .. | 1.5[5] | 2.6[4] |
| Sanitation facilities (per cent of population with access) | 51.0 | 52.0 | 52.0[6] | 65.6[6] | 99.9[6] |
| Water source (per cent of population with access) | 72.0 | 77.0 | 80.0[6] | 87.4[6] | 99.6[6] |
| **Outputs and outcomes** | | | | | |
| Malnutrition, weight for age (per cent of children under 5) | 31.0[1] | 24.8 | 19.6 | 11.9[7] | .. |
| Incidence of tuberculosis (per 100 000 people) | 342.8 | 269.7 | 228.0 | 137.9[7] | 13.1[7] |
| Mortality rate, under 5 (per 1 000) | 91.0 | 48.0 | 40.5[7] | 28.5[7] | 5.8[7] |
| Births attended by skilled health staff (per cent of total) | 31.7[2] | 64.2[3] | 79.4 | 89.2[7] | 99.5[7] |
| Pregnant women receiving prenatal care (per cent) | 76.2[2] | .. | 93.30 | 90.9[7] | .. |
| Immunisation rates (in per cent of children aged 12-23 months) | | | | | |
| DPT | 60.0 | 75.0 | 77.0[7] | 92.3[7] | 95.4[7] |
| Measles | 58.0 | 72.0 | 83.0[7] | 91.4[7] | 92.5[7] |
| Life expectancy at birth, total (years) | 61.7 | 67.5 | 70.8[7] | 72.2[7] | 80.1[7] |
| Males | 60.0 | 65.7 | 68.8[7] | 70.4[7] | 77.4[7] |
| Females | 63.5 | 69.4 | 72.8[7] | 74.0[7] | 82.9[7] |

1. 1989.
2. 1991.
3. 2001.
4. 2002.
5. 2005.
6. 2006.
7. 2008

*Source*: World Bank (*World Development Indicators*).

Box 2. **The Indonesia health-care system: An overview**

Indonesia's health care system was originally set up as a publicly funded primary care system with national coverage. Because of chronic underfunding, a health insurance pillar was created, including mixed private and public insurers to cover private provision. A Health Insurance Law (promulgated in 2004-05) provides a blueprint for the system in the years to come. It leans towards a mixed-economy approach with multiple health care schemes, including a government financed scheme for low-income individuals (described in Box 3).

As in the case of education, health care is provided in a decentralised manner. Following fiscal decentralisation in 2001, responsibility for managing government-financed health-care facilities and medical personnel (doctors, nurses and midwives) was delegated to the provinces and local governments. The local authorities have the power to set fees and user charges for public health services and to allocate the transfers received from the central government to finance provision. The central government sets employment and pay conditions for medical personnel and manages the health-insurance scheme for the poor.

Each sub-district has at least one health centre headed by a doctor, usually supported by two or three sub-centres, usually headed by nurses. At the village level, the integrated Family Health Post provides preventive-care services. These health posts are established and managed by the community with the assistance of health centre staff. To improve maternal and child health, midwives are being deployed to the villages.

There has been increased use of health care-related conditionality in the design of targeted income support (discussed below) with the launching of the *PNPM* and PKH programmes in 2007 (see Box 4 below).

Non-monetary indicators, such as the density of medical staff, suggest that there are important deficiencies in service delivery. The share of doctors in the population is considerably lower in Indonesia than in neighbouring countries, although that of nurses and midwives is higher than the average in comparator countries. To some extent, the supply of doctors is limited by regulations in professional services, which impose stringent barriers to entry in the medical profession, including for foreigners. In addition, as in the case of education, absenteeism is high: survey-based evidence suggests that up to 40% of doctors have been found to be absent from their posts without valid reasons during official working hours (World Bank, 2008a).

Despite low spending, provision is considered adequate at the primary health care level. There is one public health centre (*Puskesmas*) for every 30 000 inhabitants on average (10 000 if sub-centres are considered). Nevertheless, with only about 0.7 beds per 1 000 inhabitants, at close to one-tenth of OECD levels, the supply of in-patient hospital care is deficient. In addition, the quality of services is in general poor, because public health-care facilities often suffer from a lack of equipment and supplies. Possibly as a result of poor service quality, coupled with limited access to health insurance, utilisation rates are low, with bed occupancy rates in the vicinity of 56% in both public and private facilities.

Consistent with important shortcomings in service delivery, Indonesia continues to fare poorly on the basis of several health-status indicators. Immunisation rates are comparatively low, and child malnutrition are well above the average of neighbouring countries. Progress has been significant in reducing the incidence of tuberculosis. Indonesia is also well off-track in meeting the Millennium Development Goal (MDG) of reducing maternal mortality by 2015, the MDG that is most closely related to health system performance, despite impressive progress in this area over the years. Life expectancy at birth and child mortality indicators are nevertheless on a par with those of regional comparators. To some extent, these mostly poor outcomes are due to deficiencies in other areas, such as access to clean water and sanitation, which affects the health status of the population. Low educational attainment, particularly among women, also contributes to poor health outcomes, especially for children. Health-status indicators also differ among income groups and, as expected, are often worse for low-income households (Table 8).

Access to health care is fairly uneven among the different social groups. Out-of-pocket (OOP) spending, which is a conventional metric for utilisation, is particularly low among less affluent households in part due to the fact that poor individuals tend to seek treatment in public health institutions, where care is provided free of charge. But low OOP spending may also indicate that user charges, especially for in-patient care, make treatment prohibitively expensive in the absence of affordable health insurance.

Low-income individuals may therefore be unable to pay for health care and therefore forego it. Self-treatment and recourse to traditional medicine are often the first source of care in the event of illness for the majority of people, even in urban areas (Table 9). In the case of out-patient care, the gap in utilisation among the different income groups is lower, especially for public health facilities.

Table 8. **Health indicators by social group**

| | Morbidity rate (per cent) | | Last birth attended by skilled staff (per cent) | |
|---|---|---|---|---|
| | 1995 | 2006 | 1999 | 2006 |
| Consumption quintile | | | | |
| 1 (bottom) | 23.0 | 27.4 | 38.2 | 53.3 |
| 2 | 24.2 | 27.9 | 51.7 | 66.2 |
| 3 | 25.7 | 28.5 | 62.1 | 74.3 |
| 4 | 26.7 | 29.0 | 73.5 | 83.8 |
| 5 (top) | 27.3 | 28.1 | 88.7 | 93.1 |
| **Indonesia** | **25.4** | **28.1** | **60.1** | **72.4** |

*Source*: Ministry of Health.

Table 9. **Utilisation rates in rural and urban areas, 1997 and 2006**

Per cent

| | Urban | | Rural | |
|---|---|---|---|---|
| | 1997 | 2006 | 1997 | 2006 |
| Public hospital | 23.7 | 22.1 | 29.4 | 25.4 |
| Private hospital | 31.0 | 15.7 | 25.3 | 7.0 |
| Traditional care | 1.2 | 0.7 | 3.4 | 0.9 |
| Self-treatment | 35.7 | 70.4 | 38.0 | 72.2 |
| Other treatment | n.a. | 1.1 | n.a. | 1.3 |

*Source*: Ministry of Health.

Purchases of pharmaceuticals account for the bulk of OOP spending on health care. Together with ambulatory care, household spending on medicines exceeds that on in-patient care, which is typically provided free of charge in public institutions. The share of OOP spending on medicines is higher for poorer households and those living in rural areas, possibly due to self-medication. Recourse to unlicensed vendors of drugs and traditional medicines is not uncommon among low-income groups. But, in the absence of appropriate health insurance, expenditure is now higher as a proportion of non-food consumption among the poor, because there is no public refund mechanism for the cost of medicines prescribed during treatment and purchased directly by patients (Table 6).

The incidence of catastrophic health payments is particularly high among the poor, who are most exposed to unforeseeable health events, although it appears to be declining. Such payments affect living conditions in the short run, when the costs of treatment are financed by cutting back current consumption, and/or in the long run, when treatment is financed through indebtedness, which needs to be repaid at the sacrifice of future consumption or the depletion of accumulated savings or assets. These households tend to rely on government support, especially through *Jamkesmas*, a health insurance programme for poor and near-poor households that has been set up to mitigate at least in part the adverse impact of catastrophic health risk on poor and near-poor individuals (Box 3). By contrast, contributive programmes, such as schemes sponsored by employers, are more prevalent among the more affluent social groups (Table 10).

Box 3. **Indonesia's experience with health insurance**

**Government-financed programmes**

A health-insurance programme (*Jamkesmas*) was introduced in 2008 to mitigate at least in part the adverse impact of catastrophic health risk on vulnerable (poor and near-poor) individuals. The programme covers comprehensive out-patient care in public health clinics and third-class hospital comprehensive in-patient care, and aims to protect vulnerable individuals who might otherwise fall into poverty as a result of unanticipated health events that would prevent them from working. *Jamkesmas* currently covers about 35% of the population and builds upon existing schemes (*Askeskin*, JPS health card and JPK-Gakin) that have been put in place since the 1998 crisis (see below). *Jamkesmas* is being extended to cover the entire targeted population of 93 million very poor, poor and near-poor individuals. Beneficiaries are identified by the local authorities. The authorities intended *Jamkesmas* beneficiaries to be accepted by both private and public health care providers, but only about one-third of private hospitals currently do.

Early attempts to shield vulnerable social groups from the risk of falling into poverty as a result of poor health focused on price subsidies for public health care targeted on the poor. These programmes have been in operation since the economic crisis of 1998 and include the JPS health-card programme, which was part of the social safety net that was put in place during the crisis, and a pilot health-insurance programme (JPK-Gakin), which was implemented after the crisis.

The JPS health-card programme introduced a user-fee waiver for public health care. Indirect-care costs, as well those related to access to care in remote areas, are important deterrents to health-care utilisation among the poor. A more comprehensive health-insurance programme (*Askeskin*) was introduced in 2005 as part of the compensating measures to protect vulnerable social groups from the loss in purchasing power associated with a reduction in fuel subsidies. *Askeskin* had national coverage and open membership, and was publicly funded. Beneficiaries were entitled to free-of-charge comprehensive out-patient and in-patient care at public health centres and in-patient services at public third-class hospitals. Special health services were also provided under *Askeskin* in remote areas and isolated islands, as well as obstetric and mobile health services, immunisation and pharmaceuticals.

*Askeskin* differed from the JPS health-card programme by focusing on individuals, rather than households, and by conditioning refunds to health-care providers for the services actually delivered to programme beneficiaries. The JPS health-card programme was based on a price subsidy associated with the use of the health card. As with the JPS health-card programme, targeting was carried out in a decentralised manner, whereby beneficiaries were identified at the community level. While the authorities intended *Askeskin* cards to be accepted by both private and public health providers, more than 30% of private providers did so.

**Privately financed programmes**

In addition to publicly provided programmes, there are occupational health-insurance schemes for civil servants (*Askes*), the police and armed forces (*Asabri*) and private-sector employees (*Jamsostek*), in addition to community health insurance and privately funded health insurance. It is estimated that at most 20% of the total population had health insurance in 2004 (Sparrow *et al.*, 2009), though by 2008 that figure seems to have risen to nearly 30%.

Under *Askes*, civil servants contribute 2% of their basic salary (matched by the government) to the publicly managed insurance fund. The scheme covered about 6% of the population in 2007 (13.8 million beneficiaries, comprising 4.5 million civil servants and their 9.3 million their dependents). Old-age and survivor pensions for civil servants are also provided under *Taspen*.

*Jamsostek*, which is also publicly managed, covers individuals working in private enterprises employing at least 10 workers and turnover of over 1 million *rupiah* (and their families). *Jamsostek* offers old-age pensions, life and health insurance, and job-related disability and illness compensation. Employers pay 3 or 6% of salary depending on the employee's marital status. Companies can opt out of the scheme, if they offer comparable or better health insurance. Because of the opt-out clause, out of a total 19.8 million employees enrolled at *Jamsostek* in 2005, only 2.7 million were covered by health insurance. As discussed in the 2008 *Economic Assessment* (OECD, 2008), informal-sector workers, who account for the vast majority of employment in Indonesia, are not covered.

Table 10. **Coverage of health insurance by income level, 2008**

In per cent of households

| | Lowest income quintile | Quintile 2 | Quintile 3 | Quintile 4 | Highest income quintile |
|---|---|---|---|---|---|
| Government pension | 0.72 | 1.31 | 2.79 | 6.71 | 16.27 |
| Employer-financed health-care reimbursement | 0.2 | 0.67 | 1.45 | 2.6 | 4.62 |
| Health security for civil servants | 0.1 | 0.16 | 0.36 | 0.69 | 1.95 |
| Employer-financed health insurance (*Jamsostek*, etc.) | 0.14 | 0.3 | 0.6 | 1.15 | 2.98 |
| Social security health insurance (*JPS* health card, *etc.*) | 26.82 | 20.96 | 16.73 | 12.63 | 6.68 |
| Community-based health care | 0.6 | 0.54 | 0.57 | 0.51 | 0.37 |
| Other | 3.5 | 3.21 | 3.06 | 3.15 | 2.75 |

*Source*: BPS (*Susenas*).

Indonesia's experience with the targeting of health insurance is by and large positive but could be improved considerably. Empirical analysis shows that the JPS health-card programme – one of the earlier initiatives in this area and a precursor to *Jamkesmas* – was reasonably well targeted, despite leakages to the non-poor population for both in-patient and out-patient care (Pradhan *et al.*, 2007; Sparrow, 2008). In the case of *Askeskin*, most beneficiaries were low-income individuals, suggesting that targeting was adequate (Sparrow *et al.*, 2009).[4] Utilisation of both out-patient and in-patient care was found to have risen among programme beneficiaries after introduction of *Askeskin*. Experience with these programmes also suggests the presence of barriers to utilisation among the poor, reflecting a lack of knowledge about entitlements and the cost of transport to health-care facilities, which may be high in remote areas.

Access to government-sponsored health insurance improves utilisation by the underserved population. The empirical evidence reported in Annex A2 shows that several social groups, including individuals living in rural areas, women and informal-sector workers, have a lower probability of visiting a health-care facility in the event of illness. By contrast, utilisation rates are high for individuals in possession of health insurance, especially government- and enterprise-sponsored schemes. This suggests that a carefully designed programme could increase the affordability of health care and therefore help to remove the constraints that currently prevent certain individuals from seeking treatment when confronted with a health problem.

Poor infrastructure is also affecting the health status of the population. Access to basic sanitation is very unequal among the different income groups (Table 11). Despite some progress in recent years, a lack of access to clean water among the poor has been a major cause of child mortality. According to WHO data, in 2005 the percentage of deaths among children under five years of age due to diarrhoeal diseases was around 15 in Indonesia against an average of 3 for Southeast Asia (Malaysia, Philippines, Thailand and Vietnam) and 0.6 in the OECD area.

4. This finding is in line with empirical evidence for government spending on subsidised health care, which suggests that public outlays contribute to reducing income inequality, although they are not necessarily pro-poor (O'Donnell *et al.*, 2007). In-patient care tends to be more pro-rich than out-patient care.

Table 11. **Access to water and sanitation infrastructure by income levels, 2008**

| | Lowest quintile | 2nd quintile | 3rd quintile | 4th quintile | Highest quintile | Difference between highest and lowest quintiles | |
|---|---|---|---|---|---|---|---|
| | | | | | | 2008 | 2005[1] |
| **Sources of drinking water** | | | | | | | |
| Piped water | 5.3 | 7.9 | 11.3 | 15.2 | 23.8 | 18.6 | 28.1 |
| Pump | 9.9 | 11.4 | 12.9 | 13.3 | 13.7 | 3.8 | 6.2 |
| Well | 46.6 | 44.6 | 41.2 | 37.9 | 26.3 | -20.3 | -19.7 |
| Spring | 24.2 | 18.8 | 14.6 | 10.6 | 5.6 | -18.7 | -18.2 |
| Other | 14.0 | 17.4 | 20.1 | 23.0 | 30.6 | 16.6 | 3.7 |
| **Waste water disposal** | | | | | | | |
| Septic tank | 27.1 | 36.8 | 45.1 | 55.7 | 73.5 | 46.3 | 52.0 |
| Untreated disposal | 29.7 | 26.2 | 23.3 | 18.1 | 9.9 | -19.8 | -12.2 |
| Hole | 39.7 | 34.1 | 29.2 | 24.3 | 15.4 | -24.3 | -16.3 |
| Other | 3.5 | 2.9 | 2.5 | 2.0 | 1.3 | -2.3 | -23.5 |
| **Toilet facilities** | | | | | | | |
| Private | 36.9 | 47.3 | 56.9 | 68.3 | 85.0 | 48.1 | 42.1 |
| Shared | 15.8 | 14.5 | 13.1 | 10.7 | 6.3 | -9.5 | -5.7 |
| Other | 47.3 | 38.3 | 30.0 | 20.9 | 8.7 | -38.6 | -36.4 |

1. Refers to 1996 for waste water disposal.

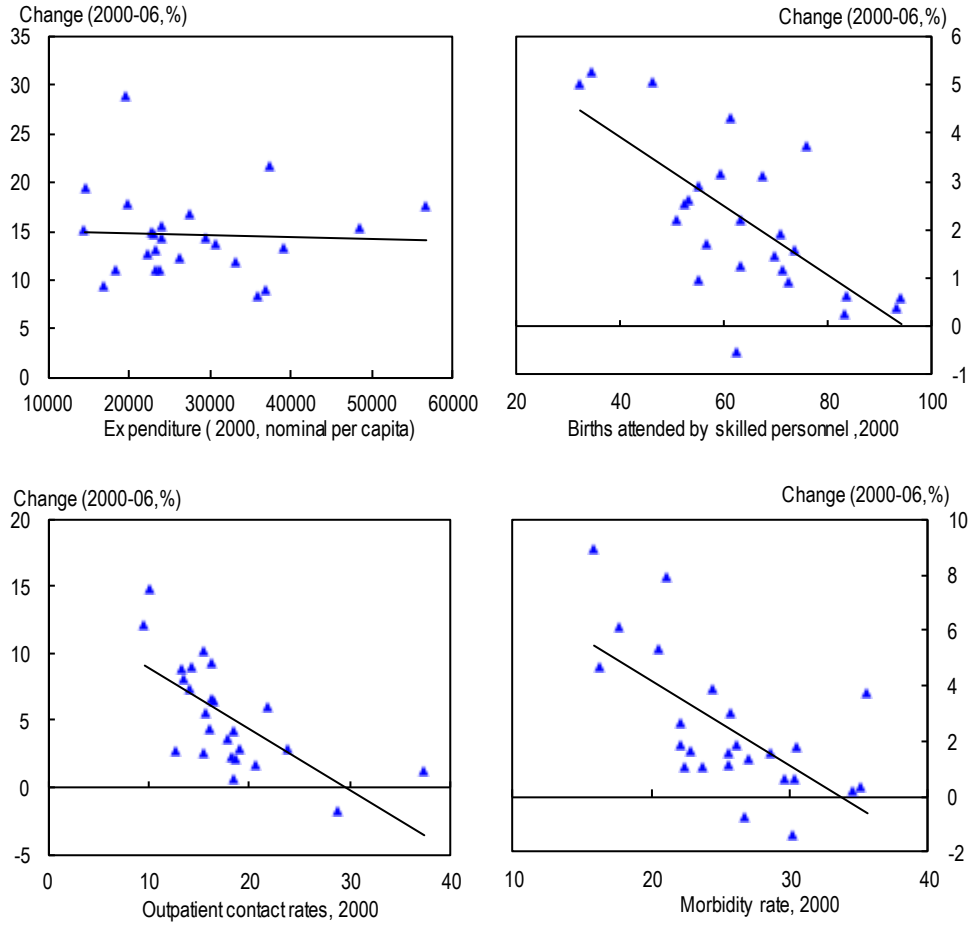
*Source*: *Susenas* and OECD calculations.

As in the case of education, comprehensive fiscal decentralisation since 2001 has possibly contributed to a reduction in regional disparities in health indicators (Figure 2). The level of government spending and the distribution of doctors and midwives nevertheless vary a great deal across provinces. To a large extent, this is due to the fact that sub-national spending on health care is calculated on the basis of historical budgeting, rather than expenditure needs that would take regional specificities into account. Differentials in spending levels among the provinces have therefore not narrowed since decentralisation. Another characteristic of intergovernmental fiscal arrangements in Indonesia that has a direct bearing on the efficiency of government spending is that service delivery costs are financed by the central government through the transfer and grant system. This creates incentives for the recipient jurisdictions to increase their payroll with limited concern for cost-effectiveness. In addition, the sub-national jurisdictions have limited autonomy to punish absenteeism.

Empirical evidence suggests that local governments hike spending on health care in tandem with increases in their revenue base. This is especially the case of infrastructure development spending, for which the elasticity of outlays to revenue is estimated to be greater than one (Kruse *et al.*, 2009). Recurrent spending on health care is particularly sensitive to changes in the general allocation grants (DAU), which underscores the importance of intergovernmental transfers for financing the decentralised provision of health care.

Figure 2. **Decentralisation and health-care indicators**

The dots represent the provinces




*Source*: BPS.

### *Policy considerations*

Indonesia's current level of health-care spending is insufficient to ensure the provision of adequate health services to the population. Growth in household income, as well as changes in the population's demographic structure and epidemiological risks will change the demand for services towards increasingly sophisticated care, a trend that is likely to put additional pressure on the budget in the years to come, even though part of health insurance is privately funded.[5] The authorities estimate the additional cost to the budget of extending *Jamkesmas* to the entire targeted population to be small. But policy initiatives will be needed to create room in the budget for accommodating current and emerging demands for government services over the longer term. The authorities intend to contain health costs by increasingly relying on DRG (diagnosis-related group) methods for payments, which are already used in hospitals providing care to *Jamkesmas* beneficiaries. Efforts should therefore continue in this area.

5. The incidence of communicable diseases is in decline, although it remains comparatively high for tuberculosis and measles, while that of non-communicable diseases, such as diabetes, cardio-vascular conditions and cancer, is on the rise.

Efforts to improve the population's health status should be complemented by measures to enhance efficiency in service delivery and to secure adequate financing for spending on other functional areas that have an impact on health outcomes, such as improved access to water and sanitation, female literacy and early childhood nutrition. Of course, efficiency gains depend on a multitude of initiatives, which are difficult to single out and often straddle different policy domains. But there are areas where gains are likely to be large. For instance, investment in preventive care, which is typically associated with substantial private and social rates of return, should be given higher priority. This is the case not only with communicable diseases, whose incidence remains high, but also of non-communicable diseases, where health literacy is particularly important as a means of encouraging the adoption of healthier life styles.

As in the case of education, initiatives to tackle absenteeism among medical personnel would also have a large payoff in terms of improving health outcomes. Because local governments are responsible for the delivery of services, they are better placed than higher levels of administration to identify and punish misconduct and abuse. The local authorities should therefore be granted increased power to monitor and punish absenteeism in the health-care sector.

Health-care spending can become more pro-poor. Because health indicators are typically worse among the most vulnerable social groups, efforts to increase the focus of government spending on these groups could substantially boost value for money in the health-care sector. Experience with *Askeskin* shows that the targeting of *Jamkesmas* could be improved – budget conditions permitting – by including coverage for indirect costs, such as for transport, which are likely to increase utilisation rates among the poor, especially in remote areas. Informal user fees are additional important deterrents to utilisation of health-care facilities by low-income individuals, but it is difficult to ascertain whether or not informal side-payments are often requested. Efforts to monitor and punish this practice would therefore also be welcome.

It is important to strengthen health insurance by reforming *Jamsostek*, the privately financed health insurance scheme for private-sector employees. Participation is currently low in part because of an opt-out clause for employers who prefer to make alternative arrangements for their employees and the exclusion of own-account workers and employees in small enterprises from membership. The opt-out clause should be revoked, so that participation would be mandatory for all eligible private-sector enterprises. Employers willing to offer broader coverage than *Jamsostek*'s would continue to be able to do so through complementary schemes. At the same time, the size of enterprises allowed to participate could be reduced from the current threshold of ten employees. As recommended in the 2008 *Economic Assessment* (OECD, 2008), participation in *Jamsostek* could also be extended to the self-employed on an optional basis. The main advantage of a single-provider arrangement for privately financed health insurance is that risk-pooling can be improved by preventing cream-skimming, whereby firms would hire younger, less risky individuals to minimise insurance costs. At the same time, wasteful competition for low-risk enrolees can be reduced, and service delivery can become more homogenous. Of course, a number of conditions would have to be met. *Jamsostek*'s technical capacity would need to be enhanced, including for conducting actuarial analysis, and regulation would need to be improved to protect the interests of enrolees. Effort should also be put into enhancing enforcement and credibility in the programme so as to increase compliance and to encourage individuals who can afford to participate, but currently prefer not to do so.

A strengthening of *Jamsostek* would complement efforts to extend the coverage of health insurance to the entire population, which the authorities hope to achieve by 2014. To this end, consideration could be given to merging the existing insurance schemes for civil servants (*Asabri*, *Taspen* and *Askes*) into a single programme. This architecture would provide a third pillar to Indonesia's health insurance system, together with *Jamsostek* and *Jamkesmas*,

Intergovernmental fiscal relations could be improved in support of cost-efficiency in the provision of health care. This is because the local governments are at the forefront of service delivery in the social area and financing is provided through intergovernmental transfer arrangements. Nevertheless, current intergovernmental transfer mechanisms do not create the necessary incentives for the recipient jurisdictions to seek efficiency gains, because transfers are based essentially on historical budgeting. At a minimum, transfers to local governments should be based on expenditure needs, rather than historical budgeting, with the aim of assuring provision according to standards and norms set by the central government.

## 4. Social protection

### *Main issues*

Indonesia's experience with government-financed social protection has focused on initiatives to shield vulnerable groups from income losses in periods of economic duress. A first generation of poverty alleviation programmes was put in place at the time of the 1997-98 crisis (Box 4).[6] More recent initiatives have aimed to compensate vulnerable households for rising fuel prices due to reductions in fuel subsidies in 2002-03 and 2005. The right to government-funded social protection is a constitutional entitlement, and the current administration is committed to meeting the Millennium Development Goal of halving the incidence of poverty by 2015. Efforts to boost coordination among the authorities overseeing the various social protection programmes include the creation of a Poverty Commission under the Vice-President's purview in 2009.

Box 4. **Indonesia's social-assistance programmes**

**Crisis-related programmes**

*Rice for Poor Families* (RASKIN) was implemented during the 1997-98 crisis to alleviate poverty through the distribution of a regular ration of subsidised rice to vulnerable households. About one-third of the population benefitted from the programme at the time of the crisis. The programme is relatively well targeted: nearly 85% of the subsidy accrues to households deemed needy by village leaders. RASKIN was also used as an additional compensatory mechanism for protecting the poor against fuel price hikes in 2002-03 and 2005.

The *Fuel Subsidy Reduction Compensation Fund* (PKPS-BBM) was launched in 2005 to compensate poor households for a reduction in fuel subsidies. The budgetary savings arising from a reduction in outlays on fuel subsidies were used to finance the disbursement of targeted transfers to poor households to finance basic health care and insurance against income losses, the School Operations Fund (BOS) described above, financing for the development of infrastructure at the local level and unconditional cash transfers.

Assessments of these transfer programmes are by and large positive. Of particular interest are innovative targeting mechanisms, given the need to implement programmes rapidly in times of crisis and the difficulties associated with formal means-testing. Village leaders, who command respect among the recipient population, were used to identify the targeted population and self-targeting methods. Moreover, there is little evidence to suggest that these programmes are contributing to the creation of poverty traps, which would discourage work effort.

In addition to these programmes, a number of sectoral initiatives have been put in place, often with the aim of linking poverty alleviation and crisis-related measures to the fulfilment of broader social objectives. This is the case of the targeted scholarship programme for poor students enrolled in primary and secondary education and the JPS health-card programme that were implemented as part of JPS, as well as the targeted scholarships (BKM) and school support fund (BOS) introduced in 2005 at the time of the reductions in fuel subsidies.

**Conditional cash transfers**

In 2007, the authorities launched two pilot conditional cash transfer programmes: Community Cash Transfer (*PNPM*) and Conditional Cash Transfer (PKH, *Program Keluarga Harapan*). While *PNPM* is a block grant to communities, allowing them autonomy in designing and managing their own activities in pursuit of programme objectives, PKH is a conditional cash transfer targeting poor households (Rahayu *et al*., 2008; World Bank, 2008c). The programmes' objectives include five of the eight MDGs: poverty and hunger reduction, universal coverage of basic education, gender equality and maternal and child mortality reduction. These programmes were motivated by the fact that Indonesia lags behind regional comparator countries in key education and health-care indicators. Their impact on poverty and vulnerability has yet to be fully assessed.

6. See Perdana and Maxwell (2004) for a detailed discussion of the micro-level effects of a number of poverty-alleviation programmes in Indonesia.

Box 4. **Indonesia's social-assistance programmes** (continued)

Coverage of the conditional cash transfer programmes was extended to 720 000 households in 2009 and is planned to be extended gradually by 2013 to all 2.9 million households estimated to be in poverty. Implementation is expected to be strengthened through the payment of benefits by means of bank cards, rather than the postal service, although the limited availability of ATMs in rural areas and outside Java remains an important constraint. Targeting is carried out in part through the use of proxy instruments, given the difficulties of relying fully on means-testing in a country with a sizeable informal labour market.

Indonesia is now shifting attention in the design of social protection programmes from crisis mitigation to strengthening conditional support for vulnerable households (predominantly through the PKH programme since 2007) in a manner that helps them to pull themselves out of poverty, by raising awareness about the their situation of deprivation. links social protection to sustained improvements in social outcomes and equips poor individuals with the means to prevent a durable fall into poverty in the presence of adverse income shocks complementary initiatives to empower vulnerable individuals have also been launched, including government-sponsored micro-credit programmes. At the same time, there has been increasing emphasis on universal programmes, such as social and health insurance and community-based development initiatives since 2007, so as to extend formal social safety nets to needy groups that have so far been neglected, such as the elderly, the disabled, individuals living in isolated communities, single-parent households and indigenous groups. Options for introducing unemployment insurance are discussed in Chapter 1.

Poverty continues to decline. Based on Indonesia's national poverty line, which is set at the provincial level for urban and rural households separately, the incidence of poverty has fallen steadily since the 1997-98 crisis to nearly 15.5% in 2008, or about 36 million people. An alternative measure of poverty, defined as one-half of median household consumption per capita, points to a somewhat lower incidence of poverty relative to that calculated on the basis of the national poverty line (Table 12). As noted in the 2008 *Economic Assessment* (OECD, 2008), there continues to be a concentration of individuals around the national poverty threshold, given that the income and poverty gap ratios remain fairly low, suggesting that the consumption level of the average poor individual is close to median consumption threshold. On the basis of this alternative measure of poverty, inequality as gauged by the Gini coefficient has been fairly stable from 1996 to 2008, although the income share of individuals/households in the wealthiest income decile has increased relative to that of those in the lowest decile.

Table 12. **Poverty and income-inequality indicators, 1996 and 2008**

| | 1996 | 2008 |
|---|---|---|
| Poverty incidence[1] | | |
| Poverty headcount (per cent) | 7.7 | 11.0 |
| Income gap[2] (per cent) | 15.9 | 21.8 |
| Poverty gap[2] (per cent) | 1.2 | 2.4 |
| Income distribution | | |
| Gini coefficient | 0.36 | 0.35 |
| Ratio of income shares of highest to lowest income deciles | 4.4 | 4.7 |
| Ratio of income shares of highest to lowest income quintiles | 2.6 | 2.6 |
| *Memorandum item:* | | |
| Poverty headcount based on national poverty lines (per cent) | 17.6 | 15.4 |

1. Based on a poverty line of one-half of median household consumption per capita (28 493 *rupiah* per capita per month in 1996 and 186 857 *rupiah* per capita per month in 2008).
2. The income gap ratio is the average per capita consumption shortfall of the population below the poverty line. It is defined as $IG = \frac{z - \bar{c}}{z}$, where $z$ is the poverty line and $\bar{c}$ is average per capita consumption of the population below the poverty line. The poverty gap ratio is the sum of the income gap ratio for the population below the poverty line divided by total population. It is defined as $PG = \frac{1}{n}\sum_{i=1}^{q}\frac{(z - c_i)}{z}$, where $n$ is total population, $c_i$ is per capita consumption of household $i$ and $q$ is the population below the poverty line. Therefore, the poverty gap ratio can be calculated as the product of the income gap ratio and the headcount ratio.

*Source*: BPS (*Susenas*, *Indonesia Social Indicators*) and OECD calculations.

Educational attainment and labour-market status are powerful determinants of poverty in Indonesia. The empirical analysis reported in Annex A3 shows that the probability of being poor rises with the size of households and the share of children and elderly members in the household. Households headed by women and unmarried individuals are also more likely to be poor. By contrast, the probability of being poor falls with educational attainment and in households with a higher share of individuals engaged in salaried occupations. As discussed in the 2008 *Economic Assessment* (OECD, 2008), low-skilled individuals tend to work in non-salaried jobs, which account for the bulk of the informal labour market. The decomposition analysis reported in the Annex shows that rising educational attainment has contributed strongly to reducing poverty between 2002 and 2008. These characteristics of poor households point to areas where formal social protection networks could be strengthened.

The incidence of poverty is also closely related to adverse income shocks, with a large number of individuals falling below the poverty line in periods of economic difficulty.[7] Empirical evidence suggests that the transition in and out of poverty is relatively smooth during an economic crisis, with many households experiencing relatively short periods of poverty when faced with an economic shock (Suryahadi *et al.*, 2003). Notwithstanding this flexibility, regional effects are often important, and the incidence of poverty varies a great deal among the provinces (Table 13), in part because the transmission of economic shocks is constrained by Indonesia's geography and infrastructure bottlenecks that pose obstacles to labour mobility and the adjustment of internal labour markets in periods of crisis.[8]

7. The bulk of the existing literature on household poverty in Indonesia focuses on the financial crisis of the late 1990s. See Frankenberg, Thomas and Beegle (1999), Skoufias and Suryahadi (2000), Suryahadi, Sumarto and Pritchett (2003), Strauss et al. (2004) and Suryahadi and Sumarto (2005) for more information and empirical evidence.

8. See Bidani and Ravallion (1993) and Pradhan *et al.* (2000) for more information and empirical evidence.

Table 13. **Poverty headcount by province, 2008**

In per cent of households

| | Poverty line[1] | |
|---|---|---|
| | Province-specific | National |
| Aceh | 9.9 | 5.7 |
| Sumatera Utara | 8.9 | 8.4 |
| Sumatera Barat | 8.9 | 6.2 |
| Riau | 9.2 | 2.4 |
| Jambi | 6.5 | 4.9 |
| Sumatera Selatan | 9.4 | 7.6 |
| Bengkulu | 13.6 | 11.9 |
| Lampung | 11.2 | 15.3 |
| Bangka-Belitung | 6.4 | 0.7 |
| Kepulauan Riau | 8.0 | 1.1 |
| Jakarta Raya | 6.1 | 0.1 |
| Jawa Barat | 9.7 | 9.6 |
| Jawa Tengah | 8.6 | 15.5 |
| Yogyakarta | 12.7 | 10.9 |
| Jawa Timur | 8.6 | 15.0 |
| Banten | 9.9 | 6.4 |
| Bali | 5.5 | 4.4 |
| Nusa Tenggara Barat | 10.5 | 18.1 |
| Nusa Tenggara Timur | 15.2 | 25.8 |
| Kalimantan Barat | 9.8 | 9.6 |
| Kalimantan Tengah | 8.6 | 4.6 |
| Kalimantan Selatan | 7.5 | 5.2 |
| Kalimantan Timur | 11.7 | 4.1 |
| Sulawesi Utara | 8.4 | 8.7 |
| Sulawesi Tengah | 11.4 | 16.4 |
| Sulawesi Selatan | 11.1 | 14.5 |
| Sulawesi Tenggara | 10.0 | 18.1 |
| Gorontalo | 11.5 | 18.6 |
| Sulawesi Barat | 9.1 | 16.5 |
| Maluku | 15.0 | 20.4 |
| Maluku Utara | 13.3 | 8.7 |
| Papua Barat | 16.8 | 11.2 |
| Papua | 24.4 | 18.1 |

1. Poverty lines defined as of one-half of median household consumption per capita.

*Source:* BPS (*Susenas*) and OECD calculations.

Considerable effort has been placed on improving the targeting of income-support programmes. It is difficult to implement formal means-testing in developing countries with large informal sectors because of a lack of information of the income of potential beneficiaries. Indonesia has a large experience with proxy instruments (which are based on individual and household characteristics that are correlated with poverty, as well as hard-to-hide assets that are used to predict consumption) and community-based targeting (where village residents select programme beneficiaries, often using scoring mechanisms based on proxy means-testing). Different methodologies may be appropriate under different circumstances, and determining which one works best in essentially an important empirical question from the viewpoint of policy design and evaluation. Evidence based on field experiments shows that proxy means-testing performs better than community-based targeting in identifying the poor, particularly near the poverty threshold (Alatas *et al.*, 2010).[9]

Despite much progress in recent years, Indonesia has yet to introduce an affordable contributory system of social insurance. As discussed in the 2008 *Economic Assessment* (OECD, 2008), a National

9. This is because community-based methods tend to reflect how individual community members rank each other, rather than actual poverty as measured on the basis of per capita expenditure or income.

Social Security Law (*Jamsosnas*, enacted in 2004 but so far not yet regulated) extends contributory social security arrangements to informal-sector workers and the self-employed. The scheme would be publicly run and cover old-age and survivors' pensions, as well as death and disability insurance. A minimum pension would be set at 70% of the statutory minimum wage. The retirement age would be only 55 years, and workers would be eligible for a pension after as little as 15 years of contribution. Although contribution rates are not yet known, the retirement age and the shortness of the length of contribution required for eligibility for an old-age pension are too generous and would therefore put considerable strain on the budget, in addition to the cost of an announced contribution subsidy for poor individuals.

***Policy considerations***

Because poverty is a multi-dimensional phenomenon, corrective policies need to be multi-faceted. Indonesia has considerable experience with linking poverty alleviation efforts to broader policies related to crisis mitigation and has put in place innovative programmes building on existing social networks at the community level. Although a case can be made for placing increasing emphasis on strengthening universal, unconditional social and health insurance, as is currently intended, the benefits of creating synergies across policy domains through conditionality should not be underestimated. Conditionality could be introduced in income-transfer programmes so as to require beneficiaries to keep their children at school and to pay regular visits to health clinics. As recommended above, conditionality could be used to complement policy action to raise secondary school enrolment. Experience with conditional income support has been very positive in other regions, notably in Latin America, where a number of programmes are currently in place.[10]

Indonesia's flagship conditional income-support programmes – community-based PNPM and household-based PKH – are well thought-out and are working reasonably well, although there is room for improvement. They are both underpinned by the need to tackle the root causes of material deprivation in conjunction with providing vulnerable groups with the means to pull themselves out of poverty in a sustained manner. To this end, Indonesia is also taking steps to strengthen measures focused on empowering the needy, including micro-credit schemes sponsored by the government. But these two streams of social protection mechanisms need to be better integrated, and programme implementation needs to be strengthened, so that entry into these empowerment initiatives is a natural step following exit from conditional income support. It is also important to tackle design problems that may lead to inclusion and exclusion errors in the identification of the programme's intended beneficiaries.

Efforts to improve the targeting of social assistance have been constrained by the difficulty of reaching informal-sector workers. This is a common challenge for countries, such as Indonesia, where widespread informality in the labour market is an obstacle to greater reliance on formal means-testing. As a result, proxy-targeting could be used more extensively to target informal-sector workers. The fairly large body of empirical research that is currently available on the main determinants of poverty in Indonesia and on the characteristics of the social groups who are most likely to fall into poverty as a result of adverse economic shocks could therefore be used for identifying targeting instruments. Since large households and/or those headed by women and less-educated individuals are particularly at risk of being poor, they could therefore be targeted by existing income-support programmes.

The Indonesian authorities are taking steps to strengthen contributive social insurance while increasing the coverage of formal social safety nets. Progress has so far been considerably more timid in setting up social insurance than in expanding publicly funded social-assistance programmes. In any case, as discussed in the 2008 *Economic Assessment* (OECD, 2008), a more fundamental policy consideration is how to finance the broadening and strengthening of formal safety nets over the longer term. Appropriate

10. See Rawlings and Rubio (2005) for more information.

actuarial costing of the existing schemes, especially *Jamkesmas*, is imperative, as noted above. Such efforts should be extended to all social-protection programmes, so that appropriate sources of finance and their associated tradeoffs can be identified. Most countries rely on a combination of general taxation and social contributions to finance social protection, and the tradeoffs associated with different funding instruments will become increasingly prominent in the policy debate. OECD experience suggests that the negative employment effects of the tax wedge are especially strong for low-paid employment, notably in the presence of a binding minimum wage.

Box 5. **Summary of policy recommendations: Social policies**

**Education**

- Raise government spending on education, especially at the secondary level, to finance the extension of conditionality of existing income-transfer programmes to secondary school enrolment.
- Carry out regular assessments of teachers' pedagogical skills and regular monitoring of teacher attendance to tackle the problem of their absenteeism.
- Target BOS (School Operations Fund) assistance on schools located in remote areas and catering predominantly for poor students through a higher per-student transfer.
- Grant greater autonomy to local governments in human resources management.

**Health care**

- Raise government spending on health care, and carry out a comprehensive costing of *Jamkesmas.*
- Maintain adequate financing for programmes in functional areas that are also associated with improvements in health outcomes, such as improved water and sanitation, female literacy and early childhood nutrition.
- Public finances permitting, include coverage for transport and related costs under *Jamkesmas*.
- Revoke the opt-out clause for participation in *Jamsostek*, reduce the eligibility condition for membership to fewer than ten employees, and allow the self-employed to participate on an optional basis.
- Gradually shift emphasis in the design of transfers to the local governments away from historical budgeting and towards a formula-based system founded on expenditure needs.

**Social assistance**

- Make further use of conditionality in the design of income-transfer programmes so as to require beneficiaries to keep their children at school and to pay regular visits to health clinics.
- Better integrate conditional income-support and empowerment programmes.
- Use proxy instruments more extensively to target informal-sector workers.
- Carry out a comprehensive actuarial costing of existing social protection programmes to allow for appropriately identifying the associated financing instruments.

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*Annex A1*

# The effect of school infrastructure development on education attainment

This Annex uses individual-level data to estimate the effect of government spending on school infrastructure development on educational attainment in Indonesia.

**The data**

The data set is available from the 2004 wave of the National Labour Force Survey (*Sakernas*). *Sakernas* is an annual cross-section survey that focuses on the socio-economic and labour-market characteristics of individuals and households. Data started to be collected in 1976. The 2004 wave includes 75 371 households (comprising 237 290 individuals).

For the purpose of the empirical analysis reported below, *Sakernas* data are combined with information on the number of schools built in each district under *Sekolar Dasah IMPRES* in 1973-74 and 1978-79. Over 61 000 primary schools were built nation-wide under that programme. Exposure of school-age children to the programme has been used extensively in the empirical literature to identify the effect of educational attainment on earnings and labour-market outcomes. Empirical evidence shows that the cohorts of individuals who have been exposed to this programme are more likely to stay longer at school and to earn more once in the labour force.[1]

**The impact of government investment in education on attainment**

Information on the number of new schools built in the district of birth of individuals of different age cohorts is used as a determinant of educational attainment. Following Duflo (2001), exposure of an individual to the school-construction programme is determined both by the intensity of school-construction activity in his/her district of birth and his/her age when the programme was launched. The district-level programme intensity variable is defined as the number of schools built between 1973-74 and 1978-79 divided by the number of children aged 5-14 years living in the district in 1971 (in thousands). Since most Indonesian children attend primary school between the ages of 6 and 12, children are assumed to benefit from the construction of schools only if they were aged 11 or less in 1974, when the programme was launched. A proxy for programme exposure is defined as the programme intensity in district of birth of individuals aged 11 or less in 1974, and zero otherwise.[2]

1. See Duflo (2001) and Comola and de Mello (2009) for more information.

2. Duflo (2001) shows how the variable *program intensity* has a good explanatory power in both the educational attainment and earnings equations. Although it is not obvious to assume that the district of residency is also the district where pupils attend primary school, Duflo reports that 91.5% children surveyed in the Indonesian Family Life Survey were still living in the district of birth at age 12.

**The results**

The results of a standard OLS regression of educational attainment, measured in terms of years of schooling, on exposure to the school-construction programme for a sample of adult individuals (aged 15-65 in 2004) are reported in Table A1.1.[3]

The main covariate of interest is programme exposure, which captures the intensity of school construction in the district of birth of those individuals who were young enough to benefit from the programme. The regression also includes control variables: place of residency (district dummies), age and age squared, gender, marital status and its interaction with gender, the age dependency ratio (computed as the number of household members who are younger than 15 or older than 65 divided by the number of household members aged 15-65) and its interaction with gender, and household's educational attainment (computed as the average years of schooling of the other adult household members).

Table A1.1. **Impact of school construction on educational attainment**

Dependent variable: years of schooling

| | Estimated parameter | |
|---|---|---|
| Programme exposure | 0.2348 | *** |
| | (0.010) | |
| Place of residency (rural areas) | -0.9864 | *** |
| | (0.019) | |
| Age | 0.1302 | *** |
| | (0.004) | |
| Age squared | -0.0025 | *** |
| | (0.000) | |
| Gender (female) | -0.6043 | *** |
| | (0.025) | |
| Marital status (married) | -0.0945 | *** |
| | (0.024) | |
| Female* married | -0.7859 | *** |
| | (0.028) | |
| Age dependency ratio | -0.2275 | *** |
| | (0.035) | |
| Female* dependency ratio | 0.3531 | *** |
| | (0.047) | |
| Household level of education | 0.4430 | *** |
| | (0.003) | |
| Intercept | 3.1433 | *** |
| | (0.209) | |
| No. of observations | 192 119 | |
| R-squared | 0.464 | |

*Note*: The regression is estimated by OLS and includes district dummies (not reported).

*Source*: Data available from BPS (*Sakernas*), and OECD estimations.

The regression results show an increase of 0.23 years of education for each new school built per 1 000 children. This effect is larger, yet comparable with the one estimated by Duflo (2001)

3. *Sakernas* reports only the highest educational qualification attained by respondents. The reported levels were used to compute the number of years of schooling required in Indonesia to obain the corresponding qualification. For instance, primary school is coded as 6 years of schooling, while Diploma III (which corresponds to a Bachelor's degree) corresponds to 15 years of schooling.

(0.15 additional years of education for each new school) using another dataset, which covers only men born between 1950 and 1972.

The control variables are signed as expected: rural individuals have lower educational attainment, years of schooling rises with age (albeit in a non-linear manner), and being a woman, married and living in a household with a high dependency ratio all correlated negatively with years of schooling. With regard to the interaction effects, being a woman further decreases the (already negative) effect of being married, but more than compensates for the negative coefficient associated with the dependency ratio. Family background, proxied by the average years of schooling of all other adult household members, is positively signed, as expected.

*Annex A2*

# Health insurance and utilisation in Indonesia

This Annex uses household-survey data to estimate the impact of health insurance on utilisation of health care facilities in Indonesia.

**Data and variables**

Individual-level information is available from the 2008 wave of Indonesia's household survey (*Susenas*). Attention is focused on individuals who reported having had a health problem (defined as fever, cough, cold, asthma, diarrhoea, headache, toothache or other) during the month prior to the survey.

Based on the sample of individuals who reported having had a health problem, a binary dependent variable, *consultation*, is constructed as taking the value of 1 if the respondent declared to have visited a governmental/private hospital, medical practice, community health center *(Puskesmas)*, polyclinic or nurse practice at least once during the month prior to the survey, and 0 otherwise. The different types of health insurance are defined on the basis of a set of dummy variables that equal 1 if the respondent declared to have a government pension (*JPK PNS, veteran, pensiun*), employer-financed health insurance (*Jamsostek*), health insurance for civil servants (*Askes*), employer-financed health-care reimbursement (*Tunjangan/penggantian biaya oleh perusahaan*), social security health insurance (*JPS* health card, *JPK-Gakin, Askeskin*) or community-based health care (*Dana Sehat*), and 0 otherwise.

The set of control variables includes individual characteristics, such as age, years of schooling and a number of dummy variables to identify residents of rural areas, females and unmarried individuals.[1] Labour-market status is controlled for through the inclusion of two dummy variables equalling 1 if the individual is a wage-earner or has a non-salaried occupation, and 0 otherwise (the omitted category is inactive). Household characteristics include size (the logarithm of the number of household members), the share of household members aged less than 15 (children) and more than 65 (elderly) years of age, and household per capita consumption. Provincial dummies are also included. Descriptive statistics are reported in Table A2.1.

**Estimation results**

The results of the probit regressions reported in Table A2.2 suggest that all types of health insurance have a significantly positive impact on the probability of visiting a health-care facility, especially the government health insurance and pension. Government pension, employer-financed health insurance and reimbursement have the strongest effect on utilisation rates. The effects of social security health insurance (JPS health card, JPK-Gakin, *Askeskin*, etc.) and community-based health care are somewhat weaker, partly reflecting additional constraints to utilisation among the beneficiary population. Such constraints include the cost of transport to health-care facilities, awareness of entitlements, etc.

1. As noted in Annex 3.A1, *Sakernas* only reports the highest educational qualification attained by respondents. The reported levels were used to compute the number of years of schooling required in Indonesia to obtain the corresponding qualification.

Table A2.1. **Descriptive statistics**[1]

| Variable | Mean | Minimum | Maximum | Standard deviation |
|---|---|---|---|---|
| **Individual characteristics** | | | | |
| Consultation | 0.40 | 0 | 1 | 0.49 |
| Age | 29.28 | 0 | 98 | 21.71 |
| Place of residency (rural) | 0.66 | 0 | 1 | 0.47 |
| Years of schooling | 5.01 | 0 | 19 | 4.33 |
| Gender (female) | 0.50 | 0 | 1 | 0.50 |
| Marital status (unmarried) | 0.53 | 0 | 1 | 0.50 |
| Labour-market status (salaried) | 0.12 | 0 | 1 | 0.32 |
| Labour-market status (non-salaried) | 0.33 | 0 | 1 | 0.47 |
| **Type of health insurance/benefit** | | | | |
| Government pension | 0.06 | 0 | 1 | 0.23 |
| Employer-financed health insurance | 0.02 | 0 | 1 | 0.14 |
| Health insurance for civil servants | 0.01 | 0 | 1 | 0.09 |
| Employer-financed health care reimbursement | 0.01 | 0 | 1 | 0.11 |
| Social security health insurance | 0.19 | 0 | 1 | 0.39 |
| Community-based health care | 0.01 | 0 | 1 | 0.08 |
| **Household characteristics** | | | | |
| Household size (in log) | 0.92 | 0 | 3.33 | 0.63 |
| Share of children | 0.34 | 0 | 1 | 0.32 |
| Share of elderly | 0.06 | 0 | 1 | 0.20 |
| Per capita consumption (in thousands of *rupiah* per month) | 8.62 | 0.15 | 929.92 | 10.32 |

1. The number of individuals is 318 547.

*Source*: BPS (*Susenas*) and OECD computations.

As expected, individuals living in rural areas, women and unmarried individuals have a lower probability of visiting a health care facility when they are confronted with a health problem. The interaction *female*unmarried* is positively signed and the size of the estimated coefficient suggests that being married more than compensates for the negative effect of being female. Educational attainment is also negatively signed. Moreover, the estimation results suggest that wage-earners and workers engaged in non-salaried jobs are less likely to visit a health-care facility than inactive individuals. Household size has a negative impact on the utilisation probability. Finally, high per capita consumption and share of dependent members are associated with a high utilisation probability.

Table A2.2. **Health insurance and utilisation: Probit regressions**[1]

Dependent variable: Consultations

| | Estimated parameter | |
|---|---|---|
| **Individual characteristics** | | |
| Age | 0.0003 | *** |
| | (0.000) | |
| Place of residence (rural) | -0.0187 | *** |
| | (0.002) | |
| Years of schooling | -0.0087 | *** |
| | (0.000) | |
| Gender (female) | -0.0148 | *** |
| | (0.003) | |
| Marital status (unmarried) | -0.0345 | *** |
| | (0.003) | |
| Female* unmarried | 0.0191 | *** |
| | (0.004) | |
| Labour-market status (salaried) | -0.0452 | *** |
| | (0.003) | |
| Labour-market status (non-salaried) | -0.0626 | *** |
| | (0.002) | |
| **Type of health insurance/benefit** | | |
| Government pension | 0.0956 | *** |
| | (0.004) | |
| Employer-financed health insurance | 0.0847 | *** |
| | (0.006) | |
| Health insurance for civil servants | 0.0481 | *** |
| | (0.010) | |
| Employer-financed health-care reimbursement | 0.1005 | *** |
| | (0.008) | |
| Social security health insurance | 0.0454 | *** |
| | (0.002) | |
| Community-based health care | 0.0414 | *** |
| | (0.010) | |
| **Household characteristics** | | |
| Number of household members | -0.0150 | *** |
| | (0.002) | |
| Share of children | 0.0605 | *** |
| | (0.003) | |
| Share of elderly | 0.0395 | *** |
| | (0.005) | |
| Per capita consumption | 0.0019 | *** |
| | (0.000) | |
| Number of observations | 318 547 | |

1. Probit marginal effects are reported. Statistical significance at the 1, 5 and 10% levels is denoted by, respectively, ***, ** and *. Robust standard errors are reported in parentheses. The regression includes a set of place of residency dummies.

*Source*: BPS (*Susenas*) and OECD estimations.

*Annex A3*

# The determinants of poverty in Indonesia

This Annex uses household-level data and probit modelling to estimate the determinants of poverty in Indonesia.

**Data and variables**

Data are available from Indonesia's household survey (*Susenas*) for 2002 and 2008. The 2002 and 2008 waves contain information on around 208 000 and 274 000 households, respectively. The empirical analysis reported below is restricted to households with at least one adult member (*i.e.* aged 15-65). A household is classified as poor if its per capita consumption (defined as the sum of food and non-food consumption expenditure divided by the number of household members) is below one-half of the province-level sample median. The dependent variable, *poor*, equals 1 if the household is considered poor, and 0 otherwise.

The set of poverty determinants includes household composition indicators, educational attainment and geographical dummies. The household composition indicators include household size (the logarithm of the number of household members), the share of household members aged less than 15 years (children) and more than 65 years (elderly), the average age and years of schooling of the adult members of the household,[1] an illiteracy dummy (equaling 1 if at least one adult member is illiterate, and 0 otherwise), a gender dummy (equaling 1 if the household head is female, and 0 otherwise), and a marital status dummy (equaling 1 if the household head is unmarried, and 0 otherwise). Labour-market status is controlled for through the inclusion of the shares of salaried and non-salaried adult workers in the household, while the omitted category refers to those who are inactive.[2] Provincial dummies are included in all regressions and not reported to economise on space). Descriptive statistics are reported in Table A3.1.

1. As noted above, *Sakernas* only reports the highest educational qualification attained by respondents. The reported levels were used to compute the number of years of schooling required in Indonesia to obain the corresponding qualification.

2. An adult household member is considered inactive if he/she declared not to have worked during the week prior to the survey. Respondents who declare themselves to have worked (not necessarily as primary activity) can be employed as wage-earners or in non-salaried jobs (self-employed with or without assistance, or unpaid/family/casual workers).

Table A3.1. **Descriptive statistics**[1]

| Variable | Mean | Minimum | Maximum | Standard deviation |
|---|---|---|---|---|
| **2002 wave** | | | | |
| Poor | 0.089 | 0 | 1 | 0.285 |
| Household size (number of members, in log) | 1.472 | 0 | 4.248 | 0.600 |
| Share of children | 0.271 | 0 | 0.857 | 0.210 |
| Share of elderly members | 0.033 | 0 | 0.857 | 0.103 |
| Average age of adult household members | 35.112 | 15 | 65 | 8.580 |
| Average years of schooling (adult members) | 7.212 | 0 | 19 | 3.322 |
| Illiteracy dummy | 0.162 | 0 | 1 | 0.369 |
| Female head of household dummy | 0.124 | 0 | 1 | 0.330 |
| Unmarried head of household dummy | 0.160 | 0 | 1 | 0.367 |
| Share of salaried workers | 0.192 | 0 | 1 | 0.271 |
| Share of non-salaried workers | 0.428 | 0 | 1 | 0.357 |
| **2008 wave** | | | | |
| Poor | 0.135 | 0 | 1 | 0.341 |
| Household size (number of members, in log) | 1.481 | 0 | 3.871 | 0.579 |
| Share of children | 0.275 | 0 | 0.857 | 0.206 |
| Share of elderly members | 0.040 | 0 | 0.8 | 0.110 |
| Average age of adult household members | 36.018 | 15 | 65 | 8.514 |
| Average years of schooling (adult members) | 7.550 | 0 | 19 | 3.335 |
| Illiteracy dummy | 0.134 | 0 | 1 | 0.341 |
| Female head of household dummy | 0.129 | 0 | 1 | 0.335 |
| Unmarried head of household dummy | 0.154 | 0 | 1 | 0.361 |
| Share of salaried workers | 0.203 | 0 | 1 | 0.278 |
| Share of non-salaried workers | 0.485 | 0 | 1 | 0.367 |

1. The number of individuals is 207 712 in 2002 and 274 224 in 2008.

*Source*: BPS (*Susenas*) and authors' computations.

## Estimation results

The marginal effects reported in Table A3.2 suggest that household size and age dependency are important determinants of the incidence of poverty in Indonesia. Large households and those with a high share of children and elderly members are more likely to be poor. By contrast, age and educational attainment have the effect of reducing the probability of being poor, although the average age of adult household members is significant for 2008 only. The finding that the presence of an illiterate member in the household reduces the probability of being poor (for 2002 only) once household years of schooling is controlled for is probably due to the fact that the accumulation of human capital among the other household members compensates for the illiteracy of a single member. Finally, gender and marital status also matter. The impacts of a female head of household and an unmarried head of household on poverty are both positive, but the coefficient of the former is smaller in magnitude than that of the latter.

The labour-market status of adult household members is an important determinant of poverty. A higher share of wage-earners (and non-salaried workers in 2002) in the household decreases the probability of being poor. This is in line with the fact that the Indonesian labour market is segmented, as discussed in the 2008 *Economic Assessment* (OECD, 2008) and that less qualified individuals tend to be more numerous in non-salaried occupations.

Table A3.2. **The determinants of poverty: Probit regressions, 2002 and 2008**[1]

Dependent variable: Poor

| | 2002 | | 2008 | |
|---|---|---|---|---|
| Household size | 0.1842 | *** | 0.2325 | *** |
| | (0.001) | | (0.001) | |
| Share of children | 0.0305 | *** | 0.0968 | *** |
| | (0.003) | | (0.003) | |
| Share of elderly members | 0.0858 | *** | 0.1794 | *** |
| | (0.007) | | (0.006) | |
| Average age of adult household members | 0.0001 | | -0.0004 | *** |
| | (0.000) | | (0.000) | |
| Average years of schooling of adult household members | -0.0105 | *** | -0.0207 | *** |
| | (0.000) | | (0.000) | |
| Illiteracy dummy | -0.0058 | *** | -0.0023 | |
| | (0.002) | | (0.002) | |
| Female head of household dummy | 0.0131 | *** | 0.0216 | *** |
| | (0.002) | | (0.003) | |
| Unmarried head of household dummy | 0.0392 | *** | 0.0470 | *** |
| | (0.002) | | (0.003) | |
| Share of salaried workers | -0.0143 | *** | -0.0506 | *** |
| | (0.003) | | (0.003) | |
| Share of non-salaried workers | -0.0041 | * | 0.0034 | |
| | (0.002) | | (0.002) | |
| Provincial dummies | YES | | YES | |
| Number of observations | 207 712 | | 274 224 | |

1. Probit marginal effects are reported. Statistical significance at the 1, 5 and 10% levels is denoted by, respectively, ***, ** and *. Robust standard errors are reported in parentheses.

*Source:* BPS (*Susenas*) and authors' estimations.

**Decomposition analysis**

The results of the probit analysis can be used to decompose changes in the incidence of poverty during 2002-08 between changes in individual and household characteristics (captured by changes in the variables included in the regressions) and structural changes in the economy (captured by changes in the estimated coefficients). Several methodologies are available to carry out such a decomposition, including that of Yun (2004). The basic idea is that the incidence of poverty, denoted by $Y$, is a function of several structural and individual/household characteristics, such that it can be written as $Y = F(X'\beta)$, where $F$ is a normally distributed cumulative density function, as in the probit model; $X$ is a set of regressors, which includes the main determinants of poverty, and $\beta$ is a vector of estimated coefficients. The decomposition exercise consists of re-writing $Y$ as follows:

$$\bar{Y}_t - \bar{Y}_{t+1} = \overline{F(X_t'\beta_t)} - \overline{F(X_{t+1}'\beta_{t+1})} = \overline{F(X_t'\beta_t)} - \overline{F(X_{t+1}'\beta_t)} + \overline{F(X_{t+1}'\beta_t)} - \overline{F(X_{t+1}'\beta_{t+1})}$$

Changes in $Y$ ($\bar{Y}_t - \bar{Y}_{t+1}$) can therefore be written as a sum of two components. The first term ($\overline{F(X_t'\beta_t)} - \overline{F(X_{t+1}\beta_t)}$) accounts for changes over time in the variables included in the regressions (the determinants of poverty included in $X$), whereas the second term ($\overline{F(X_{t+1}'\beta_t)} - \overline{F(X_{t+1}'\beta_{t+1})}$) accounts for changes in the estimated coefficients ($\beta$).

The results of the decomposition analysis – based on the Oaxaca-Blinder decomposition of outcome differentials in its nonlinear version for binary outcomes proposed by Yun (2004) – are reported in Table A3.3. The decomposition is restricted to those provinces that did not change between the two waves of *Susenas*.[3] The results suggest that the raw difference in the poverty headcount ratios between 2002 and 2008 (0.044) is almost entirely attributable to changes in the estimated coefficients, rather than in sample characteristics.

The coefficients reported in Table A3.4 confirm that most of the change in poverty outcomes is explained by changes in coefficients. The larger effects of household size and educational attainment on the incidence of poverty in 2008 than in 2002 are particularly noteworthy.

Table A3.3. **Poverty incidence decomposition, 2002 and 2008**[1]

| | Coefficient | Percentage change |
|---|---|---|
| **Raw** | 0.044388 | 100% |
| Sample characteristics | -0.00875 | -19.71% |
| Estimated coefficients | 0.057542 | 129.63% |
| Interaction | -0.0044 | -9.92% |

1. The decomposition is carried out for the 2002 sample.

*Source*: BPS (*Susenas*) and OECD estimations.

3. As discussed in the 2008 *Economic Assessment* (OECD, 2008), Indonesia went through a period of administrative refom during 2001-05 that resulted in the creation of a number of provinces by splitting existing jurisdictions. Since the decomposition technique requires that the set of regressors included in the probit analysis remains unchanged over time, the provinces that do not appear in both waves of *Susenas* (1 province for 2002 and 4 provinces for 2008) were omitted. Omission of these provinces implies a loss of less than 1% of observations for 2002 and 5% for 2008. Of course, omission of these provinces does not solve the problem of shifts of population among the provinces that were split as a result of administrative reform.

Table A3.4. **Poverty incidence decomposition coefficients, 2002 and 2008**[1]

| | Changes in variables | | Changes in coefficients | |
|---|---|---|---|---|
| Household size | 0.0001 | | -0.0517 | *** |
| | (0.000) | | (0.002) | |
| Share of children | 1.4E-05 | ** | 0.0090 | *** |
| | (0.000) | | (0.001) | |
| Share of elderly members | 0.0002 | *** | 0.0011 | *** |
| | (0.000) | | (0.000) | |
| Average age of adult household members | 4.3E-05 | | -0.0124 | *** |
| | (0.000) | | (0.004) | |
| Average years of schooling of adult household members | -0.0012 | *** | -0.0235 | *** |
| | (0.000) | | (0.003) | |
| Female head of household dummy | 1.7E-05 | *** | 0.0001 | |
| | (0.000) | | (0.000) | |
| Unmarried head of household dummy | -0.0001 | *** | -0.0014 | *** |
| | (0.000) | | (0.000) | |
| Illiteracy dummy | 0.0001 | *** | 0.0003 | |
| | (0.000) | | (0.000) | |
| Share of salaried workers | -0.0001 | *** | -0.0037 | *** |
| | (0.000) | | (0.001) | |
| Share of non-salaried workers | -0.0001 | * | 0.0021 | * |
| | (0.000) | | (0.001) | |
| Provincial dummies | YES | | YES | |
| Number of observations | 207 712 | | 274 224 | |

1. Statistical significance at the 1, 5 and 10% levels is denoted by, respectively, ***, ** and *. Standard errors (reported in parentheses) are computed using the delta method.

*Source:* BPS (*Susenas*) and OECD estimations.

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