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**The Evolving Composition of Poverty
in Middle-Income Countries:
The Case of Indonesia, 1991–2007**

Andy Sumner
November 2012



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The Evolving Composition of Poverty in Middle-Income Countries: The Case of Indonesia, 1991–2007

Andy Sumner

Summary

This paper discusses the evolution of education and health poverty in middle-income countries using the case of Indonesia. The paper reviews the long-run empirical research on poverty in Indonesia published over the last decade since the Asian financial crisis. The paper then provides new, long-run estimates of the evolution of primary education and infant mortality using the Demographic and Health Survey for Indonesia for 1991, 1994, 1997, 2002/3 and 2007, in order to elicit the evolution of the composition of education and health poverty.

The intended value-added of the paper is two-fold. First, the paper has a longitudinal element: such a comparative study using repeated DHS cross-sections has not previously been undertaken in published independent scholarly studies for Indonesia with a view to analysing the evolving level and composition of education and health poverty and disparities over the period across these five datasets. Second, the paper contributes to ongoing discussions on non-income poverty trends in middle-income countries and Indonesia in particular and debates on non-income poverty disparities by spatial and social characteristics of the household head.

The study of education and health poverty in Indonesia, as a middle-income country, can provide insights into the evolution of poverty by education and health during economic development in newly middle-income countries.

The Indonesian case suggests that poverty – by the measures used in this paper – may urbanise but remains largely rural in nature, and may increasingly be concentrated in the poorest wealth quintile over time. However, at the same time poverty remains concentrated among those in households with heads with no or incomplete primary education and in households with heads not in work or self-employed in agriculture.

Keywords: Indonesia; poverty; education; health; inequality; economic development.

Andy Sumner is Co-Director of the King's International Development Institute, King's College, London. Email: andrew.sumner@kcl.ac.uk

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Acronyms

| | |
|--------|---|
| AFC | Asian Financial Crisis |
| BKKBN | National Family Planning Coordinating Board |
| BPS | Badan Pusat Statistik |
| DHS | Demographic and Health Surveys |
| GDP | Gross Domestic Product |
| GNI | Gross National Income |
| HIC | high-income country |
| IFLS | Indonesian Family Life Survey |
| LIC | low-income country |
| LMIC | lower middle-income country |
| MIC | middle-income country |
| MPI | multi-dimensional poverty measure |
| ODA | Overseas Development Assistance |
| OECD | Organisation for Economic Co-operation and Development |
| OPHI | Oxford Poverty and Human Development Initiative |
| PPP | Purchasing Power Parity |
| UMIC | upper middle-income country |
| UNICEF | United Nations Children's Fund |
| UNSFIR | United Nations Support Facility for Indonesian Recovery |
| USAID | United States Agency for International Development |

Introduction

Most of the world's income poor, and most of the world's multi-dimensional poor, now live in lower middle-income countries (LMICs) such as Indonesia (Alkire and Foster 2011; Chandy and Gertz 2011; Glassman *et al.* 2011; Kanbur and Sumner 2011a, 2011b; Koch 2011; Sumner 2010, 2012a).

The changing distribution of global poverty towards a concentration in LMICs raises a set of questions related to inequalities because it suggests that substantial 'pockets' of poverty can persist at higher levels of average per capita income.

Further, the fact that most of the world's poor now live in lower middle-income countries (LMICs), who have attained MIC status through a decade or more of sustained economic growth raises questions about who is 'left behind'. A better understanding of poverty in LMICs thus has wider significance.

Such patterns also matter beyond the thresholds of low-income countries and middle-income countries (LICs/MICs) set by the World Bank, because they reflect a pattern of rising average incomes.

Further, although the thresholds do not mean a sudden change in countries when a line is crossed in per capita income, substantially higher levels of average per capita income imply substantially more domestic resources available for poverty reduction. In addition, the international system treats countries differently at higher levels of average per capita income.

In light of the above, this paper discusses the evolution of education and health poverty in one middle-income country, namely Indonesia. The paper reviews the empirical research on long-run trends in poverty in Indonesia published over the last decade since the Asian Financial Crisis (AFC). The paper then provides new, long-run estimates of the evolution of the composition of education and health poverty using the Demographic and Health Survey for Indonesia for 1991, 1994, 1997, 2002/3 and 2007.

To be clear at the outset: This paper does not attempt to answer causal questions. It is intended that this is the first of several papers using the 1991–2007 dataset generated. And thus the purpose of this paper is to consider trends and the evolving composition of poverty over time by the poverty measures chosen in order to develop further avenues for future exploration.

This paper is structured as follows: Section 1 discusses economic development and poverty reduction in Indonesia since 1990 and reviews the long-run empirical studies on poverty in Indonesia. Section 2 provides new estimates of education and health poverty in Indonesia by spatial and social characteristics of household head. Section 3 focuses on the evolving composition of education and health poverty, 1991–2007. Section 4 concludes.

1. Poverty, inequality and economic development in Indonesia since 1990

1.1 Indicators of economic development

Indonesia has achieved well-documented and drastic improvements in average incomes and various indicators of economic development and poverty reduction over the past two decades. Indonesia achieved middle-income country (MIC) status in World Bank country classifications based on GNI per capita in 1993. Following the impact of the Asian Financial Crisis (AFC) in 1997–99, Indonesia temporarily fell back to low-income country (LIC) status in 1998, before re-attaining MIC status in 2003. GNI per capita (Atlas) was US\$2,500 per capita in 2010.

In PPP terms, average incomes almost doubled in Indonesia between 1990 and 2010, rising to \$3,885 per capita/year or over \$10 per capita/day, although with a noticeable dip following the AFC (see Table 1.1 – the choice of years intentionally includes DHS data survey years).

Table 1.1 Indonesia – Economic indicators, 1991–2010

| | 1991 | 1997 | 2000 | 2003 | 2007 | 2010 |
|--|------|------|------|------|------|------|
| GNI per capita, Atlas method (current US\$) | 600 | 1080 | 560 | 890 | 1600 | 2500 |
| GDP per capita, PPP (constant 2005 international \$) | 2151 | 2971 | 2623 | 2863 | 3403 | 3885 |
| Net ODA received (% of GNI) | 1.6 | 0.4 | 1.1 | 0.8 | 0.2 | 0.2 |
| Net ODA received (% of gross capital formation) | 4.5 | 1.2 | 4.5 | 2.9 | 0.8 | 0.6 |
| Urban population (% of total) | 31.6 | 38.1 | 42.0 | 44.4 | 47.5 | 49.9 |
| Agricultural raw materials exports (% of merch. exports) | 5.2 | 4.6 | 3.6 | 5.0 | 6.3 | 6.6 |
| Ores and metals exports (% of merchandise exports) | 4.2 | 4.8 | 4.9 | 5.7 | 10.7 | 9.9 |

Source: Data processed from World Bank (2012b).

Similarly, ODA as both a proportion of GNI and gross capital formation has been on a downward trajectory from an already relatively low point in the early 1990s (albeit with a rise around the 1997–99 crisis).

Indicators of structural change show major shifts since 1990 (even though the process of major transformation can be traced back to before 1990). For example, in the importance of non-agricultural sectors in GDP and the labour force and urbanisation rates (again with noticeable reverse trends around the AFC) (see also figures 1.1 and 1.2). However, export dependency on primary commodities remains significant and rising over time to around 10 per cent of merchandise exports.

One pattern – not explored further here – is that there appears to be a pattern whereby services are increasing as a share of employment but falling as a share of GDP value-added. In contrast, employment growth in industry appears to be flat whilst industry's share of GDP value-added is rising. Several studies (see literature review below) have argued that growth in the services sector is more beneficial to the poor than growth in agriculture.

Table 1.2 Indonesia – Economic indicators relative to country groupings, popn weighted, 2010 (or nearest available year)

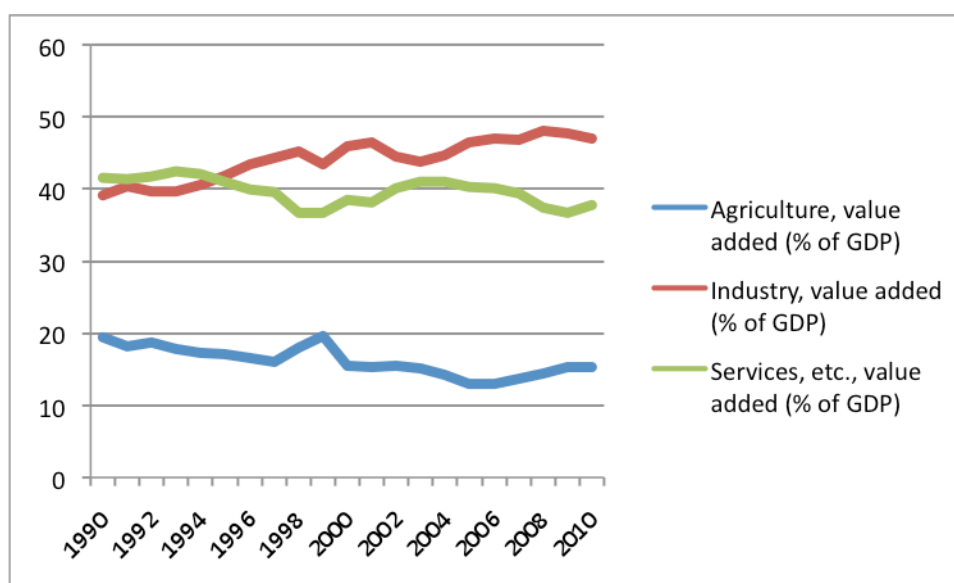
| | Indonesia | LICs | LMICs | UMICs |
|---|-----------|------|-------|-------|
| Net ODA received (% of GNI) | 0.2 | 12.6 | 1.0 | 0.1 |
| Net ODA received (% of gross capital formation) | 0.6 | 53.1 | 3.5 | 0.4 |
| GDP in agriculture (%) | 15.3 | 30.8 | 17.3 | 8.8 |
| Agriculture as a % of total employment | 38.3 | n.a. | 11.8 | 17.9 |
| Urban population (% of total) | 49.9 | 27.9 | 39.2 | 56.8 |
| Agricultural raw materials exports (% of merchandise exports) | 6.6 | 9.7 | 1.9 | 1.1 |
| Ores and metals exports (% of merchandise exports) | 9.9 | 7.4 | 5.9 | 4.3 |
| GDP pc (PPP 2005 int'l \$) as a % HIC OECD | 11.3 | 3.2 | 9.5 | 24.9 |

Source: Data processed from World Bank (2012b).

Indonesia also fares reasonably well in relative assessments. When Indonesia is compared to the averages of the LIC, LMIC and UMIC groups (see Table 1.2), it is much closer to the UMIC group average in terms of ODA and urbanisation. However, Indonesia is closer to the LMIC group average in terms of the contribution of agriculture to GDP, and closer to the LIC group in terms of primary export dependency.

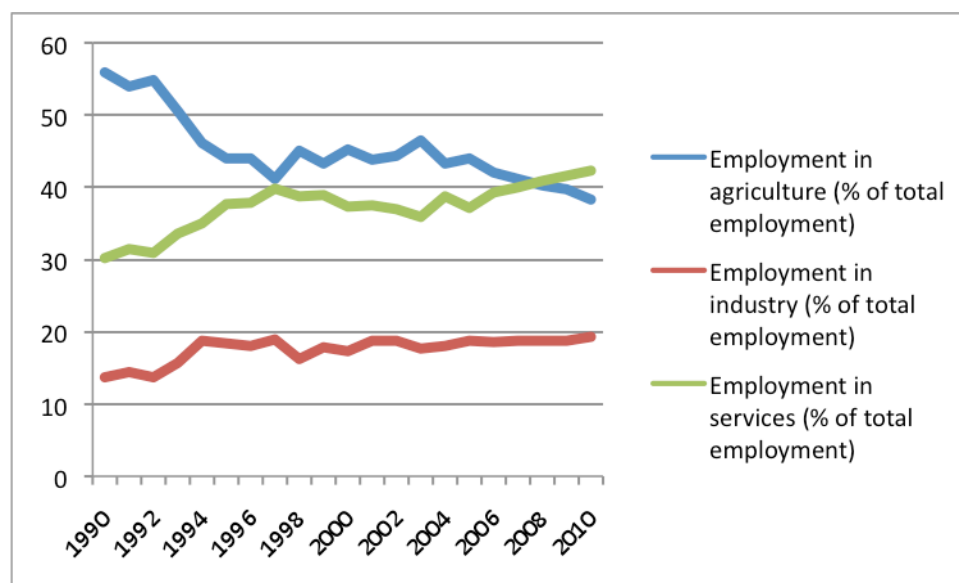
Finally, if one compares income per capita in Indonesia and the country groups as a percentage of OECD high-income countries (HICs), in PPP terms, income per capita in Indonesia in 2010 was at about 11 per cent of the HIC OECD group average; well above the LIC average (3%) although some distance from the UMIC average.

Figure 1.1 Sectoral value-added (as % GDP)



Source: Data from World Bank (2012b).

Figure 1.2 Employment by sector (% total employment)



Source: Data from World Bank (2012b).

1.2 Poverty and inequality indicators

International comparisons for changes in poverty and inequality in Indonesia are subject to the usual caveats on poverty lines (see Fischer 2010, for detailed discussion) and especially so regarding the use of PPPs (see Deaton 2011). Here we make use of the two international poverty lines of \$1.25 and \$2 per day (See tables 1.3 and 1.4). In Indonesia, between 1990 and 2010, income poverty by both international poverty lines fell drastically. The incidence of \$1.25 poverty halved, falling from 54 per cent in 1990 to less than 20 per cent in 2010; and \$2 poverty fell from 85 per cent in 1990 to less than 50 per cent. Further, although rising dramatically between 1997 and 2000 the national poverty line headcount fell to just 13 per cent in 2010. That said, as noted, half of the population remain below \$2/day and a large number of households may experience transient poverty (see literature review below). Further, according to the World Bank (2012a), primary school completion rates are close to 100 per cent and infant mortality has fallen to 26/1000 live births by 2010.

Table 1.3 Indonesia – Poverty and inequality Indicators, 1991–2010 (nearest available years)

| | 1991 | 1997 | 2000 | 2003 | 2007 | 2010 |
|--|------|------|------|------|------|------|
| Poverty at \$1.25 a day (PPP) (% of population) | 54.3 | 43.4 | 47.7 | 29.3 | 24.2 | 18.1 |
| Poverty at \$2 a day (PPP) (% of population) | 84.6 | 77.0 | 81.6 | 67.0 | 56.1 | 46.1 |
| Poverty at national poverty line (% of population) | n.a. | 17.6 | 23.4 | 18.2 | 16.6 | 13.3 |
| Primary completion rate, total (% of age group) | 88.7 | 93.0 | 92.7 | 96.1 | 95.8 | n.a. |
| Mortality rate, infant (per 1,000 live births) | 52.1 | 41.5 | 37.6 | 33.8 | 29.0 | 25.8 |
| GINI index | 29.2 | 31.3 | 29.0 | 29.7 | 34.0 | n.a. |
| Income share held by highest 10% | 24.7 | 26.6 | 25.1 | 25.6 | 28.5 | n.a. |
| Income share held by lowest 40% | 31.1 | 30.3 | 31.0 | 30.8 | 29.3 | n.a. |

Source: Data processed from World Bank (2012a).

Table 1.4 Indonesia – Poverty and inequality indicators relative to country groupings, popn weighted, 2010 (or nearest available year)

| | Indone sia | LICs | LMICs | UMICs |
|---|---------------|------|-------|-------|
| Poverty at \$1.25 a day (PPP) (% of population) | 18.1 | 44.0 | 30.6 | 2.1 |
| Poverty at \$2 a day (PPP) (% of population) | 46.1 | 72.5 | 59.7 | 14.2 |
| GINI index | 34.0 | 38.4 | 37.8 | 43.8 |
| Income share held by highest 10% | 28.5 | 33.2 | 32.3 | 34.5 |
| Income share held by lowest 40% | 29.3 | 17.8 | 16.4 | 15.4 |

Source: Data processed from World Bank (2012a).

Trends in inequality in Indonesia between 1990 and 2010 are not easy to discern, other than the observation that inequality appears to have risen since the AFC (as measured by the Gini or share of GNI of top 10% / bottom 40%). The Gini rose in the early 1990s then fell around the AFC. It then drastically increased in the early 2000s. The share of GNI to the poorest 40 per cent was more or less static between 1990 and the early 2000s, and then decreased slightly. In contrast, the share of GNI to the richest 10 per cent rose in the 1990s then dipped and rose notably in the early-to-mid 2000s. Of course, as has been well documented, regional inequality is high in Indonesia (see for example, Akita 2003).

That said, relative comparisons of poverty and inequality in Indonesia with the country groupings are favourable to Indonesia. Comparisons show that poverty rates in Indonesia are considerably lower than the average for the LIC and LMIC.

Inequality in Indonesia also compares favourably to LIC, LMIC and UMIC group averages by both the Gini and measurement of income shares to the poorest 40 per cent versus the top 10 per cent. However, one study of historical income tax data has argued that top income shares in Indonesia are generally higher than in other countries and rose sharply during the economic crisis in the 90s (Leigh and van der Eng 2009).

Disparities by gender have also been very well documented (using DHS data) and for this reason are not included in the estimates in this paper here: For example, two recent major gender reports with sets of systematic estimates for every country including Indonesia across numerous indicators are those by UNICEF (2010; 2011).

1.3 Empirical studies of the evolution of poverty in Indonesia since the Asian Financial Crisis (AFC)

There have been a large number of studies on poverty in Indonesia since the Asian Financial Crisis (AFC) of 1997/8. This section provides a short review of studies by scholars published in international academic journals and working papers of research institutes. It is thus studies which have been published in English and consequently only a limited view of the potentially available literature. The selected studies are peer-reviewed studies catalogued in the Thomson Reuter's (ISI) *Web of Knowledge* database by keywords: 'Indonesia AND (poverty OR inequality)'.

The list of original references produced by the search was refined and references followed up within papers. The final list of 56 references and details of studies are provided in Sumner (2012b). The review did not include the numerous reports and studies by the government of Indonesia (Badan Pusat Statistik; BKKBN, etc.) and international donors (such as UNICEF, UNSFIR, etc.) as it is focused on studies conducted by independent scholars and published in academic outlets.

Not surprisingly, many of the included 56 studies are based on time-series analysis of the BPS

national socioeconomic survey, *Susenas* (the *Susenas* is available every three years from 1984 to 2002, and every year from 2002 to 2010).

There are also studies that utilise the labour force survey *Sakernas*, which has annual data from 1986 to 2005; the RAND Indonesian Family Life Survey (which is available for 1993, 1996, 2000 and 2007); and the BPS/UNICEF 100 Village Survey (1994, 1997, 1998, 1999).

There are, within the set of studies listed in Annex 2, three themes particularly relevant to the discussion of this paper which are now summarised here:

i. Studies focused on long-run trends in expenditure poverty

These studies typically use the *Susenas* survey data over a long period of time, and use either the national BPS monetary poverty lines or a variation of the poverty lines calculated by Pradhan *et al.* (2001). The consensus from these studies is as follows:

Consistent with the data provided in the previous section, absolute poverty declined in Indonesia during the Soeharto years (Asra 2000; Booth 2000; Friedman 2005). However, poverty was still significant before the 1997–99 financial crisis, and may have been underestimated due to national poverty lines being set too low (Asra 2000).

Welfare improvements slowed in the period after the AFC (Friedman 2005; Friedman and Levinsohn 2002; Lanjouw *et al.* 2001; Skoufias *et al.* 2000), and much of this increase was due to an increase in chronic poverty (Suryahadi and Sumarto 2001; 2003a; 2003b).

Vulnerability to poverty also increased resulting in a large number of households experiencing transient poverty (Suryahadi and Sumarto 2001; 2003a; 2003b; Pritchett *et al.* 2000; Widyanti *et al.* 2001).

There is some disagreement in the literature over how quickly Indonesia recovered from the AFC in terms of poverty levels. Those arguing that it recovered quickly or the social consequences were less severe than anticipated include Suryahadi and Sumarto (2003a; 2003b). Those arguing that consequences were more significant and/or long term include Dhanani and Islam (2002) and Ravallion and Lokshin (2007). Evidence suggests Indonesia coped with the 2008/09 financial crisis relatively well in terms of poverty due to the moderate economic impact (McCulloch and Grover 2010).

ii. Studies focused on the long-run relationship between expenditure poverty and economic growth

These studies typically use the *Susenas* and *Sakernas* survey data, and either the national BPS monetary poverty lines or a variation of the poverty lines calculated by Pradhan *et al.* (2001). The consensus from these studies is as follows:

Overall, economic growth in Indonesia has benefited the poor, with a high and stable growth elasticity of poverty even after the AFC (Baliscan *et al.* 2010; Friedman 2005; Suryahadi *et al.* 2012; Timmer 2004).

However, growth in different sectors is associated with very different impacts on poverty (Fane and Warr 2002; Suryahadi *et al.* 2006) and growth in the services sector is more beneficial to the poor than growth in agriculture (Fane and Warr 2002; Suryahadi *et al.* 2006; 2012).

iii. Studies focused on long-run non-income/expenditure/monetary poverty

These studies typically assess child nutrition and mortality using the 100 Village Survey, the Indonesian Family Life Survey (IFLS) or the Indonesian DHS. The consensus from these studies is as follows:

Child mortality declined during the 1980s and 1990s, and socioeconomic inequalities in under-5 mortality did not increase during this period of rapid growth (Houweling *et al.* 2006).

The AFC did not have a large negative impact on children's nutrition (Cameron 2000). However, urban children were more affected than rural during the crisis (Bardosono *et al.* 2007).

Multi-dimensional poverty (measured in various ways) has fallen since 2000 (Alkire and Foster 2011; Suryahadi *et al.* 2010; Wardhana 2010).

In light of this literature and previous studies, what is it that a new paper seeks to add? The intended value-added of the paper is two-fold. First, the paper has a longitudinal element – such a comparative study using DHS repeated cross-sections has not previously been undertaken for Indonesia to the author's knowledge across these particular five datasets from 1991–2007. Second, the paper contributes to ongoing discussions on non-income poverty trends in Indonesia and middle-income countries and debates on non-income poverty disparities by spatial and social characteristics of households by head.

2. The evolution of education and health poverty in Indonesia, 1991–2007

2.1 The Demographic and Health Survey in Indonesia

Full methodological details of the study are contained in Annex 1. This section summarises the main aspects.¹

The Demographic and Health Surveys (DHS) programme has conducted surveys since the 1980s in a range of developing countries, typically those receiving US foreign aid from USAID. The project is globally led by ICF International (formerly Macro International)² The Indonesia Demographic and Health Survey provides datasets for 1991, 1994, 1997, 2002/3 (henceforth referred to as '2002') and 2007. The DHS is conducted in Indonesia by the Badan Pusat Statistik (BPS).

The DHS is a standardised, nationally representative household survey though based on interviewing households with a woman of reproductive age. Although the DHS is mainly focused on women aged 15–49 it can be used to generate data for all household members.

The DHS are repeated cross-sections rather than panel datasets. Nonetheless the DHS can be used for the purpose of exploring disparities in poverty between spatial and social groups and the evolving composition of poverty over time with caveats.

The estimates and discussion within this current paper are based on assessing education, and health poverty with a strong emphasis on children and youth. This is for two reasons: first, because these indicators of education and health poverty cover the primary dimensions of non-income poverty (such as in the MDGs) and are available in the DHS datasets.

2.1.1. Robustness and limitations

¹ See for DHS model questionnaire, survey organisation and other technical matters, DHS/ICF International (2011; 2012a; 2012b). For a list of DHS model questionnaires, DHS manuals and other publications see list of DHS publications at www.measuredhs.com/publications/publication-search.cfm?type=35.

² Formerly it was led by Macro International/ORC Macro. For further discussion, see Rutstein and Rojas (2006) and/or: www.measuredhs.com.

In addition to the points above, it is important to note several limitations with the estimates presented shortly in this paper.

First, the two types of poverty – education and health - were chosen because they represent unequivocal proxies of ill-being - a lack of education and infant mortality (and are available in the DHS). The cut-offs/thresholds were applied consistent with common practice when measuring education and health: these were age and incidence. For education poverty the threshold was completion of primary school and the age groups 15-24 years was chosen because this reflects the commonly used (MDG) indicator of universal primary education and 15-24 years are used because children are likely to have finished primary education by then if ever. For health poverty, again, the choice was based on consistency with common usage. In light of the above, the education and health poverty estimates do not compare the same reference group across the two indicators chosen – the education poverty estimates correspond to different populations than the health poverty estimates (However, the different poverty types would seem to move in tandem most of the time which would be useful to explore further).

Second, as is common practice with many income and multi-dimensional poverty estimates, the estimates presented below assign poverty status to the whole household based on a circumstance affecting one member. The justification for, and assumption of, such an approach is that the ill-being of - here - children is likely to reflect that of the household. Moreover, it can be argued that a focus on childhood and youth deprivations is a particularly apt one in itself with implications for equality of opportunity/capabilities and the future poverty profile.

Household data is used, then weights are applied according to household size. The indicators do not purely assess deprivation in a dichotomous way but consider intensity (e.g. 'one out of three children aged 15–24 did not complete primary education' means 33.3% deprivation in the case, not full deprivation). More importantly, as noted above only household with a woman of reproductive age are interviewed (justified by the focus of the DHS on health matters).

Third, in the estimates below changes in the underlying population are not compared with changes in the population in poverty. This is an avenue for a future research.

There are reports for each Indonesian DHS and some comparative analysis across some years (see, for example, BPS and Macro International 1991, 1995, 1998, 2003 and 2008). However, to the author's knowledge there have been no attempts to look at the time-series across the 1991–2007 datasets, in published independent scholarly studies, with a view to analysing the evolving level and composition of poverty and disparities over the period. As noted previously, one earlier study of Houweling *et al.* (2006) did look across DHS datasets for 1987–1997 to study infant mortality. The timing of the DHS makes it particularly useful to consider the evolution of health and education during specific periods of Indonesia's recent history. The first time period is 1991–(1994)–1997. In this period, the DHS surveys are useful to provide a baseline covering the end of the Soeharto years up to the AFC. In terms of low and middle-income status, Indonesia attained LMIC status based on GNI per capita in 1993 (World Bank FY1995), but dropped back to LIC status based on GNI per capita in 1998 (FY2000) following the AFC. In the second period, 1997–2003, the DHS surveys provide a comparison of pre- and post-AFC. Indonesia re-attained LMIC status based on GNI per capita in 2003 (FY2005). Finally, the third period of 2003–2007 provides a post-crisis baseline up to immediately before the global financial crisis of 2008.

Using the DHS surveys it is possible to make estimates of two poverty-related indicators as follows (see methodological annex for further details):

Education poverty: the proportion of youth aged 15–24 that have not completed primary school

as a percentage of all youth aged 15–24 [all households with children aged 15–24];
Health poverty: the proportion of children that died below the age of five (within the past five years) as a percentage of all children born within the last ten years [all households with children born within the last ten years to interviewed women 15–49].

Because health is only assessed if a child was born into the household within the last five years and education poverty as defined here requires that at least one 15–24-year-old child lives in the household, the valid cases in the DHS for the above and various covariates are typically about half of all cases (See Table A1 for valid cases data). Some caution is required with regards to education poverty by occupation of household head as the valid cases are closer to a third (see Table A1).

With regards to significance testing for the changes in education and health poverty over time the findings are statistically significant across the education poverty data. The health poverty data has one period where the results were not found to be statistically significant. These were the changes in health poverty between 2003 and 2007 (see Table A3). However, across the period 1997–2007 the changes in health poverty are statistically significant (see Table A3).

The estimates of education and health poverty are population based and produced as follows: first, an assessment of deprivations at the household level is made. Household data is used, then weights applied according to household size. To assess poverty incidences for different subgroups, such as total and rural population, the covariates are applied for: type of place of residence; proximity; the DHS Wealth Index by quintiles;³ education of household head and the occupation of household head.

2.2 The changing levels of education and health poverty overall by groups and the incidence of poverty in subgroups

It makes sense to start with overall trends arising from the data and then discuss education and health poverty disparities and the evolving composition of education and health poverty. Henceforth, where the text refers to 'poverty', this refers to both education poverty and health poverty data.

When the data by numbers of people are considered, two aspects are particularly notable. First, there were drastic falls in the numbers of education and health poor (by the chosen indicators) between 1991 and 2007. Second, there was very little decline from 2003–2007 (and in fact health poverty may have risen in absolute numbers – see Table 2.1).

Similar patterns are evident across urban and rural groups. However, in terms of health poverty, the absolute number of rural poor rose between 2003 and 2007. This rise is evident in the DHS Wealth Index for the lowest two quintiles for health poverty and in the households with head with 'no education' group for education poverty and in the households with head with 'incomplete primary' group in terms of health poverty. It is also evident for both education and health poverty in the households with head in 'self-employed agriculture' and in 'services' groups.

³ The DHS Wealth Index is composed of five wealth quintiles and is an index of a household's relative wealth (on a continuous scale) based on the household's ownership of certain assets such as televisions, bicycles, materials for house construction and types of water access and sanitation. See for further details Rutstein and Johnson (2004) and/or: www.measuredhs.com/topics/Wealth-Index.cfm.

Table 2.1 Education and health poverty in Indonesia, 1991–1997, number of poor

| Classification | Subgroup | EDUCATION POVERTY | | | | | HEALTH POVERTY | | | | |
|-------------------------------------|-------------------------------|-------------------|------------|------------|------------|------------|----------------|-----------|-----------|-----------|-----------|
| | | 1991 | 1994 | 1997 | 2003 | 2007 | 1991 | 1994 | 1997 | 2003 | 2007 |
| <i>Population</i> | Total | 40,971,527 | 35,096,373 | 30,844,827 | 21,009,950 | 19,189,020 | 5,638,738 | 5,070,777 | 3,924,300 | 3,302,077 | 3,429,276 |
| Type of place of residence | Urban | 6,849,002 | 5,661,572 | 4,509,167 | 5,905,919 | 4,725,916 | 1,262,143 | 933,691 | 823,706 | 1,257,343 | 1,101,849 |
| | Rural | 34,122,525 | 29,434,802 | 26,335,660 | 15,104,031 | 14,463,104 | 4,376,594 | 4,137,087 | 3,100,593 | 2,044,734 | 2,327,426 |
| Place of residence | Capital, large city | 2,173,384 | 1,337,390 | 982,680 | 4,063,275 | | 476,069 | 194,087 | 200,092 | 860,661 | |
| | Small city | 1,301,970 | 1,191,622 | 1,494,220 | 1,841,095 | | 206,345 | 300,231 | 356,021 | 396,682 | |
| | Town | 3,033,457 | 3,441,800 | 2,702,599 | 1,549 | | 525,238 | 494,375 | 349,599 | 0 | |
| | Countryside | 34,462,716 | 29,125,562 | 25,665,328 | 15,104,031 | | 4,431,086 | 4,082,084 | 3,018,588 | 2,044,734 | |
| DHS Wealth Index | Lowest | | | 12,288,877 | 9,773,057 | 9,613,032 | | | 1,232,508 | 853,290 | 959,233 |
| | Second | | | 8,021,784 | 5,399,711 | 4,922,274 | | | 841,763 | 709,827 | 869,818 |
| | Middle | | | 5,633,357 | 2,983,847 | 2,593,055 | | | 701,838 | 756,721 | 671,815 |
| | Fourth | | | 3,378,944 | 1,807,361 | 1,403,088 | | | 742,857 | 684,111 | 418,111 |
| | Highest | | | 1,521,864 | 1,045,975 | 657,571 | | | 405,333 | 298,128 | 510,299 |
| Education of household head | No education | 12,208,164 | 10,447,582 | 8,550,299 | 4,373,833 | 4,398,966 | 1,020,180 | 909,479 | 537,628 | 510,868 | 300,938 |
| | Incomplete primary | 18,868,452 | 16,489,991 | 13,337,983 | 9,777,661 | 8,525,026 | 2,326,055 | 1,920,138 | 1,311,440 | 823,112 | 864,650 |
| | Complete primary | 6,371,183 | 5,229,369 | 6,414,758 | 4,562,696 | 4,054,930 | 1,283,851 | 1,178,162 | 1,223,429 | 958,696 | 893,403 |
| | Incomplete secondary | 2,130,425 | 2,031,781 | 1,516,794 | 1,247,452 | 1,376,810 | 539,102 | 612,702 | 443,732 | 578,174 | 624,716 |
| | Complete secondary | 966,375 | 689,352 | 859,751 | 685,710 | 647,639 | 357,204 | 315,492 | 341,547 | 344,782 | 584,051 |
| | Higher | 386,108 | 208,298 | 165,242 | 362,149 | 184,604 | 94,455 | 134,804 | 66,524 | 86,110 | 161,519 |
| | Don't know | 40,820 | 0 | 0 | 450 | 1,045 | 17,891 | 0 | 0 | 334 | 0 |
| Occupation of household head | Did not work | 13,138,269 | 14,921,897 | 13,888,194 | 7,890,604 | 6,097,553 | 2,074,904 | 2,077,218 | 2,196,745 | 1,506,732 | 1,152,048 |
| | Prof. / Tech. / Manag. | 380,277 | 155,939 | 144,962 | 173,002 | 102,492 | 68,233 | 48,916 | 35,050 | 88,334 | 131,691 |
| | Clerical | 183,437 | 139,792 | 147,257 | 10,629 | 28,405 | 62,503 | 49,891 | 14,241 | 6,055 | 34,207 |
| | Sales | 3,370,413 | 2,603,469 | 2,749,539 | 2,201,446 | 1,710,355 | 573,333 | 504,317 | 294,362 | 410,717 | 568,510 |

| | | | | | | | | | | | |
|----------------------------|------------------------------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|---------|-----------|
| | Agriculture (self-employed) | 19,560,953 | 14,875,942 | 10,618,865 | 8,820,990 | 8,661,857 | 2,209,615 | 1,999,358 | 1,073,215 | 926,220 | 1,149,877 |
| | Services | 1,424,372 | 373,119 | 1,123,981 | 783,646 | 1,003,836 | 160,347 | 27,593 | 90,725 | 100,236 | 281,340 |
| | Skilled Manual | 2,622,199 | 1,989,025 | 2,168,493 | 945,814 | 1,580,670 | 409,938 | 362,541 | 219,961 | 260,894 | 74,964 |
| | Unskilled Manual | 286,831 | 37,190 | 3,536 | 110,159 | 0 | 79,866 | 943 | 0 | 2,889 | 1,823 |
| | DK | 4,776 | 0 | 0 | 73,661 | 3,851 | 0 | 0 | 0 | 0 | 34,815 |
| Province | Bali | | 409,837 | 281,835 | 168,148 | 137,575 | | 44,563 | 38,954 | 19,154 | 31,843 |
| | Bangka Belitung | | | | 243,243 | 197,272 | | | | 14,474 | 21,288 |
| | Banten | | | | 1,036,731 | 906,844 | | | | 155,697 | 111,389 |
| | Bengkulu | | 254,550 | 233,616 | 121,683 | 129,151 | | 58,745 | 41,348 | 23,504 | 25,189 |
| | Cenrtal Sulawesi | | 259,250 | 272,760 | 221,336 | 311,339 | | 74,051 | 70,681 | 67,791 | 30,661 |
| | Central Java | | 4,437,862 | 4,402,757 | 1,740,372 | 1,933,712 | | 555,645 | 440,221 | 352,081 | 275,122 |
| | Central Kalimantan | | 274,022 | 347,610 | 282,208 | 205,013 | | 25,666 | 34,370 | 35,541 | 17,820 |
| | DI Aceh | | 636,688 | 635,176 | | 285,071 | | 75,294 | 81,680 | 0 | 87,121 |
| | DI Yogyakarta | | 236,320 | 152,100 | 67,127 | 104,746 | | 25,285 | 26,603 | 10,233 | 30,626 |
| | DKI Jakarta | | 718,667 | 521,924 | 195,442 | 241,347 | | 94,470 | 86,500 | 106,112 | 119,067 |
| | East Java | | 5,715,701 | 4,280,794 | 3,326,827 | 3,141,595 | | 708,332 | 421,267 | 514,570 | 452,821 |
| | East Kalimantan | | 320,536 | 281,889 | 275,335 | 293,051 | | 53,026 | 51,224 | 51,144 | 47,231 |
| | East Nusa Tenggara | | 947,526 | 1,023,082 | 915,927 | 1,141,429 | | 123,883 | 124,994 | 98,346 | 132,531 |
| | East Timor | | 432,850 | 410,160 | 0 | | | 29,017 | 16,653 | 0 | |
| | Gorontalo | | | | 285,167 | 222,152 | | | | 41,217 | 31,492 |
| | Irian Jaya | | 602,019 | 487,738 | 0 | | | 54,570 | 46,642 | 0 | |
| Jambi | | 435,763 | 457,989 | 235,143 | 259,528 | | 68,192 | 51,774 | 46,334 | 38,461 | |
| Kep Bangka Belitung | | | | | 88,135 | | | | 0 | 15,056 | |

| | | | | | | | | | | | |
|--|---------------------------|--|-----------|-----------|-----------|-----------|--|-----------|-----------|---------|---------|
| | Lampung | | 1,462,984 | 1,087,703 | 635,515 | 475,917 | | 115,998 | 144,272 | 115,507 | 75,751 |
| | Maluku | | 342,415 | 300,853 | | 173,038 | | 56,622 | 35,453 | 0 | 45,788 |
| | Maluku Utara | | | | | 95,528 | | | | 0 | 25,290 |
| | North Sulawesi | | 575,680 | 475,856 | 264,986 | 268,865 | | 69,307 | 60,659 | 31,904 | 41,951 |
| | North Sumatra | | 1,407,911 | 1,579,799 | 1,300,519 | 1,083,847 | | 338,684 | 263,496 | 230,374 | 268,996 |
| | Papua | | | | | 497,087 | | | | 0 | 34,517 |
| | Papua Barat | | | | | 89,008 | | | | 0 | 15,219 |
| | Riau | | 846,465 | 710,816 | 415,030 | 235,783 | | 127,832 | 88,098 | 75,182 | 37,449 |
| | South Kalimantan | | 440,816 | 453,301 | 617,071 | 408,453 | | 62,428 | 72,232 | 48,957 | 99,112 |
| | South Sulawesi | | 1,927,672 | 1,520,088 | 1,385,215 | 1,234,923 | | 237,358 | 172,344 | 188,657 | 139,104 |
| | South Sumatra | | 1,267,881 | 964,448 | 702,460 | 722,292 | | 199,815 | 104,256 | 69,750 | 90,548 |
| | Southeast Sulawesi | | 205,969 | 184,551 | 268,214 | 255,247 | | 44,368 | 28,270 | 47,660 | 35,010 |
| | Sulawesi Barat | | | | | 179,170 | | | | 0 | 35,885 |
| | West Java | | 7,938,791 | 7,159,930 | 4,156,167 | 2,073,824 | | 1,339,917 | 1,095,231 | 666,172 | 699,394 |
| | West Kalimantan | | 1,331,767 | 927,608 | 796,588 | 836,124 | | 165,870 | 96,481 | 57,301 | 62,674 |
| | West Nusa Tenggara | | 966,345 | 1,115,702 | 735,497 | 385,397 | | 173,052 | 114,125 | 126,445 | 178,745 |
| | West Sumatra | | 700,087 | 574,739 | 617,999 | 576,555 | | 148,787 | 116,470 | 107,969 | 76,125 |

Source: Data processed from DHS datasets.

In terms of the incidence of education and health poverty (see Table 2.2), one can note three points: first, although education and health poverty declined in both urban and rural areas across the 1991–2007 period, the incidence of both of these poverties rose (albeit from a low base) in capital/large cities (1997–2003), while falling drastically in the countryside. The incidence of urban education and health poverty rose between 1997 and 2003 over the course of the AFC. Further, the incidence of health poverty remained static between 2003 and 2007.

Second, the incidence of education and health poverty – by the DHS Wealth Index – among the two poorest wealth quintiles declined in terms of education poverty between 1997 and 2007, but health poverty in the poorest two quintiles was static or rose slightly in both bottom quintiles between 2003 and 2007.

Third, the education and health poverty incidence both fell over the 1991–1997 period among those in households with a head with ‘no education’ or ‘incomplete primary’ schooling. However, as before, during the 2003–2007 period, there were either much smaller declines or little or no decline. Further, education and health poverty rates declined for those in households with a head without work, and those in households with a head self-employed in agriculture.

Once again, in the 2003–2007 period there were either much smaller declines, little or no declines, or a marginal rise in education and health poverty for those in households with heads in these occupational groups.

Further, in terms of the incidence of education and health poverty in subgroups (See Table 2.3), the poverty incidence by subgroups also shows large declines overall between 1991 and 2007 with small declines or no decline between 2003 and 2007.

Urban education and health poverty rates are substantially lower than rural. Not surprisingly, rates of education and health poverty – by the DHS Wealth Index – in the two lowest wealth quintiles are substantially higher than other quintiles.

The same is the case for those in households with heads in the ‘no education’ or ‘incomplete primary’ groups (versus other education groups).

Education and health poverty rates were static or rose for those in the lowest wealth quintile between 2003 and 2007, for those in households with heads with ‘no education’ (for education poverty) and those in households with heads with ‘incomplete primary’ schooling (for health poverty).

Education and health poverty were also static or rising between 2003 and 2007 for those in households with heads in ‘self-employed agriculture’.

In sum, the overall trend is one of drastic declines in education and health poverty between 1991 and 2007. However, there is much slower poverty reduction or little/no declines for poverty in some groups between 2003 and 2007.

This is consistent with the thesis that there were time lagged or longer impacts of the AFC given that GDP per capita (PPP, constant 2005 international \$) rose from about \$2,900 to \$3,400 over the 2003–2007 period. And that this followed a period where GDP per capita took until 2003 to regain its 1997 level. This was also a period of substantial introduction and expansion of a range of social safety net policy instruments in Indonesia to mitigate the worst impacts of the AFC.

Table 2.2 Education and health poverty in Indonesia, 1991–1997, per cent poor of total

| Classification | Subgroup | EDUCATION POVERTY | | | | | HEALTH POVERTY | | | | |
|-------------------------------------|-------------------------------|-------------------|-------|-------|------|------|----------------|------|------|------|------|
| | | 1991 | 1994 | 1997 | 2003 | 2007 | 1991 | 1994 | 1997 | 2003 | 2007 |
| Population | Total | 21.9% | 17.9% | 15.0% | 9.5% | 8.3% | 3.0% | 2.6% | 1.9% | 1.5% | 1.5% |
| Type of place of residence | Urban | 3.7% | 2.9% | 2.2% | 2.7% | 2.0% | 0.7% | 0.5% | 0.4% | 0.6% | 0.5% |
| | Rural | 18.2% | 15.0% | 12.8% | 6.8% | 6.2% | 2.3% | 2.1% | 1.5% | 0.9% | 1.0% |
| Place of residence | Capital, large city | 1.2% | 0.7% | 0.5% | 1.8% | | 0.3% | 0.1% | 0.1% | 0.4% | |
| | Small city | 0.7% | 0.6% | 0.7% | 0.8% | | 0.1% | 0.2% | 0.2% | 0.2% | |
| | Town | 1.6% | 1.8% | 1.3% | 0.0% | | 0.3% | 0.3% | 0.2% | 0.0% | |
| | Countryside | 18.4% | 14.8% | 12.5% | 6.8% | | 2.4% | 2.1% | 1.5% | 0.9% | |
| DHS Wealth Index | Lowest | | | 6.0% | 4.4% | 4.1% | | | 0.6% | 0.4% | 0.4% |
| | Second | | | 3.9% | 2.4% | 2.1% | | | 0.4% | 0.3% | 0.4% |
| | Middle | | | 2.7% | 1.3% | 1.1% | | | 0.3% | 0.3% | 0.3% |
| | Fourth | | | 1.6% | 0.8% | 0.6% | | | 0.4% | 0.3% | 0.2% |
| | Highest | | | 0.7% | 0.5% | 0.3% | | | 0.2% | 0.1% | 0.2% |
| Education of household head | No education | 6.5% | 5.3% | 4.2% | 2.0% | 1.9% | 0.5% | 0.5% | 0.3% | 0.2% | 0.1% |
| | Incomplete primary | 10.1% | 8.4% | 6.5% | 4.4% | 3.7% | 1.2% | 1.0% | 0.6% | 0.4% | 0.4% |
| | Complete primary | 3.4% | 2.7% | 3.1% | 2.1% | 1.7% | 0.7% | 0.6% | 0.6% | 0.4% | 0.4% |
| | Incomplete secondary | 1.1% | 1.0% | 0.7% | 0.6% | 0.6% | 0.3% | 0.3% | 0.2% | 0.3% | 0.3% |
| | Complete secondary | 0.5% | 0.4% | 0.4% | 0.3% | 0.3% | 0.2% | 0.2% | 0.2% | 0.2% | 0.3% |
| | Higher | 0.2% | 0.1% | 0.1% | 0.2% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.1% |
| | Don't know | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Occupation of household head | Did not work | 7.0% | 7.6% | 6.8% | 3.6% | 2.6% | 1.1% | 1.1% | 1.1% | 0.7% | 0.5% |
| | Prof. / Tech. / Manag. | 0.2% | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| | Clerical | 0.1% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Sales | 1.8% | 1.3% | 1.3% | 1.0% | 0.7% | 0.3% | 0.3% | 0.1% | 0.2% | 0.2% |

| | | | | | | | | | | | |
|----------------------------|------------------------------------|-------|------|------|------|------|------|------|------|------|------|
| | Agriculture (self-employed) | 10.4% | 7.6% | 5.2% | 4.0% | 3.7% | 1.2% | 1.0% | 0.5% | 0.4% | 0.5% |
| | Services | 0.8% | 0.2% | 0.5% | 0.4% | 0.4% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| | Skilled Manual | 1.4% | 1.0% | 1.1% | 0.4% | 0.7% | 0.2% | 0.2% | 0.1% | 0.1% | 0.0% |
| | Unskilled Manual | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | DK | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Province | Bali | | 0.2% | 0.1% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | Bangka Belitung | | | | 0.1% | 0.1% | | | | 0.0% | 0.0% |
| | Banten | | | | 0.5% | 0.4% | | | | 0.1% | 0.0% |
| | Bengkulu | | 0.1% | 0.1% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | Central Sulawesi | | 0.1% | 0.1% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | Central Java | | 2.3% | 2.1% | 0.8% | 0.8% | | 0.3% | 0.2% | 0.2% | 0.1% |
| | Central Kalimantan | | 0.1% | 0.2% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | DI Aceh | | 0.3% | 0.3% | | 0.1% | | 0.0% | 0.0% | | 0.0% |
| | DI Yogyakarta | | 0.1% | 0.1% | 0.0% | 0.0% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | DKI Jakarta | | 0.4% | 0.3% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.1% |
| | East Java | | 2.9% | 2.1% | 1.5% | 1.4% | | 0.4% | 0.2% | 0.2% | 0.2% |
| | East Kalimantan | | 0.2% | 0.1% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | East Nusa Tenggara | | 0.5% | 0.5% | 0.4% | 0.5% | | 0.1% | 0.1% | 0.0% | 0.1% |
| | East Timor | | 0.2% | 0.2% | 0.0% | | | 0.0% | 0.0% | 0.0% | |
| | Gorontalo | | | | 0.1% | 0.1% | | | | 0.0% | 0.0% |
| | Irian Jaya | | 0.3% | 0.2% | | | | 0.0% | 0.0% | | |
| | Jambi | | 0.2% | 0.2% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| Kep Bangka Belitung | | | | | | 0.0% | | | | 0.0% | |

| | | | | | | | | | | | |
|--|---------------------------|--|------|------|------|------|--|------|------|------|------|
| | Lampung | | 0.7% | 0.5% | 0.3% | 0.2% | | 0.1% | 0.1% | 0.1% | 0.0% |
| | Maluku | | 0.2% | 0.1% | | 0.1% | | 0.0% | 0.0% | | 0.0% |
| | Maluku Utara | | | | | 0.0% | | | | | 0.0% |
| | North Sulawesi | | 0.3% | 0.2% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | North Sumatra | | 0.7% | 0.8% | 0.6% | 0.5% | | 0.2% | 0.1% | 0.1% | 0.1% |
| | Papua | | | | | 0.2% | | | | | 0.0% |
| | Papua Barat | | | | | 0.0% | | | | | 0.0% |
| | Riau | | 0.4% | 0.3% | 0.2% | 0.1% | | 0.1% | 0.0% | 0.0% | 0.0% |
| | South Kalimantan | | 0.2% | 0.2% | 0.3% | 0.2% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | South Sulawesi | | 1.0% | 0.7% | 0.6% | 0.5% | | 0.1% | 0.1% | 0.1% | 0.1% |
| | South Sumatra | | 0.6% | 0.5% | 0.3% | 0.3% | | 0.1% | 0.1% | 0.0% | 0.0% |
| | Southeast Sulawesi | | 0.1% | 0.1% | 0.1% | 0.1% | | 0.0% | 0.0% | 0.0% | 0.0% |
| | Sulawesi Barat | | | | | 0.1% | | | | | 0.0% |
| | West Java | | 4.0% | 3.5% | 1.9% | 0.9% | | 0.7% | 0.5% | 0.3% | 0.3% |
| | West Kalimantan | | 0.7% | 0.5% | 0.4% | 0.4% | | 0.1% | 0.0% | 0.0% | 0.0% |
| | West Nusa Tenggara | | 0.5% | 0.5% | 0.3% | 0.2% | | 0.1% | 0.1% | 0.1% | 0.1% |
| | West Sumatra | | 0.4% | 0.3% | 0.3% | 0.2% | | 0.1% | 0.1% | 0.0% | 0.0% |

Source: Data processed from DHS datasets.

Table 2.3 Education and health poverty in Indonesia, 1991–1997, per cent poor of subgroup

| Classification | Subgroup | EDUCATION POVERTY | | | | | HEALTH POVERTY | | | | |
|------------------------------|-------------------------------|-------------------|-------|-------|-------|-------|----------------|------|------|------|------|
| | | 1991 | 1994 | 1997 | 2003 | 2007 | 1991 | 1994 | 1997 | 2003 | 2007 |
| <i>Population</i> | Total | 21.9% | 17.9% | 15.0% | 9.5% | 8.3% | 3.0% | 2.6% | 1.9% | 1.5% | 1.5% |
| Type of place of residence | Urban | 11.5% | 8.8% | 7.1% | 5.5% | 4.6% | 2.2% | 1.6% | 1.4% | 1.2% | 1.1% |
| | Rural | 26.7% | 22.2% | 18.6% | 13.1% | 11.2% | 3.4% | 3.0% | 2.1% | 1.7% | 1.7% |
| Place of residence | Capital, large city | 8.4% | 7.0% | 5.5% | 5.8% | | 1.9% | 1.1% | 1.2% | 1.3% | |
| | Small city | 9.8% | 8.2% | 7.9% | 5.1% | | 1.6% | 2.2% | 2.1% | 1.1% | |
| | Town | 16.9% | 10.6% | 8.8% | 7.2% | | 2.9% | 1.6% | 1.2% | 0.0% | |
| | Countryside | 26.5% | 22.4% | 18.7% | 13.1% | | 3.3% | 3.0% | 2.1% | 1.7% | |
| DHS Wealth Index | Lowest | | | 31.5% | 22.3% | 22.2% | | | 3.0% | 1.8% | 2.1% |
| | Second | | | 20.6% | 11.9% | 10.9% | | | 2.0% | 1.6% | 1.9% |
| | Middle | | | 13.7% | 6.7% | 5.5% | | | 1.7% | 1.7% | 1.4% |
| | Fourth | | | 8.0% | 4.3% | 3.0% | | | 1.8% | 1.5% | .9% |
| | Highest | | | 3.5% | 2.3% | 1.3% | | | 1.0% | .7% | 1.1% |
| Education of household head | No education | 37.3% | 32.6% | 30.5% | 18.8% | 22.3% | 3.8% | 3.6% | 2.6% | 2.9% | 2.1% |
| | Incomplete primary | 31.1% | 27.1% | 23.2% | 18.5% | 15.6% | 3.7% | 3.1% | 2.4% | 1.8% | 2.0% |
| | Complete primary | 13.9% | 10.3% | 10.9% | 6.3% | 6.0% | 2.6% | 2.3% | 2.0% | 1.4% | 1.3% |
| | Incomplete secondary | 9.8% | 8.9% | 6.0% | 4.0% | 3.8% | 2.5% | 2.6% | 1.6% | 1.6% | 1.6% |
| | Complete secondary | 5.0% | 3.2% | 3.3% | 2.3% | 1.7% | 1.7% | 1.3% | 1.1% | .9% | 1.2% |
| | Higher | 5.4% | 2.4% | 1.8% | 3.0% | 1.1% | 1.4% | 1.6% | .7% | .6% | .9% |
| | Don't know | 44.1% | 0.0% | 0.0% | 12.8% | 1.1% | 24.3% | 0.0% | 0.0% | 3.7% | 0.0% |
| Occupation of household head | Did not work | 20.0% | 17.5% | 14.2% | 8.0% | 7.2% | 3.1% | 2.3% | 2.0% | 1.3% | 1.1% |
| | Prof. / Tech. / Manag. | 7.0% | 2.5% | 2.8% | 2.5% | 1.0% | 1.1% | .7% | .5% | 1.1% | 1.3% |
| | Clerical | 4.3% | 4.5% | 4.4% | .4% | .7% | 1.5% | 1.7% | .4% | .2% | .8% |
| | Sales | 13.4% | 9.7% | 10.0% | 6.4% | 4.2% | 2.4% | 2.0% | 1.2% | 1.3% | 1.4% |

| | | | | | | | | | | | | |
|----------------------------|------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|-------|------|
| | Agriculture (self-employed) | 30.3% | 25.1% | 22.3% | 14.9% | 14.3% | 3.4% | 3.4% | 2.4% | 1.6% | 1.9% | |
| | Services | 19.9% | 9.5% | 18.3% | 8.7% | 5.9% | 1.9% | .8% | 1.8% | 1.3% | 1.8% | |
| | Skilled Manual | 19.6% | 16.8% | 13.2% | 7.0% | 9.1% | 2.7% | 2.8% | 1.3% | 1.8% | .4% | |
| | Unskilled Manual | 17.9% | 14.1% | 7.6% | 9.5% | 0.0% | 5.5% | .3% | 0.0% | .3% | 1.3% | |
| | DK | 10.3% | 0.0% | 0.0% | 62.0% | 2.2% | 0.0% | 0.0% | 0.0% | 0.0% | 10.5% | |
| Province | Bali | | 13.4% | 9.6% | 5.9% | 3.7% | | 1.6% | 1.3% | .6% | .8% | |
| | Bangka Belitung | | | | 21.3% | 13.8% | | | | 1.3% | 1.5% | |
| | Banten | | | | 9.5% | 9.0% | | | | 1.4% | 1.2% | |
| | Bengkulu | | 18.0% | 15.7% | 9.7% | 8.3% | | 4.2% | 2.8% | 1.9% | 1.6% | |
| | Central Sulawesi | | 14.4% | 13.1% | 8.9% | 11.4% | | 4.1% | 3.5% | 2.7% | 1.1% | |
| | Central Java | | 15.3% | 13.6% | 5.7% | 5.3% | | 1.8% | 1.4% | 1.1% | .7% | |
| | Central Kalimantan | | 16.5% | 19.2% | 13.5% | 10.1% | | 1.6% | 1.9% | 1.7% | .9% | |
| | DI Aceh | | 15.7% | 14.5% | | 7.2% | | 1.9% | 1.9% | | 2.2% | |
| | DI Yogyakarta | | 7.6% | 4.7% | 2.4% | 2.8% | | .8% | .9% | .4% | .8% | |
| | DKI Jakarta | | 7.5% | 5.7% | 2.4% | 2.2% | | 1.1% | 1.1% | 1.4% | 1.2% | |
| | East Java | | 15.6% | 12.2% | 9.1% | 8.8% | | 2.0% | 1.2% | 1.4% | 1.2% | |
| | East Kalimantan | | 13.4% | 10.9% | 7.8% | 9.2% | | 2.3% | 2.0% | 1.5% | 1.4% | |
| | East Nusa Tenggara | | 26.2% | 25.1% | 22.0% | 22.3% | | 3.4% | 3.1% | 2.3% | 2.5% | |
| | East Timor | | 46.9% | 42.0% | | | | 3.0% | 1.6% | | | |
| | Gorontalo | | | | 26.0% | 19.9% | | | | | 3.7% | 2.8% |
| | Irian Jaya | | 34.1% | 26.3% | | | | 3.0% | 2.5% | | | |
| | Jambi | | 19.5% | 15.1% | 8.6% | 10.9% | | 3.0% | 1.8% | 1.7% | 1.6% | |
| Kep Bangka Belitung | | | | | | 9.0% | | | | | 1.5% | |

| | | | | | | | | | | | |
|--|---------------------------|--|-------|-------|-------|-------|--|------|------|------|------|
| | Lampung | | 23.6% | 15.9% | 8.1% | 6.5% | | 1.9% | 2.1% | 1.5% | 1.0% |
| | Maluku | | 17.4% | 14.2% | | 10.9% | | 2.9% | 1.7% | | 2.9% |
| | Maluku Utara | | | | | 8.7% | | | | | 2.4% |
| | North Sulawesi | | 22.9% | 20.3% | 13.1% | 9.9% | | 3.0% | 2.4% | 1.5% | 1.5% |
| | North Sumatra | | 12.4% | 12.8% | 7.3% | 8.6% | | 2.9% | 2.0% | 1.3% | 2.1% |
| | Papua | | | | | 27.0% | | | | | 1.9% |
| | Papua Barat | | | | | 13.2% | | | | | 2.4% |
| | Riau | | 21.0% | 19.0% | 8.3% | 6.3% | | 3.2% | 2.3% | 1.5% | 1.0% |
| | South Kalimantan | | 15.3% | 15.8% | 17.4% | 11.0% | | 2.2% | 2.5% | 1.4% | 2.7% |
| | South Sulawesi | | 23.3% | 18.0% | 13.7% | 14.2% | | 2.9% | 2.1% | 2.1% | 1.6% |
| | South Sumatra | | 19.7% | 13.9% | 11.6% | 10.4% | | 3.1% | 1.5% | 1.2% | 1.3% |
| | Southeast Sulawesi | | 14.9% | 12.7% | 14.9% | 11.3% | | 3.0% | 1.9% | 2.6% | 1.6% |
| | Sulawesi Barat | | | | | 15.5% | | | | | 3.1% |
| | West Java | | 20.6% | 17.5% | 9.6% | 5.4% | | 3.5% | 2.7% | 1.5% | 1.8% |
| | West Kalimantan | | 33.7% | 23.8% | 20.5% | 16.9% | | 4.3% | 2.5% | 1.4% | 1.3% |
| | West Nusa Tenggara | | 26.5% | 27.6% | 17.0% | 8.1% | | 4.5% | 2.8% | 2.8% | 3.6% |
| | West Sumatra | | 16.4% | 13.7% | 10.4% | 12.6% | | 3.5% | 2.7% | 1.8% | 1.6% |

Source: Data processed from DHS datasets.

3. The evolving composition of education and health poverty in Indonesia, 1991–2007

In some ways there have been significant changes in the composition of education and health poverty in Indonesia between 1991 and 2007 (see Table 3.1).

Several points are worth noting:

First, poverty – by the measures of education and health used here – has become more urbanised. The urban proportion of total poverty rose from around 17–20 per cent of total poverty in Indonesia in 1991 to 25–30 per cent in 2007. That said, the rural proportion of poverty still represents two-thirds to three-quarters of all poverty (by the measures used here). In short, poverty as measured by these indicators has become more urban in nature over time.

Underlying this shift is an apparent large increase in the proportion of total poverty in ‘the capital and large cities’ category – the data suggests that in 2003 this had risen to between a quarter and a fifth of all poverty. The large rise in the data over a short period of time suggests some caution and need for further probing.

Second, in terms of the poorest people there are several points to note: in terms of education poverty, there is a large rise in the proportion of poverty in the poorest wealth quintile (by the DHS Wealth Index), although this is not the case in terms of health poverty.

Further, the proportion of poverty among those in households with a head with ‘no education’ or ‘incomplete primary’ education remains at about three-quarters of all education poverty, and this has not changed much between 1991 and 2007. However, in terms of health poverty, the proportion of poverty at the lower end of education attainment has declined substantially, and it is among those in households with heads with ‘incomplete’ or ‘complete secondary’ education that have substantially increased as a share of total poverty.

The proportion of total poverty among those in households with a head in self-employed agriculture has remained about the same over the period 1991–2007, in terms of both education and health poverty. However, this masks that the share of total poverty in those living in a household with a head in self-employed agriculture declined drastically between 1991 and 1997, and then the trend wholly reversed between 1997 and 2007.

Interestingly, the distribution of poverty in Indonesia across provinces has not changed much between 1994 and 2007 (there is no data for 1991), other than a large fall in the proportion of Indonesian poverty in West Java (which fell from 23 per cent to 11 per cent of total education poverty and 26 per cent to 20 per cent of total health poverty). There was also a 2–3 per cent fall in Indonesian poverty in Central Java. The resultant redistribution of poverty in Indonesia is widely spread with small rises across a number of provinces and the only significant rise (a rise in the order of 2–3% of Indonesia poverty) is evident in East Nusa Tenggara.

A discussion of how the composition of poverty is changing among different types of groups has two issues – one is how the size of the subgroup is changing, and the other is how poverty is changing amongst that group. But the first issue is only included above where it is inherent in definition (e.g. the bottom quintile) or mentioned in the earlier discussion in passing (increased share of urban population). As noted above, it is intended that how groups with household heads with no education (or other covariates) vary as a share of population would be pursued as a future paper to bring greater insight into the findings above.

Table 3.1 Education and health poverty in Indonesia, 1991–1997, per cent poor of all poor

| Classification | Subgroup | EDUCATION POVERTY | | | | | HEALTH POVERTY | | | | |
|------------------------------------|----------------------------|-------------------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|
| | | 1991 | 1994 | 1997 | 2003 | 2007 | 1991 | 1994 | 1997 | 2003 | 2007 |
| <i>Population</i> | Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Type of place of residence | Urban | 16.7% | 16.1% | 14.6% | 28.1% | 24.6% | 22.4% | 18.4% | 21.0% | 38.1% | 32.1% |
| | Rural | 83.3% | 83.9% | 85.4% | 71.9% | 75.4% | 77.6% | 81.6% | 79.0% | 61.9% | 67.9% |
| Place of residence | Capital, large city | 5.3% | 3.8% | 3.2% | 19.3% | | 8.4% | 3.8% | 5.1% | 26.1% | |
| | Small city | 3.2% | 3.4% | 4.8% | 8.8% | | 3.7% | 5.9% | 9.1% | 12.0% | |
| | Town | 7.4% | 9.8% | 8.8% | .0% | | 9.3% | 9.7% | 8.9% | 0.0% | |
| | Countryside | 84.1% | 83.0% | 83.2% | 71.9% | | 78.6% | 80.5% | 76.9% | 61.9% | |
| DHS Wealth Index | Lowest | | | 39.8% | 46.5% | 50.1% | | | 31.4% | 25.8% | 28.0% |
| | Second | | | 26.0% | 25.7% | 25.7% | | | 21.5% | 21.5% | 25.4% |
| | Middle | | | 18.3% | 14.2% | 13.5% | | | 17.9% | 22.9% | 19.6% |
| | Fourth | | | 11.0% | 8.6% | 7.3% | | | 18.9% | 20.7% | 12.2% |
| | Highest | | | 4.9% | 5.0% | 3.4% | | | 10.3% | 9.0% | 14.9% |
| Education of household head | No education | 29.8% | 29.8% | 27.7% | 20.8% | 22.9% | 18.1% | 17.9% | 13.7% | 15.5% | 8.8% |
| | Incomplete primary | 46.1% | 47.0% | 43.2% | 46.5% | 44.4% | 41.3% | 37.9% | 33.4% | 24.9% | 25.2% |
| | Complete primary | 15.6% | 14.9% | 20.8% | 21.7% | 21.1% | 22.8% | 23.2% | 31.2% | 29.0% | 26.1% |

| | | | | | | | | | | | |
|-------------------------------------|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Incomplete secondary | 5.2% | 5.8% | 4.9% | 5.9% | 7.2% | 9.6% | 12.1% | 11.3% | 17.5% | 18.2% |
| | Complete secondary | 2.4% | 2.0% | 2.8% | 3.3% | 3.4% | 6.3% | 6.2% | 8.7% | 10.4% | 17.0% |
| | Higher | .9% | .6% | .5% | 1.7% | 1.0% | 1.7% | 2.7% | 1.7% | 2.6% | 4.7% |
| | Don't know | .1% | 0.0% | 0.0% | .0% | .0% | .3% | 0.0% | 0.0% | .0% | 0.0% |
| Occupation of household head | Did not work | 32.1% | 42.5% | 45.0% | 37.6% | 31.8% | 36.8% | 41.0% | 56.0% | 45.6% | 33.6% |
| | Prof. / Tech. / Manag. | .9% | .4% | .5% | .8% | .5% | 1.2% | 1.0% | .9% | 2.7% | 3.8% |
| | Clerical | .4% | .4% | .5% | .1% | .1% | 1.1% | 1.0% | .4% | .2% | 1.0% |
| | Sales | 8.2% | 7.4% | 8.9% | 10.5% | 8.9% | 10.2% | 9.9% | 7.5% | 12.4% | 16.6% |
| | Agriculture (self-employed) | 47.7% | 42.4% | 34.4% | 42.0% | 45.1% | 39.2% | 39.4% | 27.3% | 28.0% | 33.5% |
| | Services | 3.5% | 1.1% | 3.6% | 3.7% | 5.2% | 2.8% | .5% | 2.3% | 3.0% | 8.2% |
| | Skilled Manual | 6.4% | 5.7% | 7.0% | 4.5% | 8.2% | 7.3% | 7.1% | 5.6% | 7.9% | 2.2% |
| | Unskilled Manual | .7% | .1% | .0% | .5% | 0.0% | 1.4% | .0% | 0.0% | .1% | .1% |
| | DK | .0% | 0.0% | 0.0% | .4% | .0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% |
| Province | Bali | | 1.2% | .9% | .8% | .7% | | .9% | 1.0% | .6% | .9% |
| | Bangka Belitung | | | | 1.2% | 1.0% | | | | .4% | .6% |
| | Banten | | | | 4.9% | 4.7% | | | | 4.7% | 3.2% |
| | Bengkulu | | .7% | .8% | .6% | .7% | | 1.2% | 1.1% | .7% | .7% |
| | Central Sulawesi | | .7% | .9% | 1.1% | 1.6% | | 1.5% | 1.8% | 2.1% | .9% |
| | Central Java | | 12.6% | 14.3% | 8.3% | 10.1% | | 11.0% | 11.2% | 10.7% | 8.0% |
| | Central Kalimantan | | .8% | 1.1% | 1.3% | 1.1% | | .5% | .9% | 1.1% | .5% |
| | DI Aceh | | 1.8% | 2.1% | 0.0% | 1.5% | | 1.5% | 2.1% | 0.0% | 2.5% |

| | | | | | | | | | | |
|----------------------------|--|-------|-------|-------|-------|--|-------|-------|-------|-------|
| DI Yogyakarta | | .7% | .5% | .3% | .5% | | .5% | .7% | .3% | .9% |
| DKI Jakarta | | 2.0% | 1.7% | .9% | 1.3% | | 1.9% | 2.2% | 3.2% | 3.5% |
| East Java | | 16.3% | 13.9% | 15.8% | 16.4% | | 14.0% | 10.7% | 15.6% | 13.2% |
| East Kalimantan | | .9% | .9% | 1.3% | 1.5% | | 1.0% | 1.3% | 1.5% | 1.4% |
| East Nusa Tenggara | | 2.7% | 3.3% | 4.4% | 5.9% | | 2.4% | 3.2% | 3.0% | 3.9% |
| East Timor | | 1.2% | 1.3% | 0.0% | | | .6% | .4% | 0.0% | |
| Gorontalo | | | | 1.4% | 1.2% | | | | 1.2% | .9% |
| Irian Jaya | | 1.7% | 1.6% | 0.0% | | | 1.1% | 1.2% | 0.0% | |
| Jambi | | 1.2% | 1.5% | 1.1% | 1.4% | | 1.3% | 1.3% | 1.4% | 1.1% |
| Kep Bangka Belitung | | | | | .5% | | | | | .4% |
| Lampung | | 4.2% | 3.5% | 3.0% | 2.5% | | 2.3% | 3.7% | 3.5% | 2.2% |
| Maluku | | 1.0% | 1.0% | 0.0% | .9% | | 1.1% | .9% | 0.0% | 1.3% |
| Maluku Utara | | | | | .5% | | | | | .7% |
| North Sulawesi | | 1.6% | 1.5% | 1.3% | 1.4% | | 1.4% | 1.5% | 1.0% | 1.2% |
| North Sumatra | | 4.0% | 5.1% | 6.2% | 5.6% | | 6.7% | 6.7% | 7.0% | 7.8% |
| Papua | | | | | 2.6% | | | | | 1.0% |
| Papua Barat | | | | | .5% | | | | | .4% |
| Riau | | 2.4% | 2.3% | 2.0% | 1.2% | | 2.5% | 2.2% | 2.3% | 1.1% |
| South Kalimantan | | 1.3% | 1.5% | 2.9% | 2.1% | | 1.2% | 1.8% | 1.5% | 2.9% |
| South Sulawesi | | 5.5% | 4.9% | 6.6% | 6.4% | | 4.7% | 4.4% | 5.7% | 4.1% |
| South Sumatra | | 3.6% | 3.1% | 3.3% | 3.8% | | 3.9% | 2.7% | 2.1% | 2.6% |

| | | | | | | | | | | | |
|--|---------------------------|--|-------|-------|-------|-------|--|-------|-------|-------|-------|
| | Southeast Sulawesi | | .6% | .6% | 1.3% | 1.3% | | .9% | .7% | 1.4% | 1.0% |
| | Sulawesi Barat | | | | | .9% | | | | | 1.0% |
| | West Java | | 22.6% | 23.2% | 19.8% | 10.8% | | 26.4% | 27.9% | 20.2% | 20.4% |
| | West Kalimantan | | 3.8% | 3.0% | 3.8% | 4.4% | | 3.3% | 2.5% | 1.7% | 1.8% |
| | West Nusa Tenggara | | 2.8% | 3.6% | 3.5% | 2.0% | | 3.4% | 2.9% | 3.8% | 5.2% |
| | West Sumatra | | 2.0% | 1.9% | 2.9% | 3.0% | | 2.9% | 3.0% | 3.3% | 2.2% |

Source: Data processed from DHS datasets.

4. Conclusions

This paper has discussed the evolution of poverty – in terms of primary education and infant mortality – using the case of Indonesia. New, long-run estimates of the evolution of primary education and infant mortality have been made.

The review of empirical research on long-run poverty suggested four trends in poverty in Indonesia that are consistent with the new data estimates presented: (i) absolute poverty declined in Indonesia during the 1990s up to the AFC (the DHS data presented for 1991–1997 is consistent with this); (ii) however, poverty was still significant even before the 1997–99 financial crisis (the DHS data presented is also consistent with this); (iii) poverty reduction reversed and welfare improvements slowed after the onset of the AFC (the DHS data presented for 1997, 2003 and 2007 supports this assertion); (iv) child mortality declined during the 1990s (the DHS data present for 1991–1997 corroborates this).

Further, the changes in the overall incidence of education and health poverty as a proportion of the population, the absolute numbers of people, and the incidence of education and health poverty in subgroups, have led in some ways to drastic changes in the composition of poverty but in others to very little change over the two decades. Most notably, the composition of poverty after two decades of growth is different in terms of being more urbanised, with a much larger proportion of total poverty occurring in the capital and large cities. In addition, there has been a large rise in the proportion of all poverty in the poorest quintile of the population (by the DHS Wealth Index quintiles), at least in terms of education poverty.

The composition of education poverty remains largely unchanged over two decades, in another sense – that three-quarters of education poverty is accounted for by those living in households with a head with ‘no education’ or ‘incomplete primary education’. However, in terms of health poverty, it is those in households with a head with ‘incomplete’ or ‘complete secondary’ education that have substantially increased as a share of poverty.

Another aspect that has changed little over the past two decades is the proportion of poverty accounted for by those living in a household whose head works in self-employed agriculture – although underlying this is an initially declining share of poverty between 1991 and 1997, which was wholly reversed between 1997 and 2007 among those living in such households.

Finally, perhaps surprisingly, the distribution of education and health poverty in Indonesia across provinces has not changed much, other than a large fall in the proportion of Indonesian poverty in West Java and Central Java, and a related increase in the proportion of poverty spread over a number of provinces.

The study of education and health poverty in Indonesia, as a middle-income country, can provide insights into the evolution of poverty by education and health during economic development in newly middle-income countries. The Indonesian case suggests that poverty – by the measures used in this paper – may urbanise but remains largely rural in nature, and may increasingly be concentrated in the poorest wealth quintile over time. However, at the same time poverty remains concentrated among those in households with heads with no or incomplete primary education and in households with heads not in work or self-employed in agriculture.

Annex 1: Methodological Annex

The DHS is a standardised, nationally representative household survey conducted mainly in countries that receive aid from USAID (plus some beneficiaries of the World Bank and UNDP). DHS is mainly directed at women aged 15–49 but can generate most data for all household members. A limitation of the computations is that not every variable used is available for all households. The assessments of poverty incidence are based on subsamples which are still assumed to be representative (for case processing summaries see below).

Indicators are constructed at a household level as this is the unit DHS is randomised over. These indicators are calculated from a subsample in each household (e.g. under-5-year-olds) and the extent of deprivation is then taken as an indicator for the poverty incidence of the complete household:

- Education poverty – the proportion of youth aged 15–24 that have not completed primary school, as a percentage of all children aged 15–24 [all households with children aged 15–24].
- Health poverty – the proportion of children that died below the age of five (within the past five years), as a percentage of all children born within the last ten years [all households with children born within the last ten years to interviewed women 15–49].

The estimates are produced as follows: first, an assessment of deprivations at the household level is made. The estimates generated are all population-based. Household data is used, then weights are applied according to household size. The indicators do not purely assess deprivation in a dichotomous way but consider intensity (e.g. ‘one out of three children aged 15–24 did not complete primary education’ means 33.3% deprivation in the case, not automatically full deprivation).

Missing values and reweighting: in the computations, cases with missing values have been excluded pairwise. To compensate for the excluded cases the remaining cases were reweighed. Weights of excluded cases were redistributed equally in two steps: first, to remaining cases in the same sampling unit (either single-stage or multi-stage, depending on DHS survey design); and second, to remaining cases in the same region/state. Any weights of excluded cases not redistributed in this process were dismissed. There was a limitation in the reweighting of remaining cases to 200 per cent of their original weight.

The following covariates are standardised in the DHS, with some minor alterations across countries, and available, with a few exceptions, for all countries:

- Type of place of residence: urban, rural [all households;] *The DHS defines urban areas as large cities (capital cities and cities with over 1 million population), small cities (population over 50,000), and towns (other urban areas), and all rural areas are assumed to be countryside* (see DHS Recode Manual, p13).
- Proximity: large city, small city, town, countryside [all households];
- Wealth: division into DHS Wealth Index quintiles [all households]; *The DHS Wealth Index is standardised across countries with minor specifications* (for details, see Rutstein and Johnson 2004).
- Education of household head: no education, incomplete primary, complete primary, incomplete secondary, complete secondary, higher [all households].

- Occupation of household head: Did not work, Prof. / Tech. / Manag., Clerical Sales, Agriculture (self-employed), Services, Skilled Manual, Unskilled Manual, DK (don't know) [all households with interviewed women aged 15–49].

Presentation of national and subnational poverty incidences: the poverty incidences are presented in three different formats:

- % poor of subgroup: proportion of poor in subgroup as percentage of all in subgroup;
- % poor of all poor: proportion of poor in subgroup as percentage of poor of total population;
- % poor of total: proportion of poor in subgroup as percentage of total population.

The assessment of poverty incidence varies from official DHS estimates as follows: first, in addition to the weights provided and applied by the DHS, household size is incorporated as a second weight. For the health indicator it is necessary to use a method similar to computing under-5 mortality rates. However, the denominator is only half of the one used in the DHS method, as the estimates here focus on actual death occurrences, not on estimates of mortality rates. In addition, the DHS averages over rates in different age groups, which leads to an incorporation of deaths before the analysed timeframe, when mortality rates have usually been higher. This has the consequence that the health poverty incidences are usually less than half the mortality rates provided by the DHS.

Correlations were prepared for education and health poverty and three covariates – residence, wealth quintile and education of household head (see Table A4). The estimates are what one would expect (though some are very weak), for education at least: education poverty has a positive correlation with place of residence and a negative correlation with wealth quintile and education of household head. Education poverty is as strongly correlated to wealth as it is to the education of the household head (not surprisingly). However, health poverty has weaker correlations to place of residence, wealth quintile and household head. One should note that the usual caveats apply: correlation does not imply causality and the different correlations are simple bivariate and covariances between different covariates are highly likely. For example, household wealth depends on educational attainment of household head and both may well depend on location/residence (access to schooling and economic opportunities). Regression analysis could be undertaken in future work to control for covariance.

Table A1 Indonesia, DHS, valid cases, 1991, 1994, 1997, 2003, 2007

| | 1991 | | 1994 | | 1997 | | 2003 | | 2007 | |
|--|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| | N | % | N | % | N | % | N | % | N | % |
| Education poverty * Type of place of residence | 13,403 | 49.9% | 16,133 | 47.8% | 16,090 | 47.0% | 15,613 | 47.2% | 18,023 | 44.3% |
| Education poverty * Place of residence | 13,403 | 49.9% | 16,133 | 47.8% | 16,090 | 47.0% | 15,613 | 47.2% | | |
| Education poverty * Region | 13,403 | 49.9% | 16,133 | 47.8% | 16,090 | 47.0% | 15,613 | 47.2% | 18,023 | 44.3% |
| Education poverty * Wealth quintile | n.a. | n.a | n.a. | n.a | 16,090 | 47.0% | 15,613 | 47.2% | 18,023 | 44.3% |
| Education poverty * Occupation of household head | 9,470 | 35.3% | 11,127 | 33.0% | 11,511 | 33.6% | 11,336 | 34.3% | 11,986 | 29.4% |
| Education poverty * Education of household head | 13,373 | 49.8% | 16,119 | 47.8% | 16,090 | 47.0% | 15,589 | 47.1% | 17,991 | 44.2% |
| Education poverty * Education of household head (Correlates) | 13,367 | 49.8% | 16,116 | 47.8% | 16,089 | 47.0% | 15,586 | 47.1% | 17,979 | 44.2% |
| Health poverty * Type of place of residence | 16,240 | 60.5% | 19,506 | 57.8% | 19,654 | 57.4% | 19,214 | 58.1% | 22,074 | 54.2% |
| Health poverty * Place of residence | 16,240 | 60.5% | 19,506 | 57.8% | 19,654 | 57.4% | 19,214 | 58.1% | | |
| Health poverty * Region | 16,240 | 60.5% | 19,506 | 57.8% | 19,654 | 57.4% | 19,214 | 58.1% | 22,074 | 54.2% |
| Health poverty * Wealth quintile | | | | | 19,654 | 57.4% | 19,214 | 58.1% | 22,074 | 54.2% |
| Health poverty * Occupation of household head | 14,729 | 54.8% | 17,790 | 52.7% | 17,985 | 52.5% | 17,052 | 51.5% | 19,485 | 47.9% |
| Health poverty * Education of household head | 16,218 | 60.4% | 19,491 | 57.8% | 19,654 | 57.4% | 19,202 | 58.0% | 22,053 | 54.2% |
| Health poverty * Education of household head (Correlates) | 16,212 | 60.4% | 19,487 | 57.8% | 19,653 | 57.4% | 19,199 | 58.0% | 22,044 | 54.2% |

Note: N = household; health estimates are only assessed if a child was born into the household within the last five years and education estimate requires that at least one 15–24-year-old child lives in the household; coverage for correlates differs in covariate 'Education of household head' as 'Don't know' answers are excluded.

Table A2 Descriptive statistics

| | 1991 | | 1994 | | 1997 | | 2003 | | 2007 | |
|-------------------|---------|-----------|---------|-----------|---------|-----------|--------|-----------|--------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Education poverty | 21.8571 | 38.46363 | 17.8618 | 35.77856 | 15.0416 | 33.57517 | 9.4708 | 26.93830 | 8.2547 | 25.50058 |
| Health poverty | 3.0081 | 12.61840 | 2.5807 | 11.99410 | 1.9137 | 10.54923 | 1.4885 | 9.18519 | 1.4752 | 9.54156 |

Table A3 Significance tests

| Survey years | 1991-1994 | 1994-1997 | 1997-2003 | 2003-2007 | 1997-2003* |
|-------------------|-----------|-----------|-----------|-----------|------------|
| Education poverty | .000 | .000 | .000 | .000 | n.a. |
| Health poverty | .000 | .000 | .000 | .345 | .000 |

Source: DHS datasets. Notes: Non-parametric tests for Independent samples, Mann-Whitney U test. Significance level .05; * = due to retained null hypothesis

Table A4 Correlates of education and health poverty in Indonesia, 1991–1997

| Covariate | Correlation | Education | | | | | Health | | | | |
|-----------------------------|---------------------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | 1991 | 1994 | 1997 | 2003 | 2007 | 1991 | 1994 | 1997 | 2003 | 2007 |
| Place of residence | Pearson Correlation | .185** | .165** | .145** | .135** | | .045** | .052** | .024** | .027** | |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.000 | 0.000 | | .000 | .000 | .000 | .000 | |
| | N | 13,403 | 16,133 | 16,090 | 15,613 | 0 | 16,240 | 19,506 | 19,654 | 19,214 | 0 |
| DHS Wealth Index (quintile) | Pearson Correlation | | | -.288** | -.249** | -.270** | | | -.055** | -.038** | -.044** |
| | Sig. (2-tailed) | | | 0.000 | 0.000 | 0.000 | | | .000 | .000 | .000 |
| | N | 0 | 0 | 16,090 | 15,613 | 18,023 | 0 | 0 | 19,654 | 19,214 | 22,074 |
| Education of household head | Pearson Correlation | -.290** | -.284** | -.270** | -.217** | -.237** | -.059** | -.054** | -.051** | -.051** | -.031** |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | .000 | .000 | .000 | .000 | .000 |
| | N | 13,367 | 16,116 | 16,089 | 15,586 | 17,979 | 16,212 | 19,487 | 19,653 | 19,199 | 22,044 |

Note: N = household; ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed). Coding: Poverty in education or health measures deprivation as 0–100%; Place of residence: 0 – Capital/large city, 1 – Small city, 2 – Town, 3 – Countryside; Wealth: 1 - Poorest quintile to 5 – Richest quintile; Education of household head: 7 – Higher, 6 – Completed secondary to 0 – No education.

Annex 2: Selected studies of poverty and inequality in Indonesia since the Asian Financial Crisis

Table A5 List of studies of poverty and inequality in Indonesia published since the Asian Financial Crisis

| Full Reference | Years covered | Dataset | Poverty/ Inequality Indicator | Methodology | Main findings | Limitations recognised by authors |
|---|---------------|--|-------------------------------|---|--|--|
| Akita, T. (2002). Regional Income Inequality in Indonesia and the Initial Impact of the Economic Crisis. Bulletin of Indonesian Economic Studies 38(2), 201-222 | 1993-1997 | District-level GDP data from the BPS series Gross Regional Domestic Product of Regencies/Municipalities in Indonesia (BPS 1997b, 1998a, 2000a) Non-oil and gas GDP data from BPS's Gross Regional Domestic Product of Provinces in Indonesia by Industrial Origin (BPS 2000b)(p.203) | Inequality: Theil index | Estimates regional income inequality using a Theil index based upon district-level GDP and population data. Utilises two-stage nested inequality decomposition method (p.201) | Overall regional inequality increased significantly. Between-region inequality increased only slightly, and between-region inequality was very stable. Within-province inequality placed an increasingly important role: accounting for half of overall regional inequality in 1997. Impact of economic crises borne disproportionately by Java-Bali's major urban areas (p.216) | |
| Akita, T. (2003). Decomposing regional income inequality in China and Indonesia using two-stage nested Theil decomposition method. The Annals of Regional | 1993-1997 | Central Bureau of Statistics Gross Regional Domestic Produce of Regencies/Municipalities in Indonesia, 1998; Gross Regional Domestic Product of Provinces in Indonesia, various years (p.62) | Inequality: Theil index | Presentation of an inequality decomposition method: the two stage nested Theil decomposition method (an extension of the one-stage method), and decomposes overall | Very high levels of regional inequality in Indonesia. Within-province inequality accounts for about half of overall regional inequality in Indonesia: much more prominent than between-region and between-province inequalities. Suggests the importance of taking within- | Cannot solve intrinsic problem that measure of regional inequality based on per capita GDP fails to explain dispersion of incomes within the underlying regional unit (p.72) |

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|---|-----------|---|---|---|--|---|
| Science 37(1), 55-77. | | | | inequality into between region, between province and within province inequality. Applies method to China and Indonesia (p.56) | province inequalities into account (p.72) | |
| Akita, T., & Miyata, S. (2008). Urbanization, educational expansion, and expenditure inequality in Indonesia in 1996, 1999, and 2002. Journal of the Asia Pacific Economy 13(2) | 1996-2002 | BPS Susenas Consumption module 1996, 1999 & 2002 (p.153) | Inequality: Theil index | Analyses inequality changes associated with urbanisation and educational expansion. Introduces a hierarchical framework of inequality decomposition by population subgroups based on Akita's two stage nested inequality decomposition method (p.149) | Urban sector's higher educational group contributed significantly to overall inequality. Within-group inequality increased significantly post financial crisis, leading to a rise in urban inequality (163). Positive economic growth in aftermath of crisis appears to have widened inequality among urban households whose heads attained a tertiary education - leading to increased urban inequality overall (p.164) | |
| Akita, T., Kurniawan, P. A. and Miyata, S. (2011), Structural Changes and Regional Income Inequality in Indonesia: A Bidimensional Decomposition Analysis. Asian | 1983-2004 | Central Bureau of Statistics, Gross Regional Domestic Product of Provinces in Indonesia by Industrial Origin , various years (p.63) | Interprovincial inequality measure (p.64) | Utilises bidimensional decomposition method of a population-weighted coefficient of variation to analyse the changes in determinants of interprovincial income inequality associated with national | With mining included, overall inequality showed a declining trend. With it excluded, overall inequality was reduced substantially. Significant differences between regions. Disparity between Jakarta and West Java responsible for more than half of overall inequality. Suggests 3 major factors of interprovincial | 1) Bidimensional decomposition method is descriptive and static. 2) Does not examine how the regional income distributions of different industrial sectors are related. 3) Sum of weights used in the within-region |

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|--|------------|---|---|--|--|--|
| Economic Journal, 25: 55–77 | | | | structural changes (p.55). Decomposes interprovincial inequality by regional groups and GRP components simultaneously in a unified framework, using the bidimensional decomposition method of the squared WCV (p.59). | inequality: 1) uneven distribution of immobile natural resources across provinces; 2) economic primacy of Jakarta; 3) spatial distribution of resource-oriented manufacturing industries (pp. 73-75). | inequality component is greater than or equal to unity - meaning that the contribution of within-region inequality component to overall inequality is overestimated (pp.75-76) |
| Alisjahbana, A., & Yusuf, A. A. (2003). Poverty Dynamics in Indonesia: Panel Data Evidence. Working Paper in Economics and Development Studies. Padjadjaran University: Department of Economics. | 1993, 1997 | Indonesia Family Life Survey (IFLS) 1993, 1997. | BPS national poverty line at province level, for urban and rural (p.3). | Utilises panel data to assess chronic and transient poverty - attempting to fill research gap left by SMERU use of cross-sectional data. Uses multinomial logit model to analyse factors determining poverty status of households (p.2). | Chronic and transient poverty higher in rural areas. Overall, chronic poverty incidence lower than transient poverty (p.6) Multinomial Logit model shows 'good' ability to predict poverty status of households (p.8). Education level, number of household members, presence of young and old and lack of assets = main determinants of chronic and transient poverty (p.9) | Results v. preliminary - further disaggregation of variables required (p.11). |
| Alkire, S., & Foster, J. (2011). Counting and multidimensional poverty measurement. Journal of Public Economics 95(7-8). 476-487. | 2000 | Rand Corporation's 2000 Indonesian family Life Survey (p.484) | Multidimensional poverty indicator. If a person 1) lives in a household with expenditure below 150,000 rupiah, 2) has | Proposes a new methodology for multidimensional poverty measurement, consisting of an identification method ρ_k that extends the traditional intersection | Analyses multidimensional poverty in Indonesia using new methodology. Demonstrates that new methodology satisfies a range of desirable properties including population decomposability, and exhibits a useful breakdown by | 1) Identification method sensitive to some changes but insensitive to others. 2) Insensitivity meaning that a poor person can never rise out of poverty by increasing the level of |

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|--|-----------|---|---|--|---|-------------------------------------|
| | | | a BMI of less than 18.5kg/m ² or 3) has fewer than 6 years of schooling - they are deprived in that dimension (p.484). | and union approaches, and a class of poverty measures Mα. Illustrated by examples from Indonesia (p.476) | dimension (p.485). | a non-deprived achievement. (p.485) |
| Armida S. Alisjahbana & Chris Manning (2006): Labour market dimensions of poverty in Indonesia, Bulletin of Indonesian Economic Studies, 42:2, 235-261 | 1996-2000 | BPS Susenas 1996, 2002. Sakernas (National Labour Force Surveys), various years (p.236) | BPS national poverty line for urban and rural areas by province, based on 2002 Susenas (18%) (p.236) | Examination of the labour force characteristics of the poor, the near-poor and the non-poor, distinguished according to levels of consumption in relation to the official national poverty line (p.236). | Non/low participation in the workforce is a less important correlate of poverty status than sector of employment, work status and associated earnings (less true for household head). Intensity of work (proxied by underemployment) more directly related to poverty than participation rates/unemployment - differing from several other developing countries. Poor more likely to work in agriculture and informal sector. Unemployed/underemployed young people more heavily concentrated in poor households (pp.257-258) | |

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|---|------------------|---|--|--|---|---|
| <p>Asra, A., 2000. 'Poverty and inequality in Indonesia: estimates, decomposition and key issues', Journal of the Asia Pacific Economy, 51(1-2):91-111.</p> | <p>1976-1996</p> | <p>BPS Susenas, 1984-1997(p.94)</p> | <p>Gini; National basic needs poverty line (p.93).</p> | <p>Discussion of the poverty level and urban-rural poverty comparison to assess decline in official poverty and inequality estimates. Also, consideration of the usual expenditure inequality, providing estimates of income inequality, addressing issues concerning the group price-specific index and different ways of looking at changes in inequality (p.91)</p> | <p>Indonesia experienced a significant increase in real average consumption, a consistent decline in poverty incidence and a relatively insignificant change in inequality of consumption. Reduction of rural poverty and economic growth have been the most significant components of poverty reduction. However, official poverty lines may have been too low, leading to an overestimation of the rate of poverty decline (p.105).</p> | |
| <p>Baliscan, A. M., Pernia, E. M. & Asra, A. (2010). Revisiting growth and poverty reduction in Indonesia: what do subnational data show? Bulletin of Indonesian Economic Studies 39(3)</p> | <p>1993-1999</p> | <p>BPS Susenas Core and Consumption Module, 1993-1999 (p.332). BPS Podes, 1993, 1996, 1999 (p.337).</p> | <p>BPS national poverty line (p.335). Welfare indicators, including schooling, farm characteristics and access to infrastructure, technology and finance (p.336)</p> | <p>Examination of key determinants of poverty reduction during 1990s (p.332). Uses consistently assembled district level data to analyse the basic growth-poverty relationship, then probes the contribution of local attributes and time-varying economic factors to the variation in district-level economic performance vis-à-vis changes in poverty (p.332).</p> | <p>The welfare of the poor responds quite strongly to overall income growth: the growth elasticity of poverty is about 0.7. May be explained by higher growth rate of agriculture. However, growth is good for the poor but not good enough. Terms of trade regime, schooling, infrastructure and access to technology also exert direct distributive effects on welfare of poor (p.346).</p> | <p>The need for future work to go beyond physical indicators of financial services to include 'meso' indicators pertaining to distribution of physical assets and social capital (p.346).</p> |

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| <p>Bardosono, S., Sastroamidjojo, S., & Lukito, W. (2007). Determinants of child malnutrition during the 1999 economic crisis in selected poor areas of Indonesia. <i>Asia Pacific Journal of Clinical Nutrition</i> 16(3), 512-526.</p> | <p>1999-2001</p> | <p>Authors' own: Two-stage cluster sampling used to obtain 1078 households with under-fives in Jakarta; 261 in Banggai and 631 in Alor-Rote (p.512)</p> | <p>NCHS/WHO reference data for child height and weight: using categories: normal, moderately malnourished and severely malnourished. (p.514)</p> | <p>Cross sectional study of the nutritional status of children and its determinates performed in three selected poor areas of Indonesia, (p.513)</p> | <p>During the economic crisis, wasting affected more children in the urban poor areas of Jakarta than in rural study areas. Food intake and household luxury goods status were not a key determinant of malnutrition, but infectious diseases and household employment status were (p.524)</p> | |
| <p>Booth, A. (2000). Poverty and Inequality in The Soeharto Era: An Assessment. <i>Bulletin of Indonesian Economic Studies</i> 36(1).</p> | <p>1966-1996</p> | <p>BPS Statistical Yearbook of Indonesia, various issues from 1965. BPS Susenas, 1970-1996.</p> | <p>Gini coefficient, various national poverty lines</p> | <p>Survey of the trends in poverty and inequality during the years of Soeharto's presidency.(p.73)</p> | <p>Indonesia saw a decline in incidence of absolute poverty over the Soeharto years. However, decline in relative poverty has been slower, and increased in urban areas over the 1990s. Agricultural productivity and size of holding are still significant determinants of variations in rural poverty by province. In spite of poverty reduction, poverty was still serious in the final years of Soeharto regime, before the 97/98 financial crisis (p.96-97)</p> | |

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| <p>Cameron, L. (2000). Poverty and inequality in Java: examining the impact of the changing age, educational and industrial structure. <i>Journal of Development Economics</i> 62(1), 149–180</p> | <p>1984-1999</p> | <p>BPS Susenas, 1984-1990 (p.150)</p> | <p>Lorenz curves, Gini coefficient, variance of logs and 90-10th percentile ratio. (p.156).</p> | <p>Uses method of DiNardo et al (1996) to examine the distribution of the benefits of growth in Java. Modifies method so that changes in the cumulative distribution functions, Lorenz curves and generalized Lorenz curves are decomposed (p.149)</p> | <p>The welfare cost in terms of increasing income inequality between 1984 and 1990 was more than offset by the social welfare gains that accrued from higher incomes. However, many of the factors that resulted in decreased poverty were found to also exacerbate inequality; increased educational attainment the largest of these determinants. Suggests that poverty will continue to decrease and inequality to increase (pp.177-178).</p> | |
| <p>Cameron, L. (2000). The Impact of the Indonesian Financial Crisis on Children: An Analysis using the 100 Villages Data. Innocenti Working Paper 81. Florence: UNICEF. (Also published in <i>Bulletin of Indonesian Economic Statistics</i> 37(1): 43-64.)</p> | <p>1994-1999</p> | <p>BPS 100 Village Survey 1994, 1997, 1998, 1999. (p.3)</p> | <p>Weight for height and height for age (p.18)</p> | <p>Examination of the impact of the 97/98 financial crisis on children in Indonesia, in terms of school attendance, child labour force participation and health status, using pre-and post crisis rounds of the 100 Villages Survey (p.2)</p> | <p>No evidence of a decline in children's weight for height or height for age (p.18). No evidence that the 97/98 crisis had a large, systematic and negative impact on children more generally (p.19)</p> | <p>Main focus on indicators not included in scope of this review.</p> |

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| <p>Dhanani, Shafiq & Islam, Iyanatul, 2002. Poverty, Vulnerability and Social Protection in a Period of Crisis: The Case of Indonesia. World Development, Elsevier, vol. 30(7), pages 1211-1231, July.</p> | <p>1993-2000</p> | <p>BSP Susenas, various years. BSP Welfare Indicators, 1998-1999 (p.1213)</p> | <p>BSP national poverty measure (p.1213). Capability poverty measure (p.1215). Author's own poverty lines (p.1220). Poverty severity.</p> | <p>Proposal of alternative estimates of consumption poverty for the pre-97/98 crisis period, and examination of the behaviour of consumption poverty during the crisis and how it relates to vulnerability (p.1211)</p> | <p>Capability poverty higher than consumption poverty before the crisis. Consumption poverty much less stable than capability poverty, reflecting transient poverty. Extreme poverty rose faster than overall poverty. Government social protection intervention played a key role in ensuring that the social consequences of the crises were less severe than initially anticipated (p.1228-1229)</p> | |
| <p>Fane, G., & Warr, P. (2002) How Economic Growth Reduces Poverty: A General Equilibrium Analysis for Indonesia. United Nations University World Institute for Development Economics Research Discussion Paper No. 2002/19. Helsinki: UNU-WIDER.</p> | <p>2002</p> | <p>Model. Database of WAYANG model (p.7)</p> | <p>Gini coefficient. Headcount poverty rate and poverty gap (p.5)</p> | <p>Utilises a computable general equilibrium model of the Indonesian economy (WAYANG model) to explore the question: do changes in poverty and inequality depend directly on the rate of economic growth, or does the source of the growth also matter? (p.1)</p> | <p>Growth in different sectors will be associated with very different effects on poverty and inequality. The poor do much better if a given amount of GDP growth is produced by technical progress in services or manufacturing than if it is due to technical progress in agriculture. Education is a doubly effective way of reducing poverty - direct income effects, and indirectly raising wage bill of unskilled (p.12)</p> | |

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| <p>Fields, G. S., Cichello, P. L., Freije, S., Menéndez, M., Newhouse, D. (2003). For Richer or for Poorer? Evidence from Indonesia, South Africa, Spain, and Venezuela. <i>Journal of Economic Inequality</i> 1 67-99.</p> | <p>1993-1997</p> | <p>Indonesian Family Life Survey, 1993 & 1997 (p.70)</p> | <p>Gini</p> | <p>Analyses household income dynamics using longitudinal data from Indonesia, South Africa (KwaZulu-Natal), Spain and Venezuela (p.67)</p> | <p>In all four surveyed countries, households that reported the lowest base year incomes enjoyed the most favourable income changes. Qualified conclusion: before taking account of measurement error, in all four countries, the combined effects of economic and political changes favouring poor households, recovery from transitory income shocks, and measurement error in income outweighed the combined effects of cumulative advantage and poverty traps (p.93).</p> | |
| <p>Frankema, E. and Marks D. (2009) Was it Really "Growth with Equity" under Soeharto? A Theil Analysis of Indonesian Income Inequality, 1961-2002', <i>Economics and Finance in Indonesia</i> 57(1), 47-76</p> | <p>1961-2002</p> | <p>Population Censuses 1961-2000; BPS Sakernas 1977-2002; Susenas 1979, 1982; Inter-census Population Surveys 1985, 1995 (p.57).</p> | <p>Theil indicator (p.55)</p> | <p>Estimates Theil indices of sector income distribution to evaluate the impact of structural change on the trend of Indonesian income inequality for the period 1961-2002 (p.57)</p> | <p>Inter and intra-sector income inequality increased during the Soeharto era, especially between the early 1980s and mid 1990s. Inequality more volatile than suggested by conventional estimates. 97/98 crisis a temporary disruption, not a structural break point (p.71)</p> | |

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|---|------------------|--|---|--|---|---|
| <p>Friedman, J. (2005). How responsive is poverty to growth? A regional analysis of poverty, inequality and growth in Indonesia, 1984–1999. World Institute for Development Economics Research Discussion Paper no. 2003/57. Helsinki: WIDER.</p> | <p>1984-1999</p> | <p>BPS Susenas Consumption Module, 1984, 1987, 1990, 1993, 1996 and 1999 (p.5)</p> | <p>Monetary poverty lines (lower: food poverty; upper: basic needs), authors' own (p.9) Derived from Ravallion (1994). P.36</p> | <p>Utilises a long panel of information to investigate how poverty change at the provincial level varies with province growth rates and province changes in inequality, while controlling for time invariant provincial characteristics (p.2)</p> | <p>1) Substantial reductions in poverty, in both urban and rural areas and as measured by numerous poverty lines and poverty measures, and then a dramatic reversal after the 1997 financial crisis. 2) Poverty strongly correlates with mean income growth even when provincial changes in inequality are ignored. 3) The presence of persistent provincial level characteristics that affect poverty. Poverty much more responsive to growth in some regions than others. (p.34).</p> | |
| <p>Friedman, J., & Levinsohn, J. (2002). The Distributional Impacts of Indonesia's Financial Crisis on Household Welfare: A "Rapid Response" Methodology. The World Bank Economic Review 16 (3), 397-423</p> | <p>1996-2001</p> | <p>BPS Susenas consumption data, 1996; BPS price data 1997-98 (p.399)</p> | <p>Authors' own monetary poverty line, calculated from 1996 Susenas data using approach from Ravallion, 2004 (p.407)</p> | <p>Develops a methodology to identify those who were most harmed during the economic crisis (and the magnitude of the harm), using pre-crisis household information to estimate the compensating variation for Indonesian households post-crisis, and then exploring the result with flexible non-parametric methods (p.398)</p> | <p>Virtually every household severely impacted, and urban poor fared the worst (due to ability of rural poor to produce food). Geographic location of household was very important, and households with young children suffered disproportionately adverse effects (pp.419-420)</p> | <p>1) Not all price changes were due to economic crisis - concurrent drought and forest fires will also have had an effect. 2) Analysis concerns only nominal changes - no household information on actual changes in income/wages (p.420).</p> |

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|---|------------------|---|---|--|--|---|
| <p>HILL, H. (2008), Globalization, Inequality, and Local-level Dynamics: Indonesia and the Philippines. Asian Economic Policy Review, 3: 42–61.</p> | <p>1975-2004</p> | <p>BPS Regional Income by Industry and by Expenditure, 1975-2004 (p.49)</p> | <p>Gross Regional Product comparisons</p> | <p>Utilises a spatial economic framework to examine the issues of subnational disparities and centre-region relations with reference to Indonesia and the Philippines (p.42)</p> | <p>No clear trend in interregional inequality; growth has by and large been distributionally neutral. No major changes in the ranking of regions by socioeconomic indicators over the past 20 years. Capital stands out as region of relative affluence. No clear natural resource story. Decentralisation hasn't (yet) had a major impact on regional dynamics and inequality. (pp.58-59)</p> | <p>Not looking at poverty specifically but economic activity.</p> |
| <p>Hill, H., Resosudarmo, B. P., & Vidyattama, Y. (2008). Indonesia's Changing Economic Geography. Bulletin of Indonesian Economic Studies 44(3), 207-435</p> | <p>1975-2004</p> | <p>BPS regional Income by Industrial Origin, and Regional Income of Provinces in Indonesia by Expenditure 1975-2004 (p.413)</p> | <p>Gross Regional Product comparisons</p> | <p>Examination of economic growth, inequality, convergence, structural change, demographic dynamics and social indicators since the 1970s (p.408).</p> | <p>Growth and social progress have been remarkably even: no significant change in concentration of economic activity across major island groupings. Economic activity still clusters around key regional economies such as Java. But poorest regions have generally grown only slightly slower than national average. Regional disparities either high and declining or moderate and stable, depending on the series used (p.434).</p> | <p>Not looking at poverty specifically but economic activity.</p> |

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| <p>Houweling, T.A.J., Kunst, A. E., Borsboom, G., & Mackenbach, J. P. (2006). Mortality inequalities in times of economic growth: time trends in socioeconomic and regional inequalities in under-5 mortality in Indonesia, 1982-1997. <i>Journal of Epidemiology and Community Health</i> 60 (1) 62-68</p> | <p>1987-1997</p> | <p>Indonesian Demographic and Health Surveys 1987, 1991. 1994 and 1997.</p> | <p>Under-5 mortality: number of deaths under age 60 months per 5000 person years during six years preceding the survey (p.63) Inequality measured using Cox proportional hazards analysis.</p> | <p>Under-5 mortality calculated for total population and subgroups by maternal education, household wealth, rural/urban residence and island groups. Inequalities were calculated using Cox proportional hazards regression analysis (p.62).</p> | <p>Under-5 mortality declined substantially during the 1980s and 1990s. Educational inequalities in under 5 mortality decreased although not statistically significantly. Inequalities between urban and non-electrified rural areas increased. Inequalities between the Outer Islands and central islands increased. Overall: socioeconomic inequalities in under-5 mortality do not inevitably rise in times of rapid growth (p.62).</p> | <p>1) Not enough statistical power to exclude possibility that decline attributable to chance variations. 2) The wealth index used has limited usefulness in time trend analyses (p.67).</p> |
| <p>Lanjouw, P., Pradhan, M., Saadah, F., Sayed, H., & Sparrow, R. (2001). Poverty, Education and Health in Indonesia: Who Benefits from Public Spending? Mimeograph. Washington DC: World Bank.</p> | <p>1995-1998</p> | <p>BPS Susenas Core, 1995-1998; BPS Health and Education Modules, 1995-1998.</p> | <p>Monetary poverty lines ('alternative' poverty lines), Ravallion and Bidani, 1994 (p.60)</p> | <p>Analysis of household surveys to examine rate of poverty decline. Traditional static benefit-incidence analysis of public spending in education and health to identify patterns of pro and non pro-poor spending (p.1)</p> | <p>Poverty reduction reversed and social sector improvements slowed as a result of the 97/98 financial crisis (p.49). Public spending on primary education is less pro-poor than commonly believed, and on primary health care health more pro-poor, especially when economies of scale are taken into account. (p.50) The poor could potentially benefit from an expansion of subsidized primary health care (p.51)</p> | |

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| <p>Lasting Impacts of Indonesia's Financial Crisis, Martin Ravallion / Michael Lokshin Economic Development and Cultural Change , Vol. 56, No. 1 (October 2007), pp. 27-56</p> | <p>1993-2002</p> | <p>10 rounds of BSP Susenas Core, 1993-2002 (p.32).</p> | <p>Updated monetary poverty lines based on Bidani and Ravallion, 1993 (p.33)</p> | <p>Revisit issue of how much poverty rose during the 97/98 financial crisis using Susenas and a new set of deflators (p.30). Provide a counterfactual assessment of the local welfare impacts of the crisis in the short and long term, using 1) time-series projections at the district level; 2) growth regressions across districts (p.31)</p> | <p>1998 crisis had a large short-term impact on poverty. The crisis continued to have a large negative impact on living standards even 5 years after it began. A majority of those living below the poverty line in 2002 would not have done so except for the 1998 crisis (p.31). Support for hypothesis that initially better off districts were more vulnerable to the crisis so the crisis attenuated geographic disparities (p.32). Results differ from past work suggesting a low impact of the crisis because they have attempted to estimate a counterfactual (p.53)</p> | <p>Method 1) Limited number of time-series observations means that estimates are based on very simple time trends. 2) Imposes a common parameter structure across districts (p.31). Could not use greater detail in Susenas consumption modules due to focus on measuring welfare annually (p.32).</p> |
| <p>Leigh, A., & van der Eng, P. (2009). Inequality in Indonesia: What can we learn from top incomes? Journal of Public Economics 93(1-2), 209-212</p> | <p>1920-2004</p> | <p>Records of income taxation data compiled at MoF, 1920-1939. Income taxation data extracted at Directorate General of Taxation, 1990-2003. BPS Susenas data, 1982-2004 (p.211)</p> | <p>Top 10%, 5%, 1%, 0.5%, 0.1%, 0.05% and 0.01% of earners (p.210)</p> | <p>Analysis of newfound historical data, using external control totals for adult population and total personal income, and interpolating top income shares using tabulated income taxation data. Comparison with similar data from other countries (p.210).</p> | <p>Top income shares grew during the 1920s and 30s, but fell in the post-war era. Observed a sharp rise in top income shares during the late 1990s, coinciding with economic crisis. Top income shares generally higher than other countries. Thus general belief that income inequality is low is flawed (p.209).</p> | |

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| <p>McCulloch, N., & Grover, A. (2010). Estimating the National Impact of the Financial Crisis in Indonesia by Combining a Rapid Qualitative Study with Nationally Representative Surveys. IDS Working Paper. Brighton: IDS.</p> | <p>2008-2009</p> | <p>IDS rapid qualitative assessment, 2008 (p.6); Indonesian Labour Force Survey (Sakernas) 2008, 2009 (p.9).</p> | <p>Employment, working status, schooling, income and hours worked (p.9).</p> | <p>Rapid qualitative assessment of the impact of the 2008/09 financial crisis to generate hypotheses about the potential national impacts; tested with labour force surveys from before and after the onset of the crisis (p.2).</p> | <p>Indonesia weathered 2008/09 financial crisis reasonably well; better than neighbours. Little evidence of sub-groups that have been particularly badly affected. Share of children dropping out of school stayed the same. Labour force participation fell, particularly for children. Unemployment rose for 18-25s, but fell for workers above 25. 2008-2009 saw large increases in real wages for employees over 25 (p.22).</p> | <p>Limitations of Sakernas: only gathers data on people 10 and over (p.9). Nature of data can say little about welfare impact of the crisis (p.23).</p> |
| <p>McCulloch, N., Weisbrod, J., & Timmer, P.C. (2007). Pathways out of poverty during an economic crisis: an empirical assessment of rural Indonesia. World Bank Policy Research Working Paper 4173. Washington DC: World Bank</p> | <p>1982-2000</p> | <p>BPS Susenas, 1982, 1993, 2002; Indonesia Family Life Survey 1993, 1997, 2000 (p.14)</p> | <p>Authors' own, derived from 2000 BPS poverty line (pp.16-17)</p> | <p>Utilise cross sectional and panel data to show which pathways out of poverty were most successful between 1993 and 2000 (p.1).</p> | <p>Age, sex and education all have a strong influence on movements out of poverty. Large household size and numbers of young children and poor schooling are negatively correlated with movements out of poverty. Crisis hit urban dwellers harder than rural dwellers (p.45).</p> | <p>Study excludes the young and unemployed, as well as new entrants into the panel in 2000 (p.45).</p> |

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| <p>Miranti, R. and Resosudarmo, B.P. (2005) 'Understanding regional poverty in Indonesia: is poverty worse in the east than in the west?', Australasian Journal of Regional Studies 11 (2): 141–54.</p> | <p>1993-1996</p> | <p>BPS Susenas, 1993-1996 (p.145).</p> | <p>Author's own headcount, poverty gap and squared poverty gap measures (p.145).</p> | <p>Three types of analysis: 1) concerning the inferences about $\mu_{west}-\mu_{east}$, where μ_{west} is the mean of provincial poverty measures in the Western part of Indonesia and μ_{east} is similarly defined for the Eastern part. 2) concerning the estimation of growth elasticity of poverty based on Ravallion's 2001 model. 3) Concerning the estimation of the determinants of poverty using a modification of the model developed by Baliscan et al, 2003 (p.144)</p> | <p>The East is poorer than the West, and the poverty gap worsens over time. In the case of poverty incidence (headcount), provincial poverty reduction keeps pace with improvements in provincial growth (p.148). Both short and medium term growth is significant in explaining poverty. income inequality is statistically significant in determining the three measures of provincial poverty (p.150). No significant evidence that the incidence of provincial poverty in the East and the West respond differently to provincial economic growth and income inequality conditions (p.153).</p> | <p>Dataset is too short. Some of the variables listed may not be the best proxies for the true intended variables (p.153).</p> |
| <p>Newhouse, D. (2005), The Persistence of Income Shocks: Evidence from Rural Indonesia. Review of Development Economics, 9: 415–433</p> | <p>1993-1997</p> | <p>IFLS 1993, 1997 (p.419).</p> | <p>Income shocks -see methodology</p> | <p>Estimates persistence of transient income shocks to farm households in rural Indonesia. Persistence defined as the elasticity of a household's 1997 household per capita income with respect</p> | <p>1) Roughly 30% of 1993 income shock remained 4 years later. 2) Positive shocks exhibit greater persistence than negative shocks. 3) Positive shocks for rich households exhibit the greatest persistence (p.430).</p> | |

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| | | | | to its 1993 per capita income, controlling for time-invariant characteristics of the household (p.415). | | |
| Pakpahan, Y. M., Suryadarma, D., & Suryahadi, A. (2009). Destined for destitution: intergenerational poverty persistence in Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU | 1993-2000 | IFLS 1993, 1997 2000 (p.3) | Poverty lines calculated by Strauss et al for 2000, and Widyanti et al for 1993/97. 'Chronically poor' households are poor at least twice in the three IFLS waves (p,4) | Estimate intergenerational poverty persistence (first time this has been done) using a relatively long spanning panel dataset consisting of three waves, including controls for several households and individual characteristics (p.1). | Relatively low intergenerational persistence of poverty. But chronically poor children much more likely to continue to be poor as adults (p.7). | Areas of potential bias: 1) Study focused on married people, but if propensity to marry is correlated with probability of becoming poor then there is a selecting bias (authors think it is unlikely though). 2) Results likely to suffer from omitted variable bias because do not have data on motivation - likely a strong factor in moving out of poverty (p.3) |
| Pradhan, M. (2009), Welfare Analysis with a Proxy Consumption Measure: Evidence from a Repeated Experiment in Indonesia. Fiscal Studies, 30: 391–417. | 1993-1999 | BSP Susenas Core and Consumption modules, 1993, 1996 & 1999 (p.393) | N/A | Examines consequences of using a higher level of aggregation in Susenas Core and Consumption module questioning, based on a repeated experiment using the recall method for welfare analysis in which the two questionnaires were randomly assigned across households (pp.392-392). | Using fewer questions yields a lower consumption measure. The fraction by which consumption is underestimated increases as consumption rises (p.415). | Not about poverty but about poverty measurement. |

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| <p>Pradhan, M., Suryahadi, A., Sumarto, S., & Pritchett, L. (2000). Measurements of Poverty in Indonesia: 1996, 1999, and Beyond, Policy Research Working Paper No. 2438, September, The World Bank, Washington, DC. (Also SMERU Working Paper, 2000)</p> | <p>1999</p> | <p>BPS Susenas 1999 (p.13)</p> | <p>See methodology</p> | <p>Discussion of how to set a regionally consistent poverty line in the current consumption expenditures deficit definition of poverty. Presentation of poverty profiles. (p.2)</p> | <p>Regional comparisons should be based on an iterative methodology for setting the reference groups. Need for concept of poverty to be expanded to incorporate additional dimensions beyond current consumption expenditure deficit definition of poverty (p.35)</p> | |
| <p>Priebe, J., Rudolf, R., Klasen., & Weisbrod, J. (2009). Rural Income Dynamics in Post-Crisis Indonesia. Proceedings of the German Development Economics Conference, Frankfurt A.M. 2009, No. 29</p> | <p>2001-2006. Compared to Susenas, 2002 & 2005 (p.8)</p> | <p>Unique data set based on a household panel survey (STORMA), 2001, 2004, 2006 (p.2)</p> | <p>Unclear; seemingly national monetary poverty line (p.13). Some use of quintiles (p.16).</p> | <p>Utilises panel data to shed light on the determinants of rural incomes and poverty, controlling for individual and time specific effects and for endogeneity issues in estimations; and upscaling analysis to national level by comparison with Susenas (p.1)</p> | <p>A sharp increase in rural incomes took place in the post-crisis period. The ability to alleviate poverty and to enjoy income growth has been strongly associated with a household's ability to diversify into the non-farm sector of the economy, to focus on higher value-added agricultural activities and its ability to invest into new production techniques: results which hold for most of rural Indonesia and are robust to various model specifications (p.1)</p> | <p>Preliminary version of paper; incomplete.</p> |

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| Pritchett, L. (2010). How Good are Good Transitions For Growth and Poverty? Indonesia since Suharto, For Instance. Paper presented at the Indonesia Update, ANU, September 24 2012 | 2000-2008 | Not stated (references forthcoming) | Not stated (references forthcoming) | Headcount poverty rate (unclear which one) (p.28) | Presents three scenarios to illustrate that not only was growth slower in the democratic period but also the responsiveness of poverty reductions to growth (poverty elasticity) (p.26). | Poverty declined over the period by less than would have been 'expected' (p.32). Major focus not on poverty but economic growth and governance. Incomplete paper. |
| Pritchett, L., Suryahadi, A., & Sumarto, S. (2000). Quantifying vulnerability to poverty: A proposed measure, with application to Indonesia. SMERU Working Paper, January. Jakarta: Social Monitoring and Early Response Unit. | 1997-1999 | Mini Susenas 1998, 1999; 100 Village Survey 1997, 1998 (p. 10) | Headcount Vulnerable Rate', direct analogue of headcount poverty rate (monetary poverty measure). (p.2) | Application of household survey data to explore the notion of vulnerability quantitatively, as an expansion of static monetary poverty measures. Propose an empirical measure allowing the setting of a 'vulnerability to poverty line.' (p.2) | In a sample in which the headcount poverty rate is set at 20%, an additional 10-30% of households are 'vulnerable' to poverty. (p.24) Policy and social protection implications of this: issues of risk and security, and need to target transient poverty. | Measurement errors in household surveys can overstate the variance of consumption and affect measurement of vulnerability (p.12) |
| Riyana Miranti (2010): Poverty in Indonesia 1984–2002: the impact of growth and changes in inequality, Bulletin of Indonesian Economic Studies, 46:1, 79-97 | 1984-2002 | BPS Susenas consumption module, 1984, 1987, 1990, 1993, 1996, 1999 and 2002 (p.82). | BPS national monetary poverty line (2003 methodology) (p.81). | Examination of the growth elasticity of poverty across three development episodes - 1984-90, 1990-96, 1999-2002, after controlling from inequality (p.79) | GEP remarkably stable across 3 development episodes. Inequality elasticity of poverty ranged much more widely. Worsening inequality tended to offset declines in poverty resulting from growth (p.95) | |

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| <p>Skoufias, E. (2001), Changes in regional inequality and social welfare in Indonesia from 1996 to 1999. J. Int. Dev., 13: 73–91 (Also SMERU working paper)</p> | <p>1996-1999</p> | <p>BPS Susenas 1996, 1999 (p.75).</p> | <p>Social welfare measure and indices of inequality (p. 78).</p> | <p>Utilises consumption data to calculate proportional changes in two welfare measures within 52 rural and urban regions of Indonesia (p.73). Utilises a price deflator that is a weighted average of the prices of 52 food items and province-specific non food price indices - more appropriate for evaluating effects of price changes on household living standards (p.74).</p> | <p>Decrease in social welfare in each of the regions driven primarily by the drop in mean regional consumption and not in increases in inequality within region. Urban regions experienced greater drops in mean consumption; rural regions less affected. Inequality in distribution of mean per capita consumption seems to have decreased (p.85).</p> | |
| <p>Skoufias, E., Suryahadi, A., & Sumarto, S. (2000). Changes in Household Welfare, Poverty and Inequality during the Crisis. Bulletin of Indonesian Economic Studies, 36(2), pp. 97-114.</p> | <p>1997-1998</p> | <p>BPS 100 Village Survey 1997, 1998</p> | <p>Official pre-crisis monetary poverty line. Poverty gap. (p.102)</p> | <p>Analysis of consumption expenditure data from panel surveys from before and after onset of 97/98 financial crisis, using household-specific deflator to make consumption expenditures comparable (p.97.)</p> | <p>Considerable drop in welfare of households and rise in inequality during first year of 97/98 crisis. However, 'remarkable fluidity' of transitions into and out of poverty; some households entering poverty and others leaving it (p.110)</p> | <p>Sample not representative of total population, and matching of households from first survey to ensure continuity in second survey imperfect (p.98)</p> |

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| <p>Strauss, J., Beegle, K., Dwiyanto, A., et al (2004). Indonesian Living Standards Before and After the Financial Crisis: Evidence from the Indonesia Family Life Survey, Santa Monica, CA: RAND Corporation. (Also published by Institute of Southeast Asian Studies: Singapore, 2004)</p> | <p>1993-2000</p> | <p>IFLS 1993, 1997, 1998, 2000 (p.8)</p> | <p>Monetary poverty lines by province, based on Pradhan et al (2001), disaggregated by age group (p.20, 50)</p> | <p>Analysis of IFLS studies, 1993-2000.</p> | <p>Considerable movement of households in and out of poverty. (p.47). Living in rural areas and lacking higher education are significant correlates with higher poverty (p.48). 97/98 financial crisis had no significant impact on primary enrolment (p.130) or weight-for-height (p.208)</p> | |
| <p>Sumarto, S., Suryadarma, D., & Suryahadi, A. (2006) Predicting Consumption Poverty Using non-consumption Indicators: Experiments Using Indonesian Data. SMERU Research Institute Working Paper. Jakarta: SMERU</p> | <p>1999</p> | <p>BPS Susenas - merged dataset of Core, Consumption Module and SSN module, 1999 (p.3)</p> | <p>Pradhan et al (2001), national and food poverty lines (p.5)</p> | <p>Experimentation - testing performance of three approaches to predict consumption expenditure and poverty at household and aggregate level, as simpler alternatives to using consumption expenditure data. Three approaches are: i) consumption correlates model; ii) poverty probability model; iii) wealth index Principal Components Analysis (PCA). (p.ii)</p> | <p>Consumption correlates model is the best approach to predict consumption expenditure. Variables with strongest correlates to poverty relate to education level, asset ownership and consumption patterns. (p.24)</p> | |

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| <p>Suryadarma, D., Artha, R. P., Suryahadi, A., & Sumarto, S. (2005). A Reassessment of Inequality and Its Role in Poverty Reduction in Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU</p> | <p>1984-2002</p> | <p>BPS Susenas Consumption Module, 1984, 1987, 1990, 1993, 1996, 1999 and 2002. (p.11)</p> | <p>Pradhan et al (2001) regional poverty lines for each BPS survey year (p.12)</p> | <p>Utilises regional poverty lines from Pradhan et al (2001) as a regional price index. 1) Used to reassess evolution of inequality between 84-2002. 2) Examines relationship between inequality and poverty (using GINI, GE, and Atkinson Indices), using a model to estimate the 'distribution-corrected' growth elasticity of the poverty rate using provincial level data (p.2).</p> | <p>Assesses inequality during Indonesia's high growth and crisis eras. Reassesses calculation of inequality measures by taking into account price disparities across regions- a factor previously ignored. Findings: inequality increased between 1999 and 2002. Intra-group inequality (within urban/rural areas) accounts for most inequality. Inequality influences the growth elasticity of poverty: as inequality increases, elasticity decreases. (p.22)</p> | |
| <p>Suryadarma, D., Widyanti, W., Suryahadi, A., & Sumarto, S. (2006). From Access to Income: Regional and Ethnic Inequality in Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU</p> | <p>2002-2004</p> | <p>BPS Susenas Core and Consumption Module, 2002 and 2004. BPS Podes 2003. SMERU social capital dataset 2004 (p.2-3)</p> | <p>Inequalities of opportunity across 5 dimensions; Gini.</p> | <p>Calculates regional and ethnic inequalities in five dimensions that may indicate the existence of inequality in opportunity: access to education and health, education outcome, health outcome, 'voice' and income/consumption - within and between ethnic groups (p.1)</p> | <p>Overall, inequality has been increasing post financial crisis. Across every indicator, the highest inequality persists between urban and rural areas. There is no systematic inequality between ethnicities, or between western and eastern regions and islands. Developing rural areas is the most effective route to reducing inequality in Indonesia (p.20)</p> | |

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| <p>Suryahadi, A. & Sumarto, S. (2001). The Chronic Poor, The Transient Poor, and the Vulnerable in Indonesia Before and After the Crisis. SMERU Research Institute Working Paper. Jakarta: SMERU</p> | <p>1996-1999</p> | <p>BPS Susenas, Core and Consumption Module, 1996, 1999; Village Potential (PODES) surveys, 1996, 1999. (p.9)</p> | <p>Headcount monetary poverty measure, based on Pradhan et al (2000); slightly different due to merging of datasets (p.10)</p> | <p>Utilises a method for estimating household vulnerability to poverty, using estimates of variance of consumption expenditures (drawing on Chandhuri, 2000) (p.4).</p> | <p>Assesses poverty and vulnerability before and after the 97/98 financial crisis (p3.) Much of the increase in poverty due to crisis was due to increase in chronic poverty. Vulnerability to poverty has unambiguously increased from pre-crisis level. Chronic poverty has mostly increased in certain provinces. Those in agricultural sector most vulnerable, but little difference between male and female headed households. (p.23-24)</p> | <p>Measurement errors in household surveys can overstate the variance of consumption and affect measurement of vulnerability (p.7)</p> |
| <p>Suryahadi, A. and Sumarto, S. (2003), Poverty and Vulnerability in Indonesia Before and After the Economic Crisis. Asian Economic Journal, 17: 45–64.</p> | <p>1996-1999</p> | <p>Merging of BSP Susenas consumption module, 1996, 1999; and PODES 1996, 1999 (p.52).</p> | <p>Headcount poverty measure, based on Pradhan et al, 2001 but differing slightly due to merging of datasets (p.51)</p> | <p>Attempts to assess what happened to poverty and vulnerability before and after the crisis, using a method specifically developed for estimating vulnerability to poverty using cross-sectional data (p.46).</p> | <p>Poverty rate increased significantly, and much of this was due to increase in chronic poor. Vulnerability to poverty has unambiguously increased from pre-crisis levels. (p.62).</p> | <p>Quantitative method for estimating vulnerability still in its infancy (p.62)</p> |
| <p>Suryahadi, A., Hadiwidjaja, G., & Sumatro, S. (2012). Economic Growth and Poverty Reduction in Indonesia Before and After the Asian Financial Crisis.</p> | <p>1976-2010</p> | <p>BPS (various years)</p> | <p>National poverty line as set by BPS. (p1)</p> | <p>Utilises a growth-poverty framework, focusing on levels of sectoral growth and sectoral composition of Indonesian economy, to assess hypothesis that the slower poverty</p> | <p>Assesses relationship between economic growth and poverty reduction before and after the 97/98 financial crisis Significantly slower poverty reduction post-crisis, likely caused by the lower level of economic growth. Growth of services sector still</p> | |

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| <p>SMERU Research Institute Working Paper. Jakarta: SMERU</p> | | | | <p>reduction post-97/98 financial crisis is due to declining growth elasticity of poverty (p.2)</p> | <p>the largest contributor to poverty reduction. Industrial sector growth now largely irrelevant. Agriculture sector growth important only in rural areas. Overall, current rates of growth are insufficient to recover rate of poverty reduction pre-crisis Overall, no evidence that growth elasticity of poverty has declined post crisis (p.14)</p> | |
| <p>Suryahadi, A., Raya, U. R., Marbun, D., & Yumna, A. (2010) Accelerating Poverty and Vulnerability Reduction: Trends, Opportunities, and Constraints. SMERU Research Institute Working Paper. Jakarta: SMERU (Also: Journal of Development Economics, 2008, 89(1), 109-117)</p> | <p>Mainly 2000-2009</p> | <p>BPS Susenas Consumption Module 2007, 2008, 2009; DHS 2007 (p.3, 4); BPS Sakernas 2003-2009 (p.5); BPS Susenas Core 2009 (p.5)</p> | <p>Multidimensional indicators, authors' own calculations (p.3) (inc. child mortality, low education and monetary poverty). BPS national poverty line (p.2); HDI and GDI (p.4)</p> | <p>Analysis of the profile and trends of multidimensional poverty and vulnerability, and identification of opportunities and constraints to reducing them (p.2).</p> | <p>Opportunities to improve poverty reduction: economic expansion, demographic dividend; more participatory development approach. Constraints: lack of productivity opportunities; weak human capabilities of the poor/near poor, inadequate social protection.</p> | <p>Methodology and conclusions rather broad and general</p> |

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| <p>Suryahadi, A., Sumarto, S. (2003). The Evolution of Poverty during the Crisis in Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU (Also published in Asian Economic Journal, 17(3), pp. 221-241, 2003.)</p> | <p>1996-2002</p> | <p>BPS Susenas Consumption Module 1996,1999,2002; Mini Susenas 1998, 1999; Susenas Core, 1999, 2000, 2001; 100 Village Survey, 1997, 1998, 1999 (p.15)</p> | <p>Headcount poverty measure, beginning from Pradhan et al (2001) calculated poverty rate (p.16)</p> | <p>Uses deflation of nominal to 'real' expenditures to maintain comparability in welfare levels, and calculates responsiveness of poverty rates to changes in real expenditures. Then estimates changes in headcount poverty rates over time using a range of price deflators (p.2)</p> | <p>An attempt to piece together a consistent series of data on the headcount measure of absolute consumption expenditure poverty during the 97/98 financial crisis from various sources (p.2). Poverty rate peaked at 1998, declined and reached pre-crisis level by end 1999: implying a lost time in poverty reduction due to the crisis of 2 1/2 years. However, between 2001-2002 the poverty rate increased again (p.22)</p> | |
| <p>Suryahadi, A., Suryadarma, D., & Sumarto, S. (2006). Economic Growth and Poverty Reduction in Indonesia: The Effects of Location and Sectoral Components of Growth. SMERU Research Institute Working Paper. Jakarta: SMERU</p> | <p>1984-2002</p> | <p>BPS Susenas Consumption Module. BPS Core Susenas data. BPS Regional Gross Domestic Produce (RGDP and Regional Consumer Price Index (RCPI). All 1984-2002. Sakernas (National labour Force Survey) data on education levels, 1986 (p.6)</p> | <p>Pradhan et al (2001) regional poverty lines for each BPS survey year (p.12). Use deflators calculated by Suryahadi, Sumarto and Pritchett (2003) to ensure comparability over time (p.11)</p> | <p>Analyses poverty and economic growth by agriculture, services and industry sectors, also disaggregated by urban and rural locations. Uses a model to estimate the impact of economic growth on poverty, applying it to panel data with the province as the unit of observation. Uses the GLS estimation method, where the standard errors are corrected for heteroskeasticity across provinces (p19-20)</p> | <p>Location and sectoral components of growth do not contribute equally to poverty reduction. Suggests the importance of disaggregating sectors into their locations. Growth in the services sector has the highest elasticity of poverty. Reducing poverty in Indonesia requires robust/accelerating growth in rural agricultural sector and urban services sector. In the long run, poverty reduction could be achieved most rapidly by turning country into services-based economy (p.30)</p> | |

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| <p>Timmer, P. C. (2004). The road to pro-poor growth: the Indonesian experience in regional perspective. Bulletin of Indonesian Economic Studies 40(2), 177-207</p> | <p>1967-2002</p> | <p>BPS Susenas Consumption Module, 1967-2002 (p.185).</p> | <p>Gini (p.179). Bottom quintile in income distribution (p.182).</p> | <p>Examines patterns of change in incomes and distribution across countries and over time, using a data set for 8 Asian countries. Presents a pro-poor growth model encompassing three levels: improving the 'capabilities' of the poor, lowering transactions costs in the economy, especially between rural and urban areas, and increasing demand for goods and services produced by the poor (p.177)</p> | <p>Economic growth in Indonesia has always benefited the poor overall. The balanced interaction between growth and distribution that generated rapid pro-poor growth in Indonesia was based on a conscious strategy of integrating the macro economy with the household economy (p.197).</p> | |
| <p>van der Eng, P. (2009). Growth and Inequality: The Case of Indonesia, 1960-1997. MPRA Paper no. 12725. Munich: Munich Personal RePEc Archive.</p> | <p>1960-1999</p> | <p>Susenas and Sakernas, various years (pp.11-12)</p> | <p>Gini</p> | <p>Investigates whether the 'Kuznets hypothesis', that economic growth from low levels of GDP per capita is initially associated with an increase in income inequality and later followed by a decline in inequality, is supported by evidence for a less-</p> | <p>The relationship between economic growth, structural change and inequality has not been as straightforward in Indonesia during the last 30 years as the Kuznets curve suggests. The case of Indonesia demonstrates that rapid economic growth from low levels of living does not necessarily lead to significant increases in inequality, as the Kuznets thesis predicts, so no</p> | |

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| | | | | developed country, Indonesia (p.2) | suggestion that there has been a trade off between growth and equality in Indonesia (p.19). | |
| van Leeuwen, B., & Foldvari, P. The Development of inequality and poverty in Indonesia, 1932-1999. CGEH Working Paper 26. Utrecht University: Centre for Global Economic History | 1932-1999 | Expenditure and population shares for benchmark years between 1932 and 1999, from Van Leeuwen (2007) | Gini; \$2/day (p.13) | Constructs a historical series of inequality and poverty with the advantage over other methods of comparability over time (p.3) | Inequality increased during the first half of the century due to shift of income from rural to urban sector. After WWII, inequality and poverty decreased. Post 1985, inequality increased again (p.16-17) | |
| Wardhana, D. (2010). Multidimensional Poverty Dynamics in Indonesia (1993-2007). University of Nottingham: School of Economics. | 1993-2007 | Indonesia Family Life Survey (IFLS) 1993, 1998, 2000, 2007. | Composite index of poverty constructed from multiple correspondence analysis scores (p.38) | Microeconomic analysis of socio economic variables of poverty (p.1) | Biggest contribution to multidimensional poverty relates to human/physical assets. Poverty declined marginally between 1993 and 2000, but dropped significantly between 2000-2007. Chronic poverty more prevalent than transitory (p.51) | MSc Dissertation - unsure of quality of analysis. |
| Widyanti, W., Sumarto, S., & Suryahadi, A. (2001). Short-term Poverty Dynamics: Evidence from Rural Indonesia. SMERU Research Institute Working | 1994-1998. | BPS 100 Village Survey 1994, 1997, 1998, 1998. (p.4) | Based on Pradhan et al (2000) provincial poverty lines. (p.5) | Analysis of households moving in and out of poverty during the 97/98 financial crisis (p.1) | During 97/98 crisis, headcount poverty rate changed quickly over short periods of time - indicating a large number of households moving in and out of poverty. However, changes that took place were even larger than indicated by aggregate figures (p.12) | |

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|--|-----------|--|--|--|---|--|
| Paper. Jakarta: SMERU (Also published in Journal of International Development, 15(2), pp. 133-144, 2003.) | | | | | | |
| Widyanti, W., Suryahadi, A., Sumarto, S., & Yumna, A. (2009). The Relationship between Chronic Poverty and Household Dynamics: Evidence from Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU | 1993-2000 | IFLS 1993, 1997 & 2000. (p.5) | Regional monetary poverty lines, based on Strauss et al (2004) (p.5). Headcount, gap and severity. | Empirical examination of the significance of household dynamics to falling into and escaping from chronic poverty, attempting to illuminate the direction and strength of correlations between changes in household composition and incidence/duration of poverty spells (p.1) | Change in household composition is not a major cause of chronic poverty; and households do not change composition to cope with shocks. However, more household members increase probability of chronic poverty. Higher proportion of household members with secondary education or above reduces risk of chronic poverty/vulnerability (p.15) | Frequent changes in household composition mean that using household as unit of analysis undermines/complicates measurement of chronic poverty (p.15) Implications for SP programmes. |
| Zin, H.M.R., 2005. Income distribution in East Asian developing countries: recent trends. Asian-Pacific Economic Literature 19 (1), 36-54. | 1987-1993 | BPS Susenas 1996, 1998 and 1998 (p.46) | Gini | Updates estimates (by Rao, 1988, and Krongkaew, 1994) of the trends in income distribution in the eight countries of the developing East and Southeast Asian region (p.36). | Some evidence showing that the economic crisis reduced expenditure inequality in all major regions. However, other evidence showing rural inequality rose (p.46). | Mainly a discussion of other work rather than original empirical work. |

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