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

Andy Sumner

*The King's International Development Institute
King's College, London*

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ABSTRACT

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

Andy Sumner*

The King's International Development Institute, King's College, London

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 (DHS) 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 analyzing 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 nonincome poverty trends in middle-income countries and Indonesia in particular and debates on nonincome 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 urbanize 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 that have no or incomplete primary education and in households with heads not working or self-employed in agriculture.

Key words: 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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LIST OF ABBREVIATION

AFC	: Asian financial crisis
BKKBN	: National Family Planning Coordinating Board (Badan Koordinasi Keluarga Berencana Nasional)
BPS	: Statistics Indonesia (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	: Organization for Economic Co-operation and Development
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

I. INTRODUCTION

Most of the world's income poor, as does 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 when higher levels of average per capita income are being experienced.

Furthermore, the fact that most of the world's poor now live in lower middle-income countries (LMICs), who have attained Middle-Income Country (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 holds a deeper 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 to this, although the thresholds do not mean a sudden change in these countries when a particular line in per capita income is crossed, substantially higher levels of average per capita income imply that substantially more domestic resources become 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. This 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 datasets. Therefore, the purpose of this paper is to consider overall trends and the evolving composition of poverty over time by the poverty measures chosen in order to develop further avenues for exploration in the future.

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.

II. POVERTY, INEQUALITY AND ECONOMIC DEVELOPMENT IN INDONESIA SINCE 1990

2.1 Indicators of Economic Development

Indonesia has achieved well-documented and drastic improvements in average incomes and across various indicators of economic development and poverty reduction over the past two decades. Indonesia achieved middle-income country (MIC) status in terms of 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. Indonesia’s gross national income (GNI) per capita (Atlas) was US\$2,500 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 – the choice of years intentionally includes DHS data survey years).

Table 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, Overseas Development Assistance (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 as well as the labor force and urbanization rates (again with noticeable reverse trends around the AFC) (see also figures 1 and 2). However, export dependency on primary commodities remains significant and rising over time to around 10% 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 2. Indonesia—Economic Indicators Relative to Country Groupings, Population 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.2), it is much closer to the UMIC group average in terms of ODA and urbanization. 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% of the HIC OECD group average; well above the LIC average (3%), although some distance from the UMIC average.

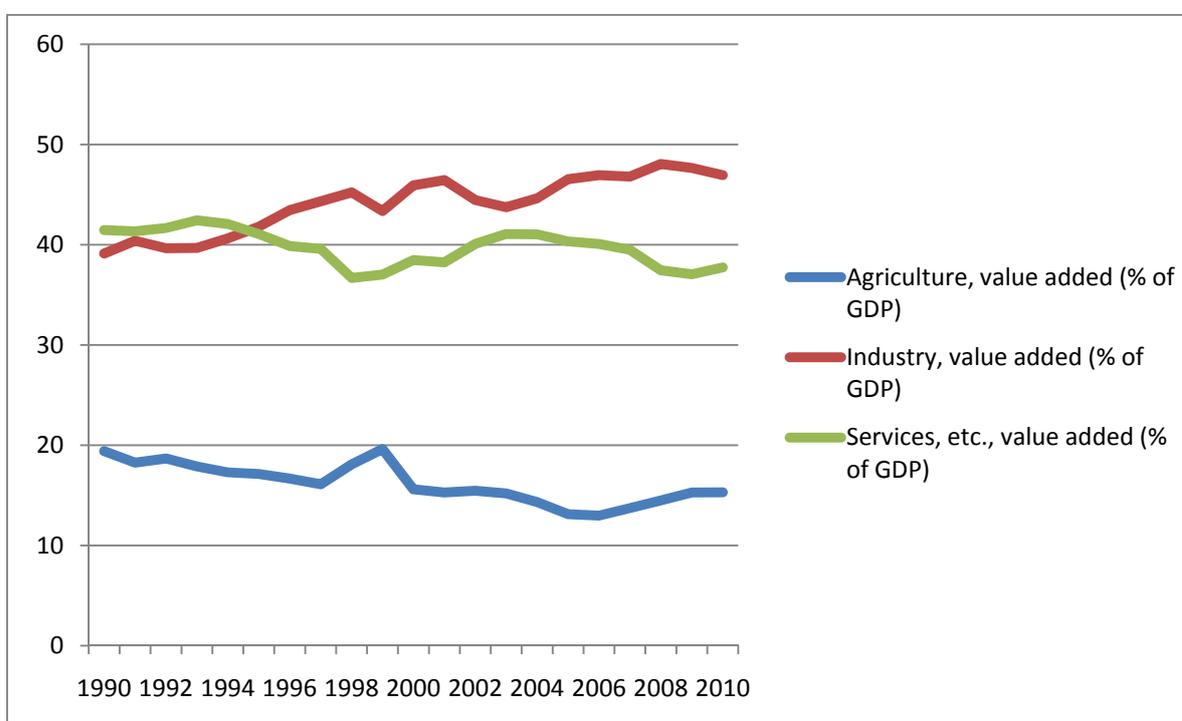


Figure 1. Sector value-added (as % GDP)

Source: Data from World Bank (2012b).

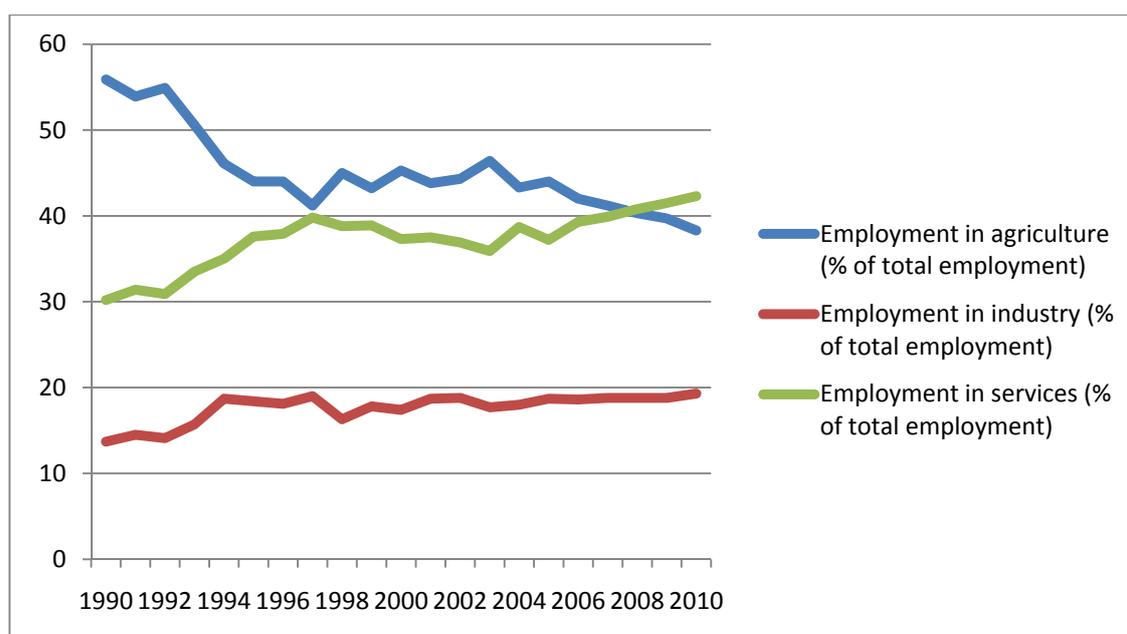


Figure 2. Employment by sector (% total employment)

Source: Data from World Bank (2012b).

2.2 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 3 and 4). In Indonesia, between 1990 and 2010, income poverty measured by both of the 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. Furthermore, 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). Additionally, according to the World Bank (2012a), primary school completion rates are close to 100% and infant mortality has fallen to 26/1000 live births by 2010.

**Table 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 4. Indonesia—Poverty and Inequality Indicators Relative to Country Groupings, population weighted, 2010 (or nearest available year)

	Indonesia	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 time of the AFC. It then drastically increased in the early 2000s. The share of GNI to the poorest 40 per cent of the population 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 of the population 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 favorable 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 favorably 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 presented here in this paper: 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).

2.3 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 these studies that have been published in English and are 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)'.⁵

The list of original references produced by the initial search was refined and these references were 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 the review 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 utilize the labor 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 Appendix 2, three themes particularly relevant to the discussion of this paper which are summarized here:

a) 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:

- (1) Consistent with the data provided in the previous section, absolute poverty declined in Indonesia during the Suharto years (Asra, 2000; Booth, 2000; Friedman, 2005). However, poverty was still significant prior to the 1997–99 financial crisis, and may have been underestimated due to national poverty lines being set too low (Asra, 2000).
- (2) 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).
- (3) 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 that the social consequences were less severe than anticipated include Suryahadi and Sumarto (2003a; 2003b). Those arguing that the 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).

b) 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:

- (1) 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).

- (2) 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).

c). Studies focused on long-run nonincome/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:

- (1) 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).
- (2) The AFC did not have a large negative impact on children's nutrition (Cameron, 2000). However, urban children were more affected than children in rural locations during the crisis (Bardosono et al., 2007).
- (3) 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, to the author's knowledge, previously been undertaken for Indonesia 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 nonincome poverty disparities by spatial and social characteristics of households by head.

III. THE EVOLUTION OF EDUCATION AND HEALTH POVERTY IN INDONESIA, 1991–2007

3.1 The Demographic and Health Survey in Indonesia

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

The Demographic and Health Surveys (DHS) program 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 Statistics Indonesia (BPS).

¹See for DHS model questionnaire, survey organization 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.

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

The DHS is a standardized, 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.

3.1.1. Robustness and limitations

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

Firstly, 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 group 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).

Secondly, as is common practice with many income and multi-dimensional poverty estimates, the estimates presented below assign a poverty status to the whole household based on the circumstance affecting one household member. The justification for, and assumption of, such an approach is that the ill-being of children, in the case of this paper, 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 as it has implications for equality of opportunity/capabilities and the future poverty profile.

Household data is used, then weightings 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 every three children aged 15–24 did not complete primary education” means 33.3% deprivation in this particular case, and not full deprivation). More importantly, as noted above only households with a woman of reproductive age are interviewed (justified by the focus of the DHS on health matters).

Thirdly, in the estimates outlined below, changes in the underlying population are not compared with changes in the population living in poverty. This is an avenue for 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 has been no attempt 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 this time 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 Suharto 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 and 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):

- a) 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],
- b) 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].

As 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).

Descriptive statistics on education and health poverty from 1991–2007 is shown in Table A2. 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, and then weightings are 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.

³The 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.

3.2 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 noteworthy. 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 5).

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 in the “no education” group for education poverty and in the households with head in the “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.

Table 5. 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
Population	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

... (continued)

Classification	Subgroup	EDUCATION POVERTY					HEALTH POVERTY				
		1991	1994	1997	2003	2007	1991	1994	1997	2003	2007
Occupation of household head	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
	Central 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 ^a		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	

... (continued)

Classification	Subgroup	EDUCATION POVERTY					HEALTH POVERTY				
		1991	1994	1997	2003	2007	1991	1994	1997	2003	2007
	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^b					497,087			0	34,517	
	Papua Barat^c					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.

^aNow Papua

^bFormerly Irian Jaya

^cFormerly West Irian Jaya

In terms of the incidence of education and health poverty (see Table 6), 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 who had “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. Furthermore, education and health poverty rates declined for those in households whose head was without work, and those in households with a head who was 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 7), 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 rates. 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 that have “no education” (for education poverty) and those in households with heads that have “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 involved 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. 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 6. 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
<i>Population</i>	<i>Total</i>	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%

... (continued)

Classification	Subgroup	EDUCATION POVERTY					HEALTH POVERTY				
		1991	1994	1997	2003	2007	1991	1994	1997	2003	2007
	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 7. 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
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	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%

... (continued)

Classification	Subgroup	EDUCATION POVERTY					HEALTH POVERTY				
		1991	1994	1997	2003	2007	1991	1994	1997	2003	2007
	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.

IV. 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 8).

Several points are worth noting:

Firstly, 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.

Secondly, 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 to this, the proportion of poverty among those in households with a head who has “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 across provinces in Indonesia has not changed much between 1994 and 2007 (there is no data for 1991), other than a large fall in the proportion of 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 poverty in the province of 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 poverty in the order of 2–3 per cent) 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 sub-group 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 who have no education (or other covariates) vary as a share of the population would be pursued in a future discussion paper to bring greater insight into the findings above.

Table 8. 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
Population	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%

... (continued)

Classification	Subgroup	EDUCATION POVERTY					HEALTH POVERTY				
		1991	1994	1997	2003	2007	1991	1994	1997	2003	2007
	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%

... (continued)

Classification	Subgroup	EDUCATION POVERTY					HEALTH POVERTY				
		1991	1994	1997	2003	2007	1991	1994	1997	2003	2007
	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.

V. 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 time of 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 last two decades. Most notably, the composition of poverty after two decades of growth is different in terms of being more urbanized, 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 the 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 who has an “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, and perhaps surprisingly, the distribution of education and health poverty in Indonesia across provinces has not changed considerably, 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 urbanize 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.

APPENDIX 1. Methodology

The DHS is a standardized, nationally representative household survey conducted mainly in countries that receive aid from USAID (plus some beneficiaries of the World Bank and UNDP). The 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 aged 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 weightings 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 re-weighting: in the computations, cases with missing values have been excluded pairwise. To compensate for the excluded cases the remaining cases were re-weighted. Weightings 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 weightings of excluded cases not redistributed in this process were dismissed. There was a limitation in the re-weighting of remaining cases to 200 per cent of their original weighting.

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

- a) 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:13).
- b) Proximity: large city, small city, town, countryside [all households];
- c) Wealth: division into DHS Wealth Index quintiles [all households]; *The DHS Wealth Index is standardized across countries with minor specifications* (for details, see Rutstein and Johnson, 2004).

- d) Education of household head: no education, incomplete primary, complete primary, incomplete secondary, complete secondary, higher [all households].
- e) 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:

- a) % poor of subgroup: proportion of poor in subgroup as percentage of all in subgroup;
- b) % poor of all poor: proportion of poor in subgroup as percentage of poor of total population;
- c) % 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 covariance 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	1997–2007 ^a
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.

Note: Significance level .05.

^aDue to retained null hypothesis.

Table A4. Correlates of Education and Health Poverty in Indonesia, 1991–2007

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.

APPENDIX 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 recognized by authors
Akita (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	<i>Kabupaten</i> -level GDP data from the BPS series Gross Regional Domestic Product of <i>kabupaten/kota</i> 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. Utilizes 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 (2003) Decomposing Regional Income Inequality in China and Indonesia Using Two-stage Nested Theil Decomposition Method. The Annals of Regional Science 37(1): 55–77.	1993–1997	Statistics Indonesia Gross Regional Domestic Product of <i>kabupaten/kota</i> 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 inequality into between region, between province and within province inequality. Applies method to China and Indonesia (p.56)	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-province inequalities into account (p.72)	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)

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Akita & Miyata (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, Kurniawan, and Miyata (2011) Structural Changes and Regional Income Inequality in Indonesia: A Bidimensional Decomposition Analysis. Asian Economic Journal, 25: 55–77	1983–2004	Statistics Indonesia, Gross Regional Domestic Product of Provinces in Indonesia by Industrial Origin, various years (p.63)	Interprovincial inequality measure (p.64)	Utilizes bidimensional decomposition method of a population-weighted coefficient of variation to analyze the changes in determinants of interprovincial income inequality associated with national 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).	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 inequality: (i) uneven distribution of immobile natural resources across provinces; (ii) economic primacy of Jakarta; (iii) spatial distribution of resource-oriented manufacturing industries (pp. 73–75).	(i) Bidimensional decomposition method is descriptive and static; (ii) Does not examine how the regional income distributions of different industrial sectors are related; (iii) Sum of weights used in the within-region 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)

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Alisjahbana & Yusuf (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).	Utilizes 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 analyze 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 & Foster (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 (i) lives in a household with expenditure below 150,000 rupiah, (ii) has 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).	Proposes a new methodology for multidimensional poverty measurement, consisting of an identification method ρ_k that extends the traditional intersection and union approaches, and a class of poverty measures M_α . Illustrated by examples from Indonesia (p.476)	Analyzes 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 dimension (p.485).	(i) Identification method sensitive to some changes but insensitive to others; (ii) Insensitivity meaning that a poor person can never rise out of poverty by increasing the level of a non-deprived achievement. (p.485)
Alisjahbana & 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 Labor 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 labor 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	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
					countries. Poor more likely to work in agriculture and informal sector. Unemployed/ underemployed young people more heavily concentrated in poor households (pp.257–258)	
Asra (2000) Poverty and Inequality in Indonesia: Estimates, Decomposition and key Issues. Journal of the Asia Pacific Economy, 51(1–2):91–111.	1976-1996	BPS Susenas, 1984-1997(p.94)	Gini; National basic needs poverty line (p.93).	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)	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 has been the most significant component of poverty reduction. However, official poverty lines may have been too low, leading to an overestimation of the rate of poverty decline (p.105).	
Baliscan, Pernia, & Asra (2010) Revisiting Growth and Poverty Reduction in Indonesia: What do Subnational Data Show? Bulletin of Indonesian Economic Studies 39 (3)	1993-1999	BPS Susenas Core and Consumption Module, 1993-1999 (p.332). BPS Podes, 1993, 1996, 1999 (p.337).	BPS national poverty line (p.335). Welfare indicators, including schooling, farm characteristics and access to infrastructure, technology and finance (p.336)	Examination of key determinants of poverty reduction during 1990s (p.332). Uses consistently assembled district level data to analyze the basic growth–poverty relationship, then probes the contribution of local attributes and time-varying economic factors to the variation	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).	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).

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
				in district-level economic performance vis-à-vis changes in poverty (p.332).		
Bardosono, Sastroamidjojo, & Lukito. (2007). Determinants of Child Malnutrition during the 1999 Economic Crisis In Selected Poor Areas of Indonesia. Asia Pacific Journal of Clinical Nutrition 16(3), 512-526.	1999-2001	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)	NCHS/WHO reference data for child height and weight: using categories: normal, moderately malnourished and severely malnourished. (p.514)	Cross sectional study of the nutritional status of children and its determinates performed in three selected poor areas of Indonesia, (p.513)	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)	
Booth (2000) Poverty and Inequality in The Soeharto Era: An Assessment. Bulletin of Indonesian Economic Studies 36(1).	1966–1996	BPS Statistical Yearbook of Indonesia, various issues from 1965. BPS Susenas, 1970-1996.	Gini coefficient, various national poverty lines	Survey of the trends in poverty and inequality during the years of Suharto's presidency.(p.73)	Indonesia saw a decline in incidence of absolute poverty over the Suharto 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 Suharto regime, before the 97/98 financial crisis (p.96-97)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Cameron (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	1984–1999	BPS Susenas, 1984-1990 (p.150)	Lorenz curves, Gini coefficient, variance of logs and 90–10th percentile ratio. (p.156).	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)	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).	
Cameron (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.)	1994–1999	BPS 100 Village Survey 1994, 1997, 1998, 1999. (p.3)	Weight for height and height for age (p.18)	Examination of the impact of the 97/98 financial crisis on children in Indonesia, in terms of school attendance, child labor force participation and health status, using pre- and post crisis rounds of the 100 Villages Survey (p.2)	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)	Main focus on indicators not included in scope of this review.

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
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.	1993–2000	BSP Susenas, various years. BSP Welfare Indicators, 1998-1999 (p.1213)	BSP national poverty measure (p.1213). Capability poverty measure (p.1215). Author's own poverty lines (p.1220). Poverty severity.	Proposal of alternative estimates of consumption poverty for the pre-97/98 crisis period, and examination of the behavior of consumption poverty during the crisis and how it relates to vulnerability (p.1211)	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)	
Fane & Warr (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.	2002	Model. Database of WAYANG model (p.7)	Gini coefficient. Headcount poverty rate and poverty gap (p.5)	Utilizes 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)	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)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Fields et al. (2003) For Richer or for Poorer? Evidence from Indonesia, South Africa, Spain, and Venezuela. Journal of Economic Inequality 1 67–99.	1993–1997	Indonesian Family Life Survey, 1993 & 1997 (p.70)	Gini	Analyzes household income dynamics using longitudinal data from Indonesia, South Africa (KwaZulu-Natal), Spain and Venezuela (p.67)	In all four surveyed countries, households that reported the lowest base year incomes enjoyed the most favorable income changes. Qualified conclusion: before taking account of measurement error, in all four countries, the combined effects of economic and political changes favoring poor households, recovery from transitory income shocks, and measurement error in income outweighed the combined effects of cumulative advantage and poverty traps (p.93).	
Frankema and Marks (2009) Was it Really “Growth with Equity” under Soeharto? A Theil Analysis of Indonesian Income Inequality, 1961-2002. Economics and Finance in Indonesia 57(1), 47-76	1961–2002	Population Censuses 1961-2000; BPS Sakernas 1977-2002; Susenas 1979, 1982; Inter-census Population Surveys 1985, 1995 (p.57).	Theil indicator (p.55)	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)	Inter and intra-sector income inequality increased during the Suharto era, especially between the early 1980s and mid 1990s. Inequality more volatile than suggested by conventional estimates. 97/98 crisis is a temporary disruption, not a structural break point (p.71)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Friedman (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.	1984–1999	BPS Susenas Consumption Module, 1984, 1987, 1990, 1993, 1996 and 1999 (p.5)	Monetary poverty lines (lower: food poverty; upper: basic needs), authors' own (p.9) Derived from Ravallion (1994). P.36	Utilizes 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)	(i) 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; (ii) Poverty strongly correlates with mean income growth even when provincial changes in inequality are ignored; (iii) The presence of persistent provincial level characteristics that affect poverty. Poverty much more responsive to growth in some regions than others. (p.34).	
Friedman & Levinsohn. (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	1996–2001	BPS Susenas consumption data, 1996; BPS price data 1997-98 (p.399)	Authors' own monetary poverty line, calculated from 1996 Susenas data using approach from Ravallion, 2004 (p.407)	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)	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)	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).

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Hill (2008) Globalization, Inequality, and Local-level Dynamics: Indonesia and the Philippines. Asian Economic Policy Review, 3: 42–61.	1975–2004	BPS Regional Income by Industry and by Expenditure, 1975–2004 (p.49)	Gross Regional Product comparisons	Utilizes a spatial economic framework to examine the issues of subnational disparities and center-region relations with reference to Indonesia and the Philippines (p.42)	No clear trend in interregional inequality; growth has by and large been neutral in its distribution. 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. Decentralization has not (yet) had a major impact on regional dynamics and inequality. (pp.58-59)	Not looking at poverty specifically but economic activity.
Hill, , Resosudarmo & Vidyattama (2008) Indonesia's Changing Economic Geography. Bulletin of Indonesian Economic Studies 44 (3): 207-435	1975–2004	BPS regional Income by Industrial Origin, and Regional Income of Provinces in Indonesia by Expenditure 1975–2004 (p.413)	Gross Regional Product comparisons	Examination of economic growth, inequality, convergence, structural change, demographic dynamics and social indicators since the 1970s (p.408).	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).	Not looking at poverty specifically but economic activity.

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Houweling et al. (2006) Mortality Inequalities in Times of Economic Growth: Time Trends in Socioeconomic and Regional Inequalities in Under-5 Mortality in Indonesia, 1982–1997. Journal of Epidemiology and Community Health 60 (1): 62-68	1987–1997	Indonesian Demographic and Health Surveys 1987, 1991. 1994 and 1997.	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.	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).	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).	(i) Not enough statistical power to exclude possibility that decline attributable to chance variations; (ii) The wealth index used has limited usefulness in time trend analyses (p.67).
Lanjouw et al. (2001) Poverty, Education and Health in Indonesia: Who Benefits from Public Spending? Mimeograph. Washington DC: World Bank.	1995–1998	BPS Susenas Core, 1995-1998; BPS Health and Education Modules, 1995-1998.	Monetary poverty lines ('alternative' poverty lines), Ravallion and Bidani, 1994 (p.60)	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)	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)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Ravallion and Lokshin (2007) Lasting Impacts of Indonesia's Financial Crisis. Economic Development and Cultural Change , Vol. 56, No. 1 (October 2007): 27-56	1993–2002	10 rounds of BSP Susenas Core, 1993-2002 (p.32).	Updated monetary poverty lines based on Bidani and Ravallion, 1993 (p.33)	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 (i) time-series projections at the district level; (ii) growth regressions across districts (p.31)	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)	Method (i) Limited number of time-series observations means that estimates are based on very simple time trends; (ii) 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).
Leigh & van der Eng (2009). Inequality in Indonesia: What Can We Learn from Top Incomes? Journal of Public Economics 93(1-2): 209-212	1920–2004	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)	Top 10%, 5%, 1%, 0.5%, 0.1%, 0.05% and 0.01% of earners (p.210)	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).	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).	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
McCulloch, & Grover,. (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	2008–2009	IDS rapid qualitative assessment, 2008 (p.6); Indonesian Labor Force Survey (Sakernas) 2008, 2009 (p.9).	Employment, working status, schooling, income and hours worked (p.9).	Rapid qualitative assessment of the impact of the 2008/09 financial crisis to generate hypotheses about the potential national impacts; tested with labor force surveys from before and after the onset of the crisis (p.2).	Indonesia weathered the 2008/09 financial crisis reasonably well; better than their neighbors. Little evidence of subgroups that have been particularly badly affected. Share of children dropping out of school stayed the same. Labor 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).	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).
McCulloch, Weisbrod, & Timmer,. (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	1982–2000	BPS Susenas, 1982, 1993, 2002; Indonesia Family Life Survey 1993, 1997, 2000 (p.14)	Authors' own, derived from 2000 BPS poverty line (pp.16–17)	Utilize cross sectional and panel data to show which pathways out of poverty were most successful between 1993 and 2000 (p.1).	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).	Study excludes the young and unemployed, as well as new entrants into the panel in 2000 (p.45).

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Miranti, and Resosudarmo, (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	1993–1996	BPS Susenas, 1993–1996 (p.145).	Author's own headcount, poverty gap and squared poverty gap measures (p.145).	Three types of analysis: (i) concerning the inferences about μ_{west} - μ_{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; (ii) Concerning the estimation of growth elasticity of poverty based on Ravallion's 2001 model; (iii) Concerning the estimation of the determinants of poverty using a modification of the model developed by Baliscan et al., 2003 (p.144)	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).	Dataset is too short. Some of the variables listed may not be the best proxies for the true intended variables (p.153).
Newhouse, (2005) The Persistence of Income Shocks: Evidence from Rural Indonesia. Review of Development Economics, 9: 415–433	1993–1997	IFLS 1993, 1997 (p.419).	Income shocks - see methodology	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 to its 1993 per capita income, controlling for time-invariant characteristics of the household (p.415).	(i) Roughly 30% of 1993 income shock remained 4 years later; (ii) Positive shocks exhibit greater persistence than negative shocks; (iii) Positive shocks for rich households exhibit the greatest persistence (p.430).	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Pakpahan, Suryadarma & Suryahadi (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: (i) 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); (ii) 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. (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.

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Pradhan et al. (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)	1999	BPS Susenas 1999 (p.13)	See methodology	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)	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)	
Priebe, Rudolf, Klasen, & Weisbrod,(2009) Rural Income Dynamics in Post-Crisis Indonesia. Proceedings of the German Development Economics Conference, Frankfurt A.M. 2009, No. 29	2001–2006. Compared to Susenas, 2002 & 2005 (p.8)	Unique data set based on a household panel survey (STORMA), 2001, 2004, 2006 (p.2)	Unclear; seemingly national monetary poverty line (p.13). Some use of quintiles (p.16).	Utilizes 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)	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)	Preliminary version of paper; incomplete.

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Pritchett, (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, Suryahadi, & Sumarto, (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)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Skoufias (2001) Changes in Regional Inequality and Social Welfare in Indonesia from 1996 to 1999. J. Int. Dev., 13: 73–91 (Also SMERU working paper)	1996–1999	BPS Susenas 1996, 1999 (p.75).	Social welfare measure and indices of inequality (p. 78).	Utilizes consumption data to calculate proportional changes in two welfare measures within 52 rural and urban regions of Indonesia (p.73). Utilizes 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).	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).	
Skoufias, Suryahadi, & Sumarto (2000) Changes in Household Welfare, Poverty and Inequality during the Crisis. Bulletin of Indonesian Economic Studies, 36(2):97–114.	1997–1998	BPS 100 Village Survey 1997, 1998	Official pre-crisis monetary poverty line. Poverty gap. (p.102)	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.)	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)	Sample not representative of total population, and matching of households from first survey to ensure continuity in second survey imperfect (p.98)
Strauss, Beegle, Dwiyanto, et al. (2004) Indonesian Living Standards Before and After the Financial Crisis: Evidence from the Indonesia Family Life Survey, Santa Monica, CA:	1993–2000	IFLS 1993, 1997, 1998, 2000 (p.8)	Monetary poverty lines by province, based on Pradhan et al (2001), disaggregated by age group (p.20, 50)	Analysis of IFLS studies, 1993-2000.	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)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
RAND Corporation. (Also published by the Institute of Southeast Asian Studies: Singapore, 2004)						
Sumarto, Suryadarma, & Suryahadi, (2006) Predicting Consumption Poverty Using Non-consumption Indicators: Experiments Using Indonesian Data. SMERU Research Institute Working Paper. Jakarta: SMERU	1999	BPS Susenas - merged dataset of Core, Consumption Module and SSN module, 1999 (p.3)	Pradhan et al. (2001) national and food poverty lines (p.5)	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)	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)	
Suryadarma, Artha, Suryahadi, & Sumarto (2005).A Reassessment of Inequality and Its Role in Poverty Reduction in Indonesia. SMERU Research Institute Working Paper. Jakarta:	1984–2002	BPS Susenas Consumption Module, 1984, 1987, 1990, 1993, 1996, 1999 and 2002. (p.11)	Pradhan et al (2001) regional poverty lines for each BPS survey year (p.12)	Utilizes regional poverty lines from Pradhan et al. (2001) as a regional price index; (i) Used to reassess evolution of inequality between 1984–2002; (ii) Examines relationship between inequality and poverty (using GINI, GE, and Atkinson Indices), using a model to estimate the	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	

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SMERU				'distribution-corrected' growth elasticity of the poverty rate using provincial level data (p.2).	influences the growth elasticity of poverty: as inequality increases, elasticity decreases. (p.22)	
Suryadarma et al. (2006) From Access to Income: Regional and Ethnic Inequality in Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU	2002–2004	BPS Susenas Core and Consumption Module, 2002 and 2004. BPS Podes 2003. SMERU social capital dataset 2004 (p.2-3)	Inequalities of opportunity across 5 dimensions; Gini.	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)	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)	
Suryahadi & Sumarto (2001) The Chronic Poor, The Transient Poor, and the Vulnerable in Indonesia Before and After the Crisis. SMERU Research Institute Working Paper. Jakarta: SMERU	1996–1999	BPS Susenas, Core and Consumption Module, 1996, 1999; Village Potential (PODES) surveys, 1996, 1999. (p.9)	Headcount monetary poverty measure, based on Pradhan et al. (2000); slightly different due to merging of datasets (p.10)	Utilizes a method for estimating household vulnerability to poverty, using estimates of variance of consumption expenditures (drawing on Chandhuri, 2000) (p.4).	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)	Measurement errors in household surveys can overstate the variance of consumption and affect measurement of vulnerability (p.7)

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Suryahadi and Sumarto. (2003a) Poverty and Vulnerability in Indonesia Before and After the Economic Crisis. Asian Economic Journal, 17: 45–64.	1996–1999	Merging of BSP Susenas consumption module, 1996, 1999; and PODES 1996, 1999 (p.52).	Headcount poverty measure, based on Pradhan et al, 2001 but differing slightly due to merging of datasets (p.51)	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).	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).	Quantitative method for estimating vulnerability still in its infancy (p.62)
Suryahadi, Hadiwidjaja, & Sumarto (2012) Economic Growth and Poverty Reduction in Indonesia Before and After the Asian Financial Crisis. SMERU Research Institute Working Paper. Jakarta: SMERU	1976–2010	BPS (various years)	National poverty line as set by BPS. (p1)	Utilizes a growth-poverty framework, focusing on levels of sectoral growth and sectoral composition of Indonesian economy, to assess hypothesis that the slower poverty reduction post-97/98 financial crisis is due to declining growth elasticity of poverty (p.2)	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 the services sector is still the largest contributor to poverty reduction. Industrial sector growth is now largely irrelevant. Agriculture sector growth is 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)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Suryahadi et al. (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	Mainly 2000–2009	BPS Susenas Consumption Module 2007, 2008, 2009; DHS 2007 (p.3, 4); BPS Sakernas 2003-2009 (p.5); BPS Susenas Core 2009 (p.5)	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)	Analysis of the profile and trends of multidimensional poverty and vulnerability, and identification of opportunities and constraints to reducing them (p.2).	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.	Methodology and conclusions rather broad and general
Suryahadi and Sumarto (2003b). The Evolution of Poverty during the Crisis in Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU (Also published in Asian Economic Journal, 17(3): 221–241	1996–2002	BPS Susenas Consumption Module 1996, 1999, 2002; Mini Susenas 1998, 1999; Susenas Core, 1999, 2000, 2001; 100 Village Survey, 1997, 1998, 1999 (p.15)	Headcount poverty measure, beginning from Pradhan et al. (2001) calculated poverty rate (p.16)	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)	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)	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Suryahadi, Suryadarma, & Sumarto (2006) Economic Growth and Poverty Reduction in Indonesia: The Effects of Location and Sectoral Components of Growth. SMERU Research Institute Working Paper. Jakarta: SMERU	1984–2002	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 labor Force Survey) data on education levels, 1986 (p.6)	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)	Analyzes 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 heteroskedasticity across provinces (p.19-20)	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)	
Timmer (2004) The Road to Pro-poor Growth: The Indonesian Experience in Regional Perspective. Bulletin of Indonesian Economic Studies 40(2): 177-207	1967–2002	BPS Susenas Consumption Module, 1967–2002 (p.185).	Gini (p.179). Bottom quintile in income distribution (p.182).	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	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).	

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
van der Eng. (2009) Growth and Inequality: The Case of Indonesia, 1960-1997. MPRA Paper No. 12725. Munich: Munich Personal RePEc Archive	1960–1999	Susenas and Sakernas, various years (pp.11–12)	Gini	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-developed country, Indonesia (p.2)	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 suggestion that there has been a trade off between growth and equality in Indonesia (p.19).	
van Leeuwen & Foldvari (2012) 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 (2010) Multidimensional Poverty Dynamics in Indonesia (1993–2007). University of Nottingham: School of	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 socioeconomic 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 and 2007. Chronic poverty	MSc Dissertation - unsure of quality of analysis.

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Economics.					more prevalent than transitory (p.51)	
Widyanti, Sumarto, & Suryahadi (2001) Short-term Poverty Dynamics: Evidence from Rural Indonesia. SMERU Research Institute Working Paper. Jakarta: SMERU (Also published in Journal of International Development, 15 (2):133-144, 2003.)	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)	
Widyanti et al. (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 program.

Full Reference	Years covered	Dataset	Poverty/Inequality Indicator	Methodology	Main findings	Limitations recognized by authors
Zin (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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The SMERU Research Institute

Telephone : +62 21 3193 6336

Fax : +62 21 3193 0850

E-mail : smeru@smeru.or.id

Website : www.smeru.or.id