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**Working Paper**

## Is Growth in Asia and the Pacific Inclusive?

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## ADB Economics Working Paper Series



### Is Growth in Asia and the Pacific Inclusive?

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Craig Sugden

No. 317 | December 2012



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## **ABSTRACT**

Inclusive economic growth challenges governments to achieve a high, sustainable rate of economic growth and to share opportunity equitably across society. It brings with it an operational challenge of finding an approach to performance measurement that captures the richness of the concept. This study applies one approach to assess the growth experience of 22 developing economies in Asia and the Pacific region. Special attention is paid to 11 economies—Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam. It is found that growth in these 11 economies, which collectively account for about half of the region's population, has become more inclusive. Access to opportunity is generally on the rise and inequality in opportunity is generally in decline. There is nonetheless considerable room for further gains, particularly in the South and Southeast Asian economies studied, where inequality in opportunity is high. Inequality in opportunity is generally lower in the Central Asian and Pacific economies studied. In the Pacific Island economies studied, the key challenge is to achieve a high, sustainable rate of economic growth.





## I. INTRODUCTION

The Asian Development Bank's (ADB) Strategy 2020 identifies the achievement of inclusive economic growth as one of three development agendas for the Asia and Pacific region (ADB, 2008). Inclusive economic growth is defined as high, sustainable growth that creates and expands economic opportunity, and provides broader access to these opportunities so all members of society can participate in and benefit from growth. Ali and Zhuang (2007, 2010) summarize the concept as "growth coupled with equality of opportunity."

Inclusive growth emphasizes the achievement of equality regardless of individual circumstances. The emphasis on circumstances is a feature of the philosophical origins of the concept, and marks an important break from earlier thinking. Roemer (1998, 2006, 2011), for example, highlights that objectives such as income or life expectancy are a result of circumstances, policy, and effort. Circumstances are factors beyond an individual's control, such as family background, culture, and gender. He argues that the state should use policy to address inequality arising from different circumstances, but inequality that arises from differences in effort do not necessarily warrant state action. This is because the individual should share responsibility for their own effort.

Inclusive growth thus shifts from an emphasis on correcting inequality in economic objectives, more commonly described as development outcomes. It instead focuses attention on correcting factors beyond an individual's control that constitute inequality in opportunity.

Because inclusive economic growth has two aims—expanding aggregate opportunity and improving the distribution of opportunity—assessing whether it has been achieved requires a view on the relative importance of the two aims. It also requires a view on the weighting attached to different members of society, such as an egalitarian weighting or one that gives more weight to the disadvantaged. This weighting is required to allow comparisons of the social merit of different inequitable distributions.

This study assesses whether growth has been inclusive in Asia and the Pacific by preparing a distribution weighted measure of opportunity. This is the simple average of an opportunity indicator adjusted for the inequality in its distribution. This measure of opportunity steps beyond the use of economy-wide indicators, which cannot shed light on inclusiveness because they are silent on distributional issues. The measure also steps beyond the examination of the urban–rural divide and of gender imbalance to look at equity across living standards. This allows an assessment of progress in creating opportunity for the poorer members of society.

Distribution weighted measures of opportunity are prepared for 22 developing member countries of the ADB, which collectively account for more than half of the Asia and Pacific's population. The earliest data are for 1990–1991 and the latest for 2011. While data gaps prevent a comprehensive assessment, a picture is painted of growth becoming more inclusive. The economies are growing, access to opportunity is generally on the rise, and inequality in opportunity is generally in decline. A number of countries have essentially achieved the target of equality in the provision of basic opportunities. There is nonetheless considerable room for further gains, particularly in South and Southeast Asia where inequality is relatively high.

The next section outlines the methodology for preparing a distribution weighted measure of opportunity. The subsequent section presents the data used in the study, and estimates of the distribution weighted measure of opportunity. The findings of the study are then presented

based on an analysis of changes over time and the distribution of opportunity. The final section presents observations and suggestions.

## II. METHODOLOGY

Opportunity can be thought of as the combination of circumstances and policy. Opportunity is exogenous to an individual, and is free of the influence of that individual's effort. Two main approaches have been used to define opportunity. One approach is to identify circumstance and policy variables, and to use statistical techniques to isolate the portion of another variable of interest that is explained by the circumstance and policy variables. Examples of this approach include Bourguignon, Ferreira, and Menéndez (2003); de Barros et al. (2009); Molinas et al. (2010); ADB (2012), and Son (2012). A second approach is to identify variables that are expected to be dominated by circumstances and policy, and to use that variable as a proxy for opportunity. This approach relies on distinguishing what can be thought of as 'effort light' variables from 'effort heavy' variables. The studies of Ali and Son (2007a, b) and Son (2011) are examples of this approach. This study applies the second approach.

In practice, it can be difficult to define an effort light indicator for an adult that can be used as a proxy for opportunity. This is because adults normally have some ability to exert effort to influence what is available to them. For example, the availability of publicly supplied electricity can be thought of as exogenous to an adult if they are unable to move location; either the area they live in does, or does not, have electricity. But if an adult could with effort move to areas with electricity, then the availability of electricity is not truly an exogenous opportunity. The task can be made more manageable by drawing on the view, such as presented by Roemer (2011), that up to a certain age children cannot be held responsible for what is available to them. Hence, defining opportunity from the perspective of a child simplifies the task, as a variable relating to a child can more reliably be considered independent of effort. This argument underlies the examination of human opportunity in South America by de Barros et al. (2009) and Molinas et al. (2010), which is undertaken from the perspective of children.

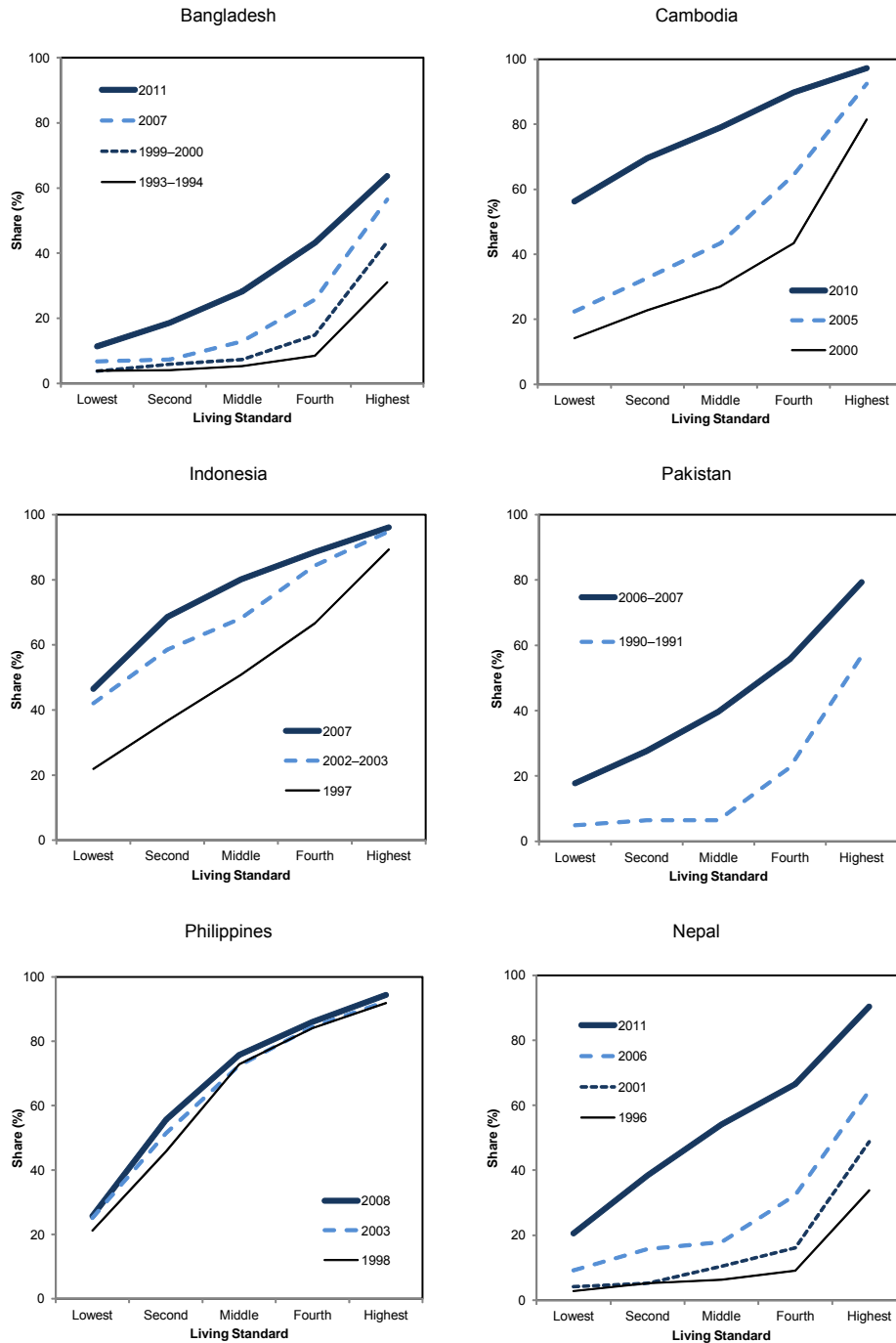
This study focuses on variables that can be considered proxies for opportunity—i.e., opportunity indicators—that are determined by circumstance and policy. A distinction is made between what are for convenience termed Type I and Type II opportunity indicators. Type I opportunity indicators are those that are considered exogenous, or close to exogenous, to a household or child. They are considered effort light. Type II opportunity indicators embody more effort.

For example, one indicator used is the availability of a skilled attendant at the birth of a child. This is a function of the coverage of basic health care, which can be considered exogenous to a child. The study also reports the infant mortality rate. While this variable is defined from the perspective of a child, it is arguably truly a household variable. It is likely to be a result of a range of determinants. Some will be exogenous to a household, such as the availability of a skilled attendant at birth, and others that are likely to be endogenous to a household, such as household income. The availability of a skilled attendant at birth is termed a Type I opportunity indicator, whereas the infant mortality rate is termed a Type II opportunity indicator.

Because of uncertainty as to whether the Type II indicators are effort light or effort heavy, the study's conclusions place most emphasis on the Type I indicators.

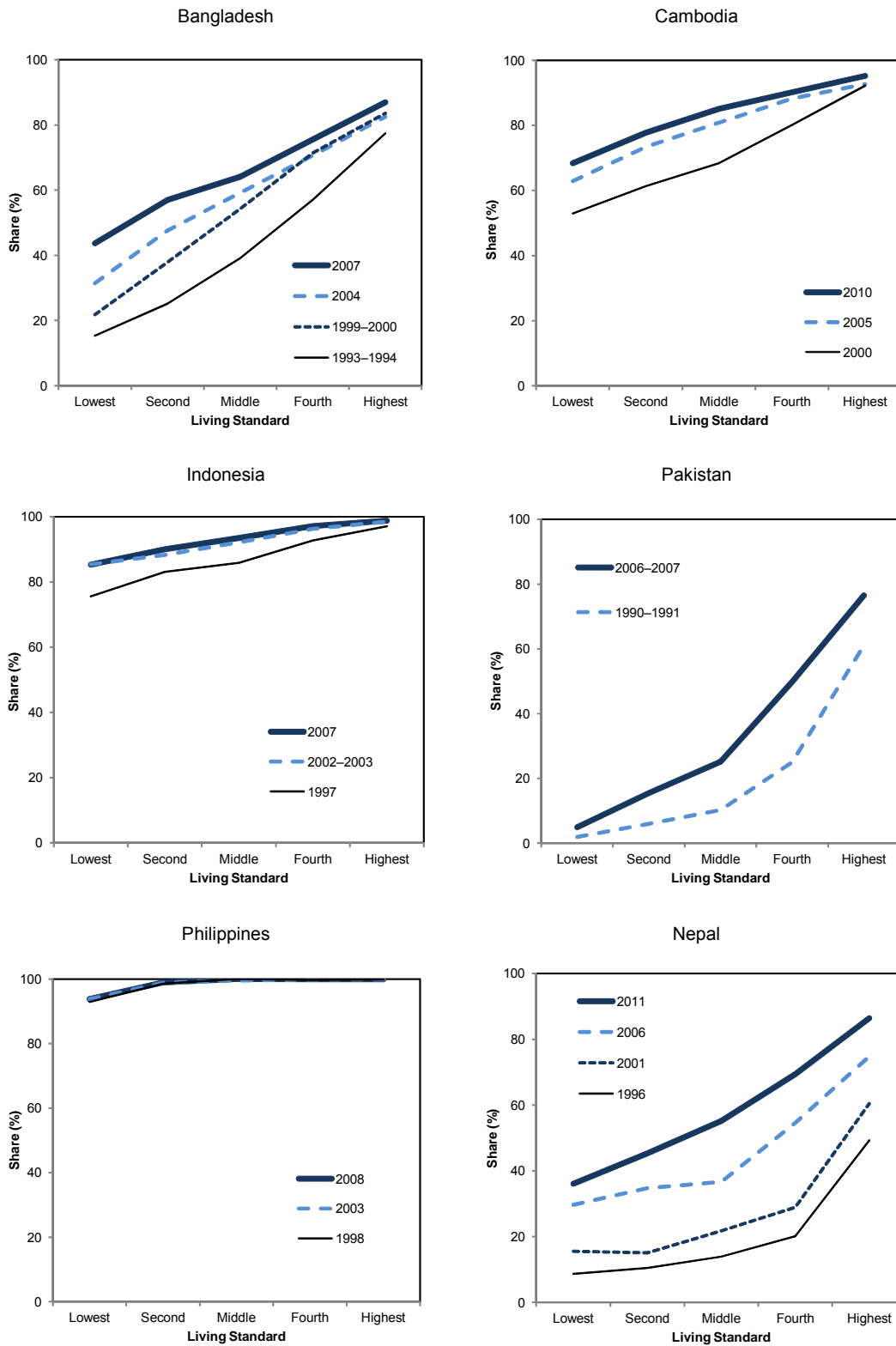
The distribution of an opportunity can be summarized through opportunity curves. Given an overarching interest in the reduction in poverty, the study focuses on the distribution of opportunity across (five) living standard groups. The opportunities curves are demonstrated in Figures 1 to 3.

**Figure 1: Opportunity Curves for Assistance at Birth by a Health Professional**



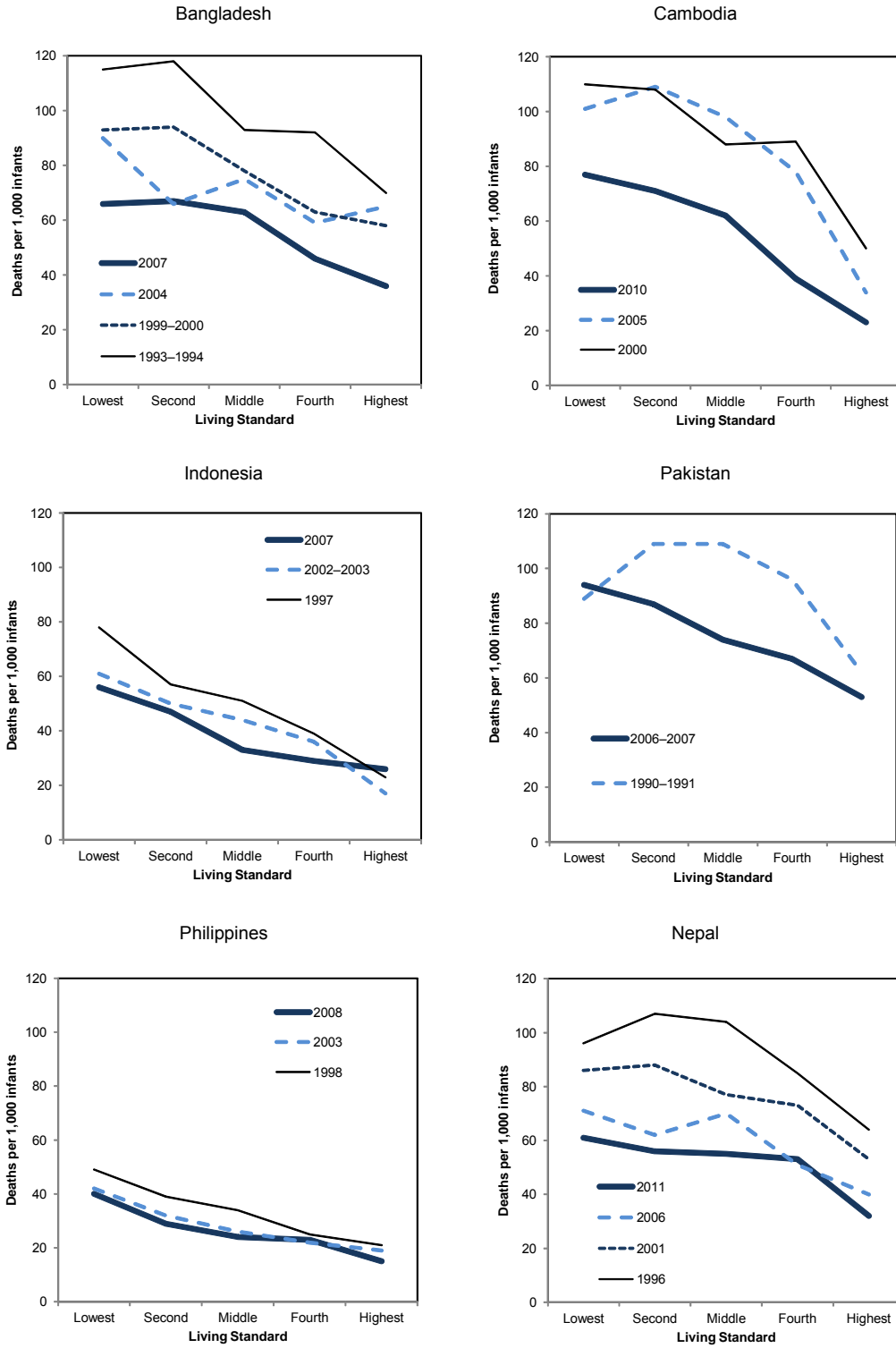
Note: Data are for births in the preceding 3 years, or where this is not available, the preceding 5 years. Sources: STATcompiler and country demographic and health survey reports available at ICF International (2012).

**Figure 2: Opportunity Curves for the Completion of Primary School by Women**



Sources: STATcompiler and country demographic and health survey reports available at ICF International (2012).

**Figure 3: Opportunity Curves for Infant Mortality Rates**



Sources: STATcompiler and country demographic and health survey reports available at ICF International (2012).

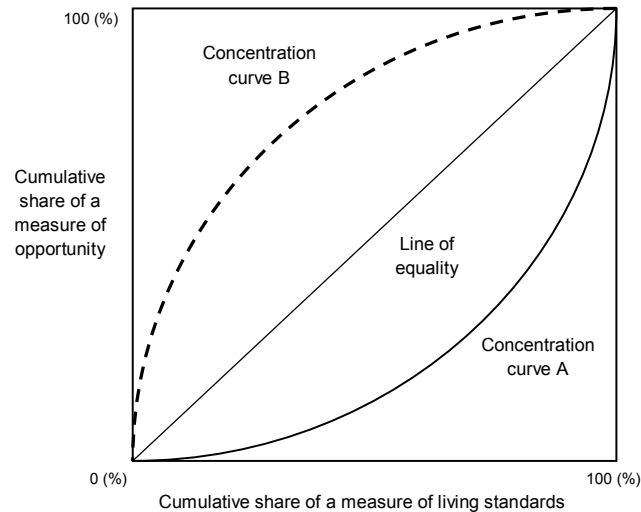
Most opportunity indicators used show coverage of a service, such as the assistance at births by health professionals shown at Figure 1, and the completion rate for primary school for women shown at Figure 2. For these opportunities, an improvement is shown by a rise or flattening in the opportunity curve over time. Some opportunities show the incidence of a problem, such as the infant mortality rate shown at Figure 3. For these opportunities, an improvement is shown by a fall or flattening in the opportunity curve over time.

The opportunity curves of Figures 1–3 show a pattern that is typical across the indicators used in the study. Those on higher living standards generally enjoy better opportunity than those on lower living standards, and opportunity is generally improving over time. In some cases, equality of opportunity has almost been achieved, but in most cases there is a large gap in opportunity between the poorest and the richest. There is also considerable variability across countries.

To assess progress towards achieving inclusive growth, a summary measure is needed of the overall change in opportunity and the distribution of the opportunity. Such a measure must be explicit on the weighting attached to different individuals, as such a weighting is needed to determine whether one distribution is superior to another.

A number of approaches have been used to prepare such a measure of opportunity. De Barros et al. (2009), Molinas et al. (2010), ADB (2012), and Son (2012) use the dissimilarity index. This can be interpreted as the fraction of better-off people whose access to an opportunity would have to be reassigned to worse-off people in order to achieve equality of opportunity. Son (2011) utilizes the Bonferroni index, which is based on the Bonferroni curve. The Bonferroni curve ranks individuals by living standards and shows the average value of an economic variable for those on lower living standards compared to the average value of the variable across all living standards. Son (2011) and Sugden (forthcoming) apply the concentration index, which is based on the concentration curve.

A concentration curve is similar to the widely known Lorenz curve. A concentration curve can be shown as the cumulative proportion of the economic variable of interest on the  $y$  axis and the cumulative proportion of a measure of living standards on the  $x$  axis. Comparisons can then be made with a line of equality. Unlike a Lorenz curve, a concentration curve can lie either above or below the line of equality. An illustrative concentration curve is shown in Figure 4 for a hypothetical economic opportunity. For an opportunity that increases with living standards, a concentration curve below the line of equality (curve A in Figure 4) represents a distribution in favor of those with higher living standards (i.e., a pro-rich distribution), while a concentration curve above the line of equality (curve B in Figure 4) represents a distribution in favor of those with lower living standards (i.e., a pro-poor distribution). The gini coefficient provides a summary of income inequality represented by the Lorenz curve. The concentration index is the equivalent of the gini coefficient for the concentration curve. It provides a summary of inequality in the distribution of the economic variable represented by the concentration curve. The concentration index is one minus twice the area under the concentration curve. The index ranges between  $-1$  and  $1$ .

**Figure 4: A Concentration Curve for an Illustrative Opportunity**

Source: Author's illustration

The main difference between these three approaches to measuring opportunity is the method for weighting individuals. Son (2011) shows that the dissimilarity index attaches equal weights to all individuals with a below average living standard, and equal weights to all individuals with an above average living standard, and hence is not 'pro-poor'. The Bonferroni index and concentration index give more weight to the poor, with the weight increasing as living standards decline.

This study prefers the concentration index over the dissimilarity index because it has the ethically desirable feature of giving a higher weight to individuals as living standards decline. Both the concentration index and Bonferroni index have this feature. The concentration index is preferred for practical reasons, one being the ease of varying the weighting of the distribution, which is set by an aversion to inequality parameter. Under the standard assumption, the poorest individual receives a weight close to 2 while the richest member receives a weight close to zero. This can be easily varied to give more weight to those on lower living standards.

The summary measure of opportunity used in the study is the simple average of the opportunity indicator multiplied by one minus the concentration index for that indicator. Following Wagstaff (2002), this is termed the achievement measure.

To illustrate, consider the access to an opportunity where the variable is 1 when the individual has access, and 0 when there is no access. The simple average share of the variable across the population ranges from 0%, being a situation where no one has access, to 100% when all have access. If only the person on the lowest living standard has access, the concentration index is  $-1$ , and the achievement measure is twice the simple average. If only the person on the highest living standard has access, the concentration index is 1. In which case, the achievement measure is zero, because the simple average is multiplied by 1 minus 1 (i.e., multiplied by zero). If instead all individuals have access, the concentration index is zero, and the achievement measure equals the simple average, which is 100%.

Following Sugden (2012), this paper adopts a working definition of inclusive growth as a situation where the achievement measure increases over time, when a high and sustainable

rate of economic growth is also in place. Under this definition, inclusive growth can occur even if the distribution of opportunity becomes more inequitable. This is possible if the positive of an overall rise in opportunity outweighs the negative of higher inequality. Growth can also be inclusive if overall opportunity falls, provided the decline in inequality is large enough. If both the overall opportunity rises and inequality declines, growth is unambiguously inclusive.

It can also be concluded that growth has been inclusive if the distribution of opportunity is now equitable, because this can only be achieved if the growth path was an inclusive one.

### III. DATA OVERVIEW

The data used in the study are drawn from the demographic and health surveys (DHSs) available from the MEASURE DHS web site (see the STAT compiler of ICF International (2012) and the country reports available at <http://www.measuredhs.com/pubs>). The surveys provide data on a range of health, education, and what can be considered infrastructure-related opportunity indicators. These are ranked by living standards, where living standards are represented by asset holdings rather than the usual measures of income or consumption.<sup>1</sup> Data ranked by five living standard groups were collected for 22 developing member countries of the ADB, with the earliest data for 1990–1991 and the latest for 2011.<sup>2</sup>

The choice of opportunity indicators is a key decision. Rather than having to capture all dimensions of opportunity relevant to inclusive growth, it is assumed to be sufficient to identify indicators that they are representative of the general availability of opportunity. As noted above, the methodology relies on the use of indicators that can be considered exogenous, or close to exogenous, to a household or child. A distinction is made between Type I opportunity indicators, that are considered effort light, and Type II opportunity indicators that embody more effort.

The Type I health opportunity indicators are: the share of births attended by a doctor, nurse/assistant nurse, or health professional (the addition of the two); the share of births in a health facility; the share of children fully vaccinated; and the share of children that receive vitamin A supplements. The Type II health opportunity indicators are the: share of children with fever or acute respiratory illness; child nutritional status, as shown by the share of children that are stunted, wasted or underweight; and the infant and child mortality rates.

The Type I education opportunity indicators are the share of women and men that completed at least some primary. The Type II education opportunity indicators are the literacy rate of women and men, and the share of women and men that completed secondary school or a higher level of learning. Education data are only readily available for adults aged 15–49 years. But on the basis that most schooling education is undertaken as a child, the education indicators are interpreted as representative of the education available to children.

Direct measurements of the availability of infrastructure are not readily available. But some indirect measures are available, and they are adopted as infrastructure-related opportunity indicators. These are three Type I indicators—whether women identify having to take transport, or distance as serious barriers to health care, and the share of children whose

<sup>1</sup> An overview of the rationale and methodology for using assets as a measure of living standards is provided in Sugden (2012). Key contributions to the topic are Filmer and Pritchett (1999, 2001), Rutstein and Johnson (2004), and Filmer and Scott (2008).

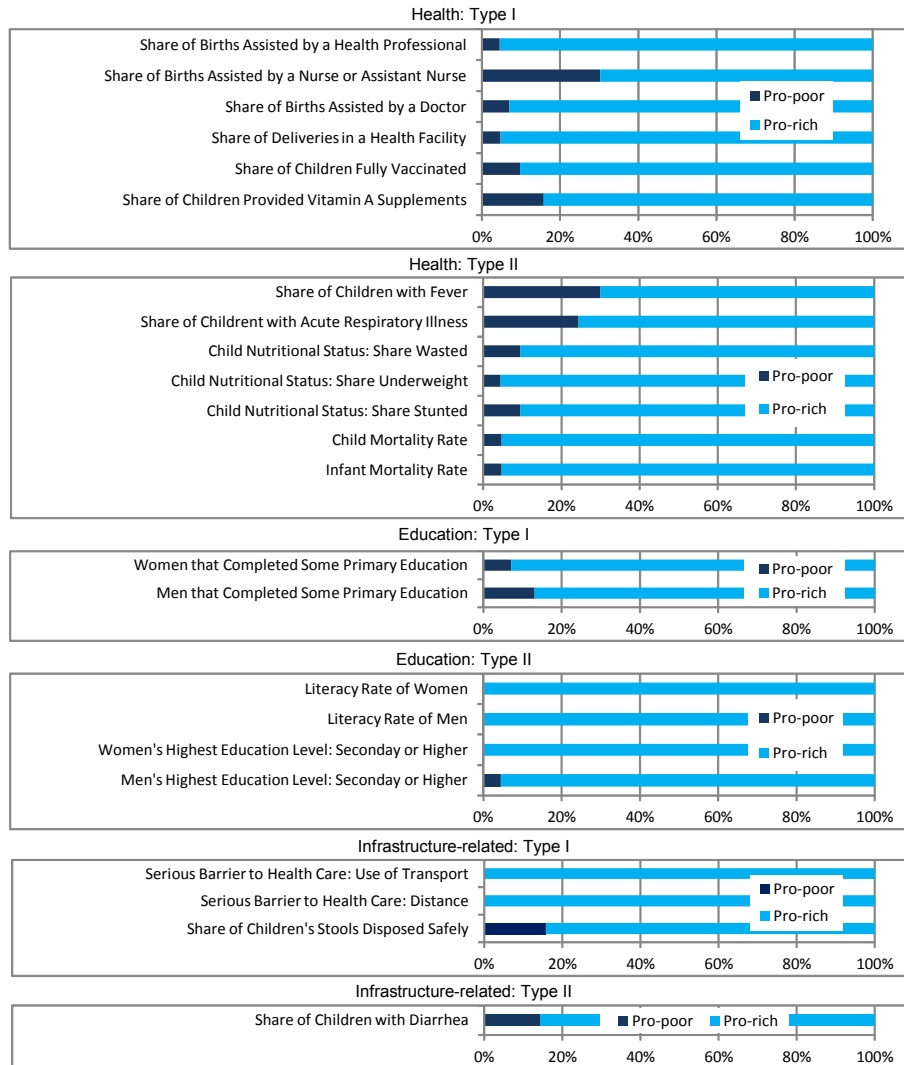
<sup>2</sup> Data for Timor-Leste for 2002 are also drawn from a multiple-indicator cluster survey, which is similar to the DHS (Government of Timor-Leste and United Nations Children’s Fund [2003]).



stools are disposed of safely—and a Type II indicator, the share of children with diarrhea. The first two indicators are of road transport, while the last two are indicators of water and sanitation.

The full data set is provided at Appendix 1. The distribution of opportunity is summarized in Figure 5.<sup>3</sup> The relationship between concentration indexes and achievement measures for these opportunity indicators are summarized at Figures 6–9.

**Figure 5: The Distribution of Opportunity**

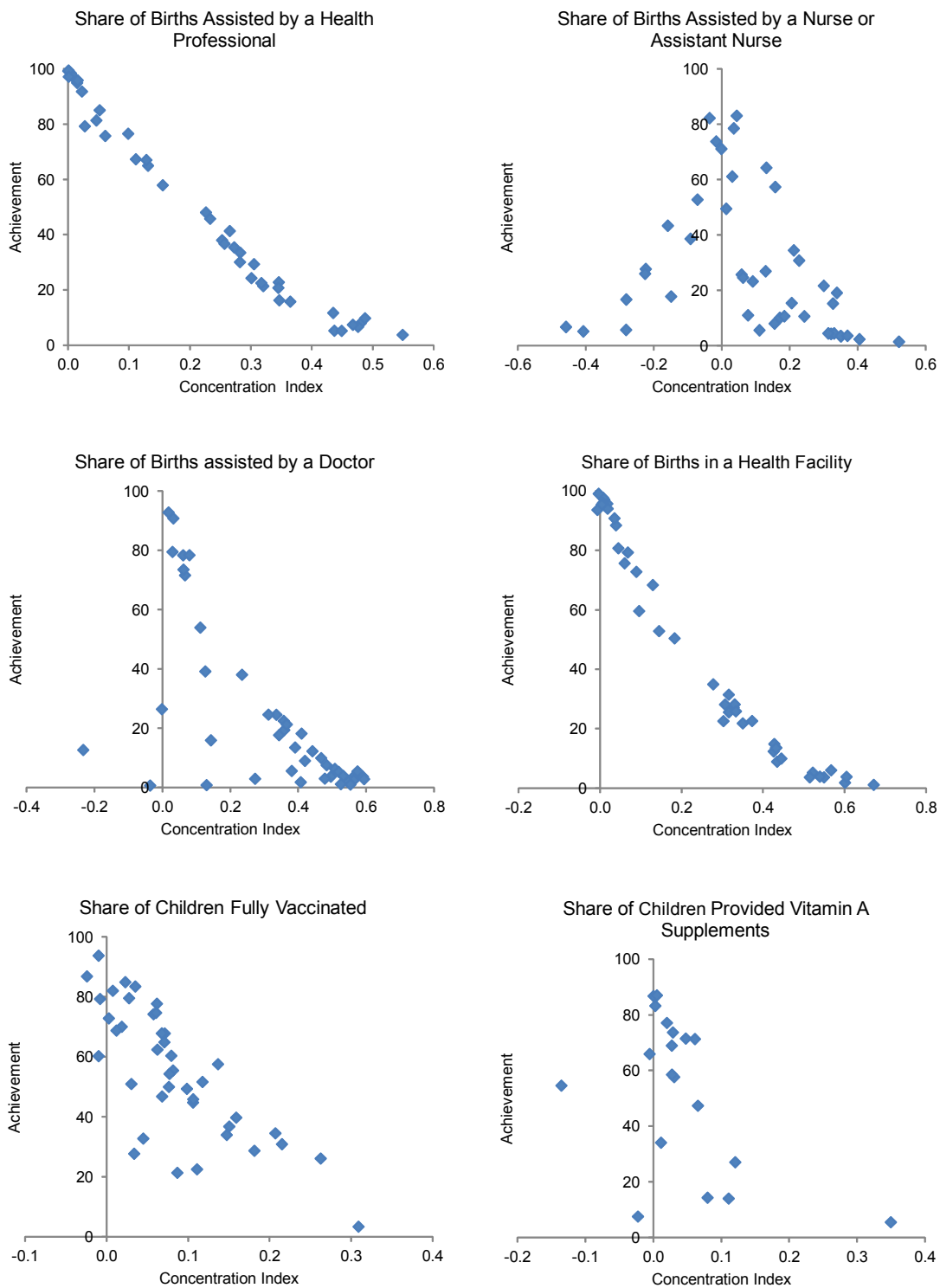


Note: The figure shows the share of indicators that are distributed in favor of the poor or the non-poor. It is based on the concentration index calculated for an aversion to inequality parameter of 2. A negative concentration index is interpreted as a distribution that favors the poor, with a positive concentration index interpreted as a distribution that favors the non-poor. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and the UNICEF (2003).

<sup>3</sup> For some variables (e.g., the infant mortality rate), a decline in value represents an improvement. To maintain a consistent terminology throughout, the negative of the standard concentration index is presented for variables for which a lower value is an improvement in opportunity (and the achievement measure is the simple average multiplied by one plus the standard concentration index). This ensures that concentration indices presented in the paper are positive when the distribution is pro-rich distribution, and negative when the distribution is pro-poor.

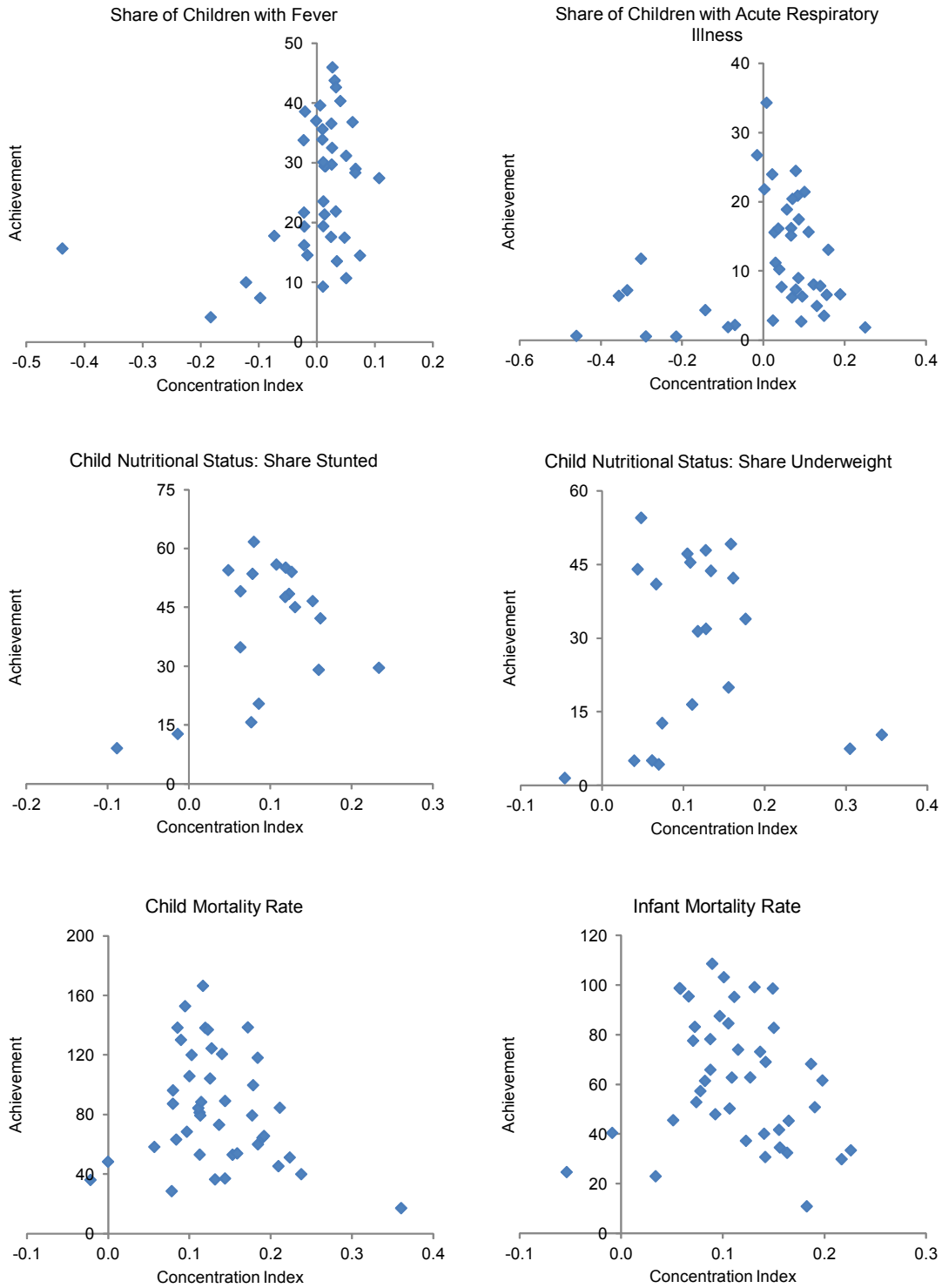
**Figure 6: Summary of Health Type I Opportunity Indicators**



Note: Assuming an aversion to inequality parameter of 2. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

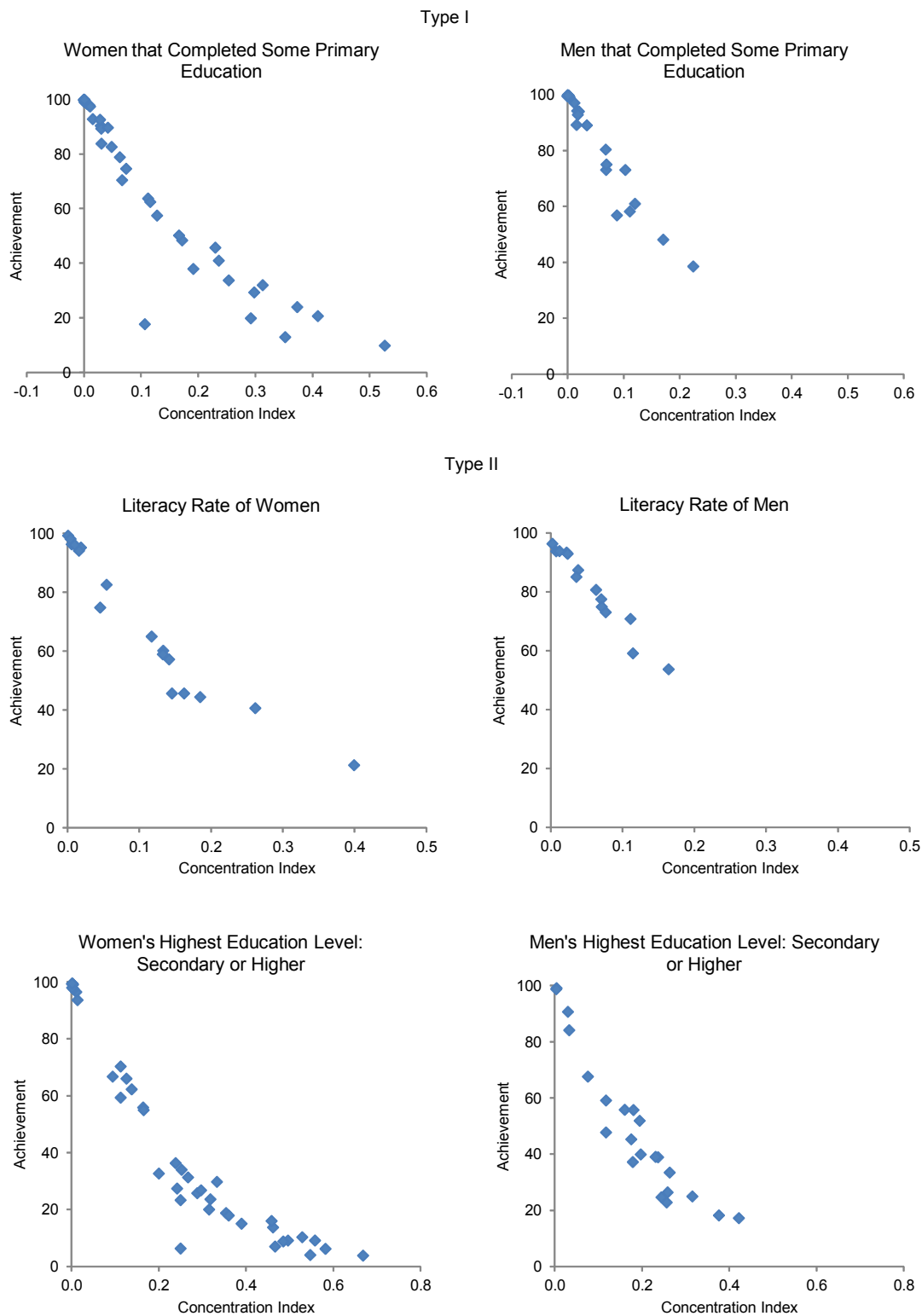
**Figure 7: Summary of Health Type II Opportunity Indicators**



Note: Assuming an aversion to inequality parameter of 2. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

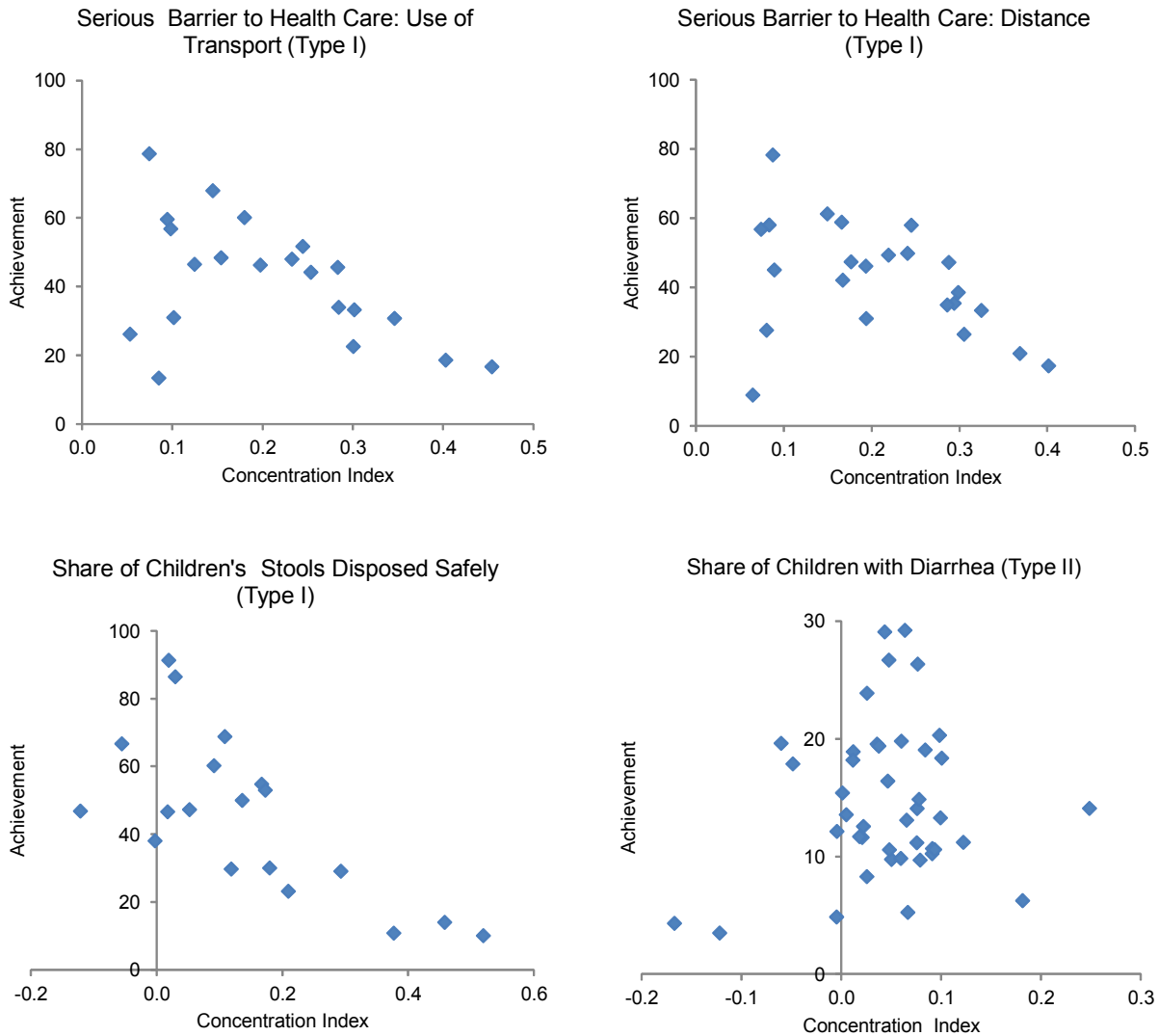
Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

**Figure 8: Summary of Education Opportunity Indicators**



Note: Assuming an aversion to inequality parameter of 2.  
 Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

**Figure 9: Summary of Infrastructure-related Opportunity Indicators**



Note: Assuming an aversion to inequality parameter of 2. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

There is considerable variation in results over the 20-year period and across the 22 countries, ranging from near universal coverage and equality, to very little and unequal coverage. Some general observations can nonetheless be made on the data.

As summarized in Figure 5, the distribution of opportunity is typically pro-rich; i.e., is in favor of those on higher living standards. The most pro-poor opportunity is the availability of assistance at birth from a nurse/assistant nurse. This distribution is, however, generally pro-poor when there is a high coverage of assistance at births by doctors. In these cases, assistance from a nurse or assistance nurse is in the nature of an 'inferior' opportunity (similar to the concept of an inferior good), being an opportunity that is more likely to be available to the poor

than the rich. The interpretation of an increase in availability of an inferior opportunity is unclear. It could represent either a desirable improvement for poor people, or have a negative interpretation of a failure to make a superior, optimal opportunity available. Overall, the distribution of the attendance at birth by a health professional is typically pro-rich.

The opportunity indicators for education fit the conventional view that males typically have better education opportunity than females. The achievement measure is typically in favor of males, being higher for males than for females. And the distribution of opportunity for males is typically more equal than the distribution of opportunity for females (i.e., the concentration index is positive and higher for women).

For opportunity indicators that are measures of service coverage, notably the availability of basic health and education services, the distribution is more equal at higher rates of coverage. The Type I infrastructure-related indicators suggest this is also the case for basic infrastructure services, although the relationship is not as strong. In the extreme when there is universal coverage, the concentration index must be zero, as the coverage rate is 100% for all living standard groups. Hence, the concentration index will be low at high coverage rates. But the range of the concentration index can be wide at lower levels of coverage. The data suggest that inequality is generally higher at lower rates of coverage of basic services.

Low rates of service coverage do not, however, necessarily go hand-in-hand with inequality. There are a number of examples, such as the provision of vaccinations and the provision of Vitamin A supplements, of relatively equitable distributions at low rates of service coverage. There are also examples in education and the infrastructure-related indicators of relatively low inequality at low rates of service coverage. This confirms that reducing inequality in basic services is feasible even at low rates of coverage.

The Type II health indicators, which embody more effort, lack the same obvious relationship between achievement and inequality. Distributions are typically pro-rich, but the inequality in mortality rates, malnutrition rates, and the incidence of illness is not necessarily lower at higher levels of achievement improves. This suggests that, perhaps unexpectedly, inequality in health outcomes does not necessarily decline as health standards improve.

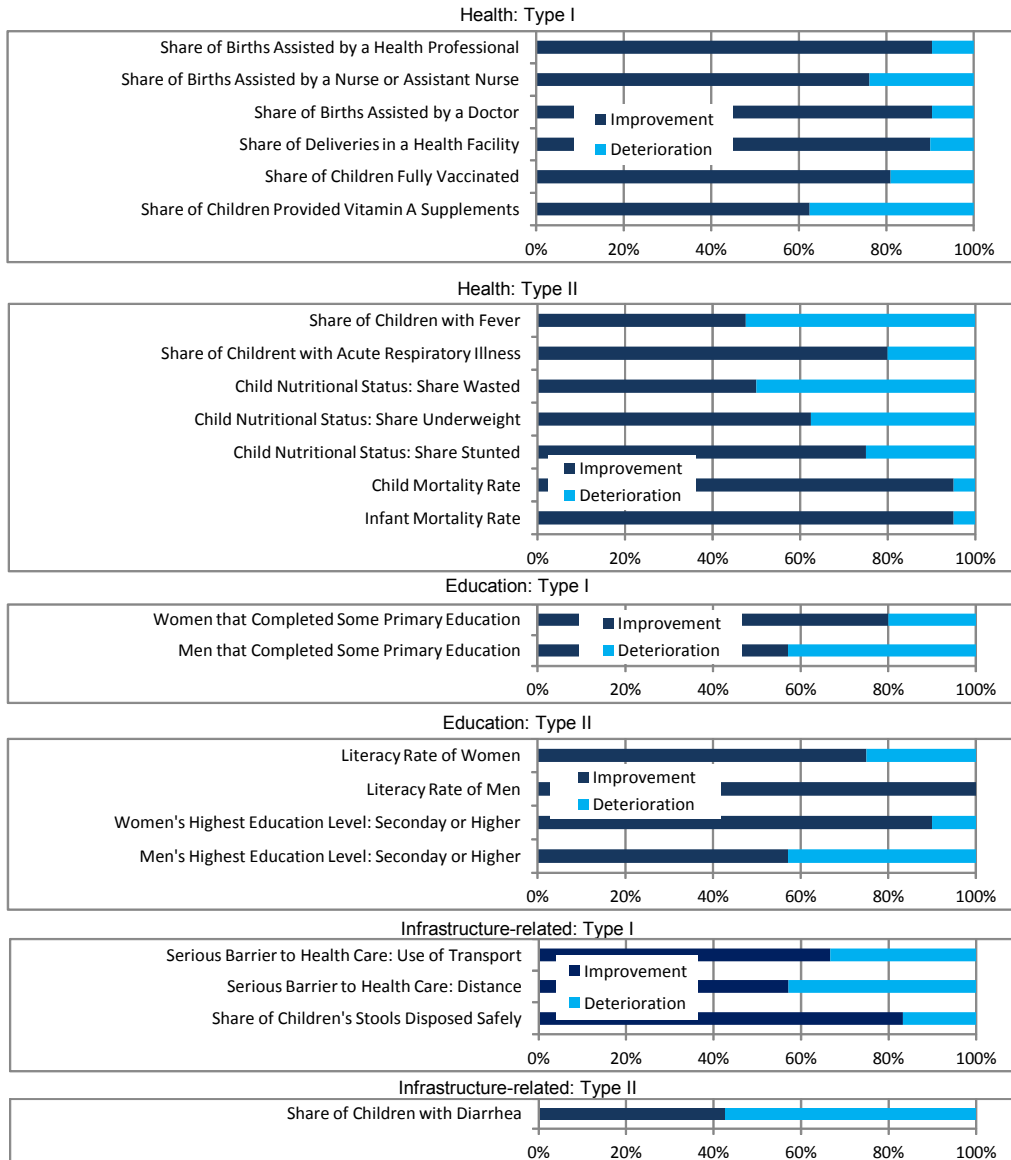
#### **IV. FINDINGS**

This study's preferred test of inclusive growth is whether the achievement measure has increased over time. This can only be applied when there are data for at least two periods, which limits the test to 11 countries in the sample: Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam. These 11 countries accounted for 54% of developing Asia's population in 2010.

Figure 10 shows the share of achievement measures, by opportunity indicator, that have improved or deteriorated over time (for these 11 countries for all time periods). The achievement measures have increased for most Type I indicators across these 11 countries, and more often than not, also for the Type II indicators (detailed results are at Appendix 2). The improvements are more widespread for the education and health indicators than for the infrastructure-related indicators. As noted above, more weight is placed on the results for the Type I indicators as they are effort light. On this basis, a picture is painted of growth that has become more rather than less inclusive. This finding applies to all 11 countries.

For most achievement measures of the Type I opportunity indicators, the improvement is partly explained by an improvement in the distribution of opportunity. As shown at Figure 11, the distribution of most Type I indicators became more equitable; i.e., changed in favor of those on lower living standards. The distribution of the education Type II indicators has also become more equitable. Most health Type II indicators, however, show the opposite of a distribution in opportunity that became more inequitable over time. The infrastructure-related Type II indicator lacks an obvious trend either way.

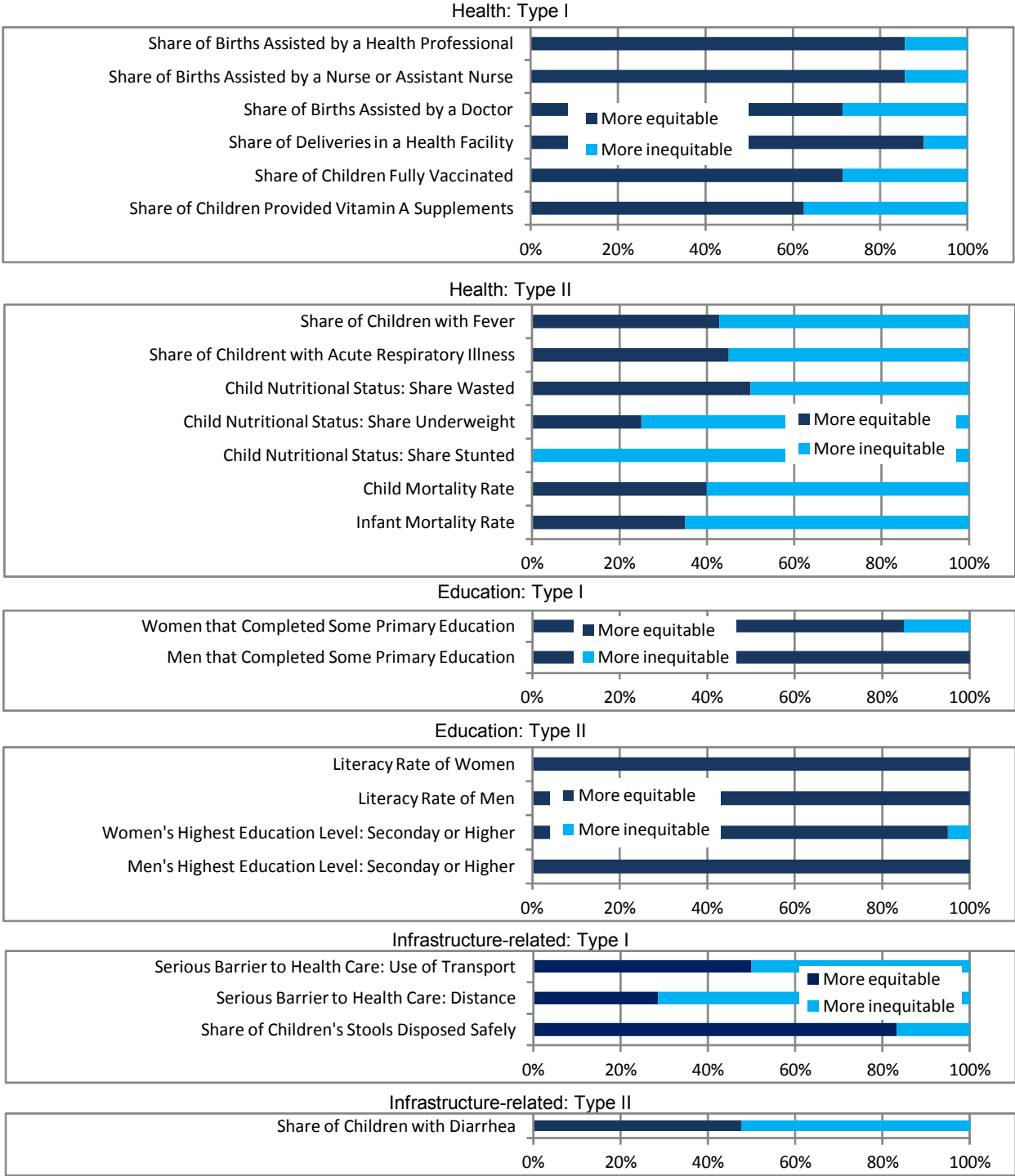
**Figure 10: The Change in Opportunity Achievement**



Note: The figure shows the share of the achievement measures derived for each indicator that have improved or deteriorated over time. It is based on the change for all available time periods for Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam. An aversion to inequality parameter of 2 is assumed. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

**Figure 11: The Change in the Distribution of Opportunity**

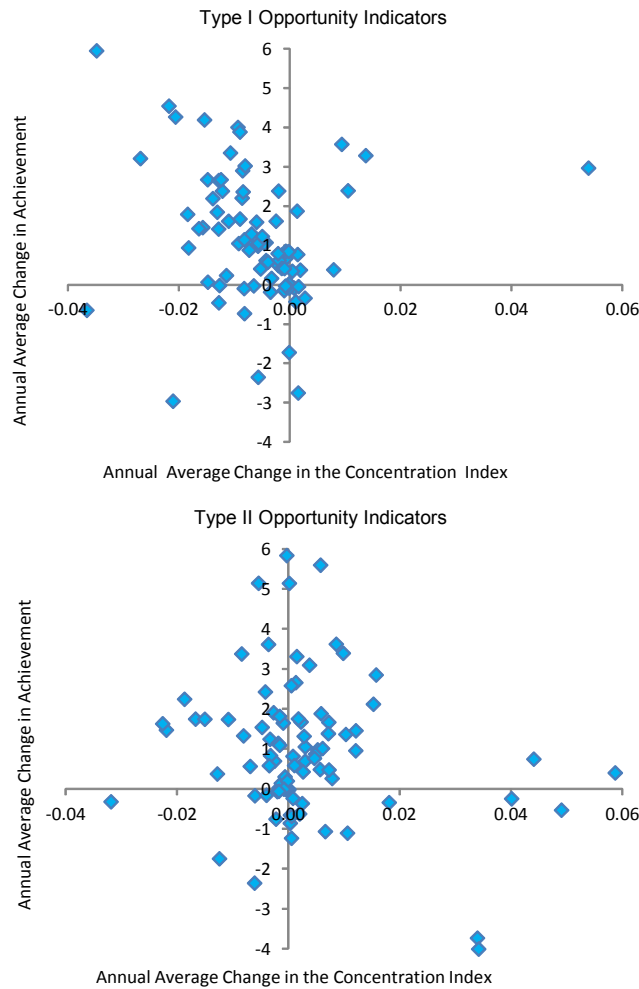


Note: The figure shows the share of concentration indices for each indicator that shows a more equal, or more inequitable, distribution over time. The figure is based on the change for all available time periods for Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam. An aversion to inequality parameter of 2 is assumed. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years. Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).



These patterns are reinforced by an examination of the long run change in the opportunity indicators. Figure 12 shows the annual average change in achievement and the concentration index from the earliest to the most recent year available. The achievement measure for most opportunity indicators, whether Type I or Type II, is found to have improved over the long run.<sup>4</sup> But only the Type I opportunity indicators show a clear trend of a long run improvement in distribution in most cases; i.e., 83% of 87 observations. While there is an improvement in many countries in the distribution of the Type II opportunity indicators, the distribution of most indicators became more inequitable; i.e., 57% of 89 observations.

**Figure 12: Longrun Change**



Note: The figure shows the change from the earliest to the latest time period for Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam. An aversion to inequality parameter of 2 is assumed. The figures show 87 data points for the Type I indicators, and 89 data points for the Type II indicators. Three outliers are excluded. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years. Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

<sup>4</sup> Note that Figures 10 and 11 summarize the results for all time periods, whereas Figure 12 reports the change from the earliest to the most recent year. Hence, Figures 10 and 11 show deteriorations in achievement in some periods that are offset by improvements in other periods, and are shown as an overall improvement in Figure 12. This explains why Figure 12 shows a higher share of indicators with an improvement in achievement.

A record of inclusive growth can also be inferred if the distribution of opportunity is equitable or close to equality, when a high and sustainable rate of economic growth is also in place. This is because the transition to a state of equality can only have been an inclusive one. An examination of the latest data is attractive from a practical perspective because it allows observations to be made on a larger set of countries, in this case all 22 countries of the sample rather than just the 11 countries reported earlier (Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam). This brings into the analysis Afghanistan, Azerbaijan, Kiribati, the Kyrgyz Republic, the Maldives, Nauru, the Marshall Islands, Samoa, Solomon Islands, Turkmenistan, Tuvalu, and Uzbekistan.

Only the Central Asian economies included in the study convincingly pass this alternate test. As summarized in Figure 13, the six Central Asian economies studied have achieved almost universal coverage of primary education, of the share of deliveries in a health facility, and the share of births assisted by a health professional. For these Type I opportunity indicators, the achievement measure is in most cases very close to its maximum of 100, and the concentration index is (and must be) close to zero, which shows a near equitable distribution of opportunity. They are also close to meeting this test of equality for the vaccination indicator.<sup>5</sup> On balance, it is concluded that growth in the Central Asian economies is likely to have also become more inclusive.

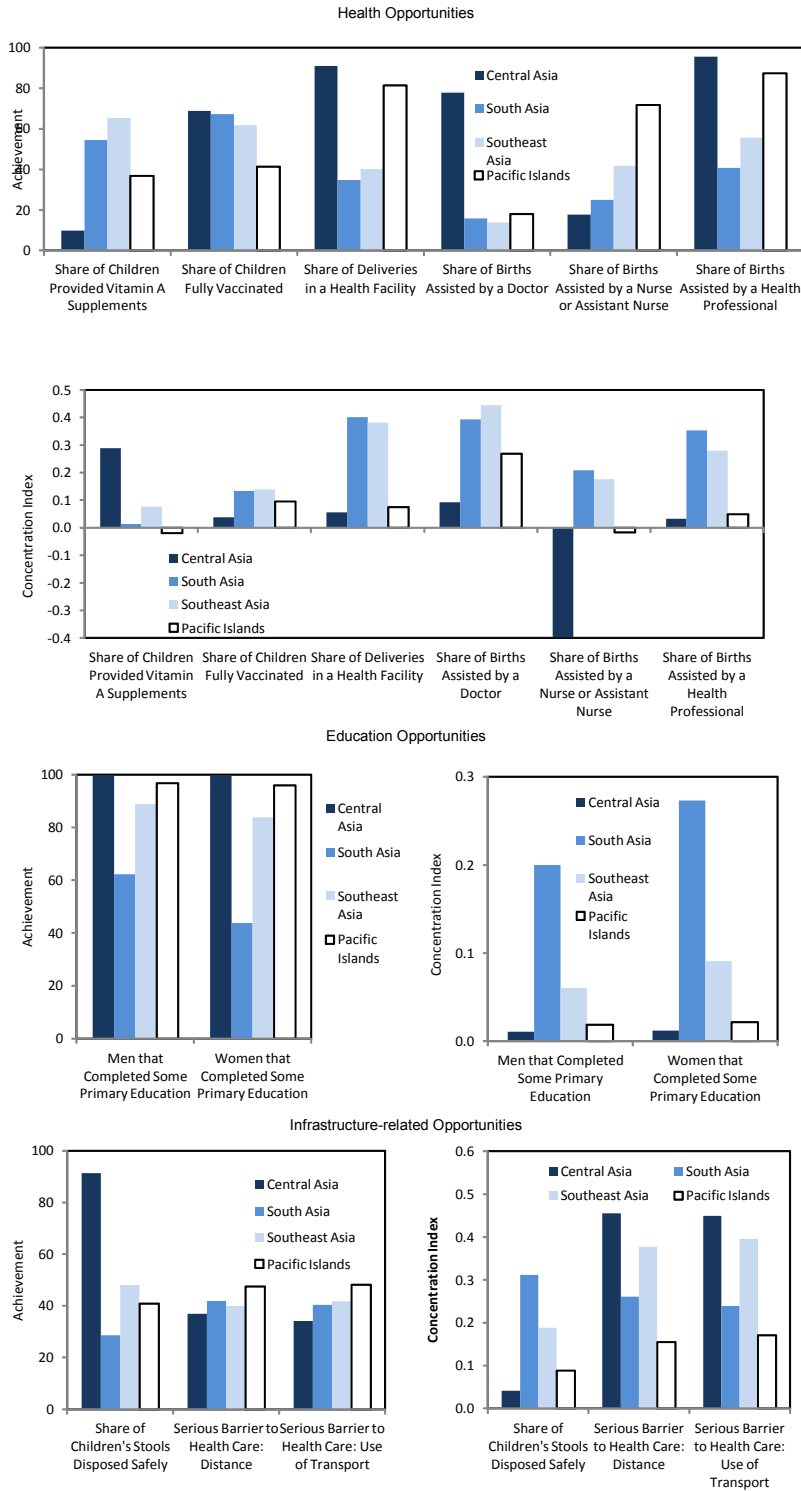
The Pacific Island economies meet this alternate test for the education and health opportunities. The results for other Type I opportunities, notably infrastructure, are mixed across the Pacific Islands economies. On balance, some Pacific Island economies have arguably achieve the test of equity in opportunity. But, with the possible exception of Samoa, they are yet to achieve a high, sustainable rate of growth. It is concluded that, with the possible exception of Samoa, the Pacific island economies of the study are yet to achieve inclusive growth.

There is a large gap between the averages for most opportunities for the Central Asian and Pacific island economies, and with those of the South or Southeast Asian economies of the sample. Most of the South or Southeast Asian economies fall short of passing this alternative test of having achieved equality. The Philippines is a partial exception because of the progress made towards universal access to education. But this progress is not matched in other areas of opportunity.

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<sup>5</sup> The Central Asian economies are also shown as close to meeting this test for the share of children's stools disposed safely, but failing it for the Vitamin A and the transport related opportunities. These findings are not emphasized as they are based on results for a small number of countries.

**Figure 13: Latest Data for Type I Opportunity Indicators**



Note: The figure is based on the most recent data for the 22 countries of the sample. An aversion to inequality parameter of 2 is assumed. Regional averages are simple averages. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003).

The above findings are insensitive to variations in the aversion to inequality, with similar results evident even when the aversion to inequality parameter is set at 4 (a sample of results at the higher aversion to inequality is provided in Appendix 2).

A final issue of interest is whether there is a relationship between changes in the distribution of opportunity and the distribution of income. As summarized in ADB (2012), developing Asia has achieved an impressive rate of economic growth and a large reduction in poverty. But income inequality is on the rise. In 11 Asian economies that account for about 82% of developing Asia's population, income disparities rose during the last two decades. For developing Asia as-a-whole, the Gini coefficient measure of inequality rose from 39 to 46 from the early 1990s to the late 2000s.

Returning to the 11 countries that have opportunity indicators for more than one period—countries which account for about half of developing Asia's population—three of the countries saw income inequality rise from the early 1990s to the late 2000s—Bangladesh, India, and Indonesia. In contrast, the data from this study show India and Indonesia as sharing the best long record in improving the distribution of equality. Both improved the equity of distribution of all Type I opportunity indicators, and most of the Type II indicators. Bangladesh also has a relatively good record in improving the distribution of opportunity; the distribution of more than four-fifths of the Type I opportunity indicators has improved and the distribution of almost half of the Type II opportunity indicators has improved.

Two of the weakest performers in terms of improving the equity of distribution of opportunity, Kazakhstan and Timor-Leste, are two of the best performers in terms of reducing income inequality.

Hence the study is unable to identify an obvious relationship between changes in the distribution of opportunity and the distribution of income in Asia.<sup>6</sup>

A key finding is that India and Indonesia have perhaps the best performance in improving equality of opportunity among the countries studied, but have seen the largest increase in income inequality in Asia and the Pacific. This suggests that good gains can be made in improving the inclusiveness of economic growth even if income inequality is rising.

There are a number of plausible explanations for this result. One is that economic growth was used to fund an expansion in service delivery that favored poorer members of society. The result could also be explained by the presence of lags. For example, it may take many years for (relative) income growth to respond to a more equitable distribution of access to opportunity. In which case, the distribution of opportunity would improve before the distribution of incomes does. Or, it may be that an improvement in basic opportunity is insufficient in itself to lift the relative rate of income growth. Other factors, such as location, the natural resource base, the enabling environment for business, or the quality of governance, probably also need to be favorable.

Hence, the study suggests that improvements in the distribution of opportunity may not go hand-in-hand with a more equitable distribution of income. Or to put this another way, the

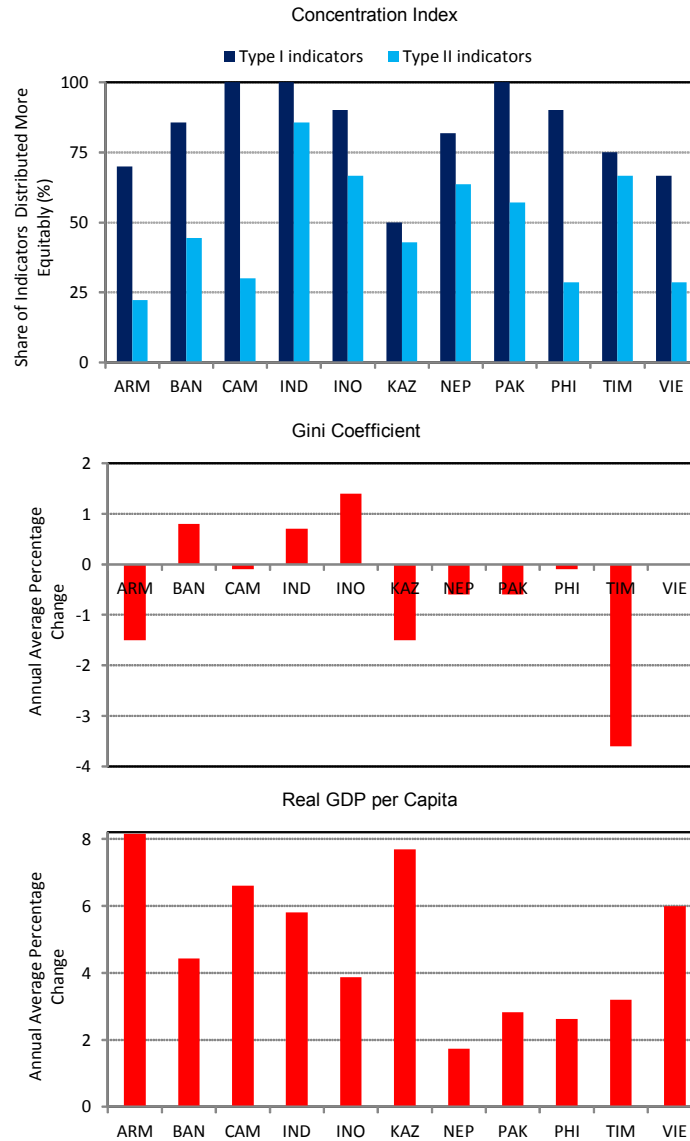
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<sup>6</sup> ADB (2012) argues that inequality of opportunity is a crucial factor in widening income inequality in developing Asia. This study is unable to offer insights into the effects of inequality. But it does suggest that the widening income inequality in developing Asia probably should not be attributed to rising inequality of opportunity. This is mainly because inequality in at least the basic opportunity is generally declining.

achievement of inclusive growth in Asia may not resolve the problem of rising income inequality. This indeed appears to be the record of the last two decades; i.e., inclusive growth was achieved in Asia even in the face of rising inequality.

The situation may be different in the Pacific Islands. Gaps in the data for the Pacific Islands hinder analysis of the region. But where data are available, income inequality is found to be in trend decline, in keeping with a relatively good performance on opportunity.

**Figure 14: Long Changes in Equity and Income**



ARM = Armenia, BAN = Bangladesh, CAM = Cambodia, GDP = gross domestic product, IND = India, INO = Indonesia, KAZ = Kazakhstan, NEP = Nepal, PAK = Pakistan, PHI = Philippines, TIM = Timor-Leste, VIE = Viet Nam.  
 Note: In most cases the change in the concentration index is for the early/mid 1990s to the mid/late 2000s, the change in the Gini coefficient is from the early 1990s to the late 2000s, and the change in real GDP per capita is from 2000 to 2010. An aversion to inequality parameter of 2 is assumed. Where relevant, data are for births in the preceding 3 years, or where this is not available, the preceding 5 years.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003), and ADB (2011, 2012).

## V. OBSERVATIONS AND SUGGESTIONS

The concept of inclusive economic growth, of “growth coupled with equality of opportunity”, offers new directions in the pursuit of development. It is based on the view that the individual shares responsibility for their effort, and moves away from an emphasis on correcting inequality in economic outcomes. It focuses attention on opportunity and the correction of factors beyond an individual’s control that lead to inequality of opportunity.

To understand if inclusive growth is achieved, it is necessary to examine changes in opportunity and in the distribution of opportunity. Measures of economic outcomes, such as income or poverty, are unsuitable as they combine the effect of both opportunity and effort. Economy-wide measures are also unsuitable, as they are silent on distributional issues. A simple repackaging of standard indicators will consequently fall short of capturing the richness of the new concept, and a new approach to measurement is required. This study has built on earlier work to demonstrate how the inclusiveness of economic growth can be measured by preparing a distribution weighted measure of opportunity.

The study finds that growth of 11 Asian economies studied—Armenia, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Nepal, Pakistan, the Philippines, Timor-Leste, and Viet Nam—has become more inclusive. Evidence of inclusive growth is also found in a number of Central Asian economies. In Asia, access to opportunity is generally on the rise, and inequality in opportunity is generally in decline. A number of Asian economies have achieved the target of equality in the provision of key, basic opportunities. There is nonetheless considerable room for further gains in Asia. This is especially important in the South and Southeast Asian economies studied. Although inequality is generally in decline, it remains high.

While the Pacific Islands have a relatively good record in achieving equality in opportunity in health and education, the record in infrastructure is not as good and more importantly the region is yet to achieve high, sustainable growth. With the possible exception of Samoa, the Pacific island economies under this study are yet to achieve inclusive growth. An interesting question for these economies is whether the pursuit of a higher rate of economic growth would undermine institutional factors that have helped keep inequality low.

Although inclusive growth has been demonstrated as measurable, it lacks the crispness of the preceding concept of pro-poor growth. Summary measures can be prepared of the progress towards pro-poor growth, but summary measures are difficult to prepare for inclusive growth. One reason for this is a potential conflict with the underlying economic philosophy. Inclusive growth is in keeping with a pluralistic view of development, such as advocated by Roemer (1998, 2006, 2011). Collapsing the range of indicators needed to understand whether growth is inclusive would run counter to this view. The second reason is the absence of a basis for preparing a summary measure, given the unobservable nature of the social welfare function.

These observations give rise to an important qualification on the findings of this study. While the underlying concepts of inclusive growth are common across countries, the expression of these concepts needs to be responsive to the country’s social welfare function, and hence be country specific. That is, the basis for measuring inclusive growth should ideally be tailored to each country. Comparisons across countries of the inclusiveness of growth face a challenge in identifying indicators that are sufficiently meaningful in all countries.

This study has placed most emphasis on indicators of basic services provided to children, because they are ‘effort light’. Indicators such as the share of deliveries made in a

hospital, the share of deliveries assisted by a health professional, or the share of women and men that have completed primary school appear generally relevant for South and Southeast Asia, because most countries are well short of universal access. But they are potentially less relevant for Central Asia and the Pacific Island economies where more progress has been made towards universal coverage.

The distribution weighted measure of opportunity is a readily quantifiable expression of the goal of inclusive growth that is well suited for use in ADB's results frameworks; at a country, sector, and project level. Data are presented for 22 Asian and Pacific Island economies that allow the setting of the baseline needed for monitoring, as either a level or rate of change.

A larger study which examined a broader range of indicators, drew on a wider set of household surveys, and drew on views from countries of how they interpret inclusive growth, would help deepen the understanding of the inclusiveness of economic growth. This would both be a useful contribution to policy debate in the region and help ADB and member countries set strategic directions and prioritize actions.<sup>7</sup>

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<sup>7</sup> An example is provided by Sugden (2012), which applies the same methodology as this study to understanding the inclusiveness of economic growth in Timor-Leste. It identifies infrastructure as a lagging sector that has the potential to become a drag on improvements in other sectors and the economy generally.















**Table A1.7: Other Infrastructure-related Indicators**

Country	Year	Disposal of Stools of Children Under 5 years <sup>a</sup>						Share of Women 15-49 years Reporting a Serious Problem in Accessing Health Care as (%)											
		Share Disposed Safely (%)						Distance to Health Facility						Having to Take Transport					
		Total	Household Wealth Index					Total	Household Wealth Index					Total	Household Wealth Index				
			Lowest	Second	Middle	Fourth	Highest		Lowest	Second	Middle	Fourth	Highest		Lowest	Second	Middle	Fourth	Highest
Afghanistan	2010	-	-	-	-	-	-	72.0	83.3	77.9	72.4	60.6	42.8	73.3	83.0	78.5	73.2	65.1	45.9
Armenia	2010	93.1	86.9	91.1	94.2	96.4	95.8	20.3	39.5	28.6	16.6	13.0	7.8	17.4	35.4	21.7	15.3	10.8	7.5
	2005	89.1	84.7	80.6	93.3	95.8	93.4	29.7	57.9	43.4	24.1	18.3	12.4	35.3	64.5	47.6	29.1	26.3	17.4
Azerbaijan	2006	-	-	-	-	-	-	36.7	67.0	49.1	35.9	22.8	13.7	35.6	63.6	48.4	34.6	23.4	12.6
Bangladesh	2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2004	-	-	-	-	-	-	8.4	9.8	8.8	8.3	8.7	6.2	12.4	14.7	13.0	13.3	12.9	8.0
	1999-2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1996-1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1993-1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	2010	66.3	56.6	57.1	62.1	74.5	87.4	36.1	51.9	44.7	37.9	27.9	22.6	-	-	-	-	-	-
	2005	57.9	42.4	51.2	54.3	65.1	86.7	38.7	55.9	47.8	45.1	33.1	18.3	38.7	57.4	48.6	43.0	31.8	19.4
	2000	-	-	-	-	-	-	40.3	55.2	48.7	45.1	38.2	18.7	42.0	54.9	50.5	46.5	40.1	21.9
India	2005-2006	21.1	3.6	6.2	11.9	32.1	64.7	25.2	47.4	36.1	26.3	16.6	5.9	22.9	45.4	33.1	23.3	13.9	4.5
	1998-99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1992-1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2007	65.8	36.3	54.7	68.8	82.1	90.4	15.3	34.8	19.0	11.8	7.8	4.6	13.3	32.5	16.5	9.4	5.8	3.7
	2002-2003	64.1	37.2	52.1	63.9	80.9	91.5	12.4	29.4	13.7	9.4	5.7	2.8	11.5	29.4	13.0	8.1	4.3	1.6
	1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kiribati	2009	33.8	24.5	30.0	32.6	46.8	40.4	41.4	51.2	43.6	45.0	37.6	31.3	41.4	55.6	43.6	45.0	37.6	31.3
Kyrgyz Republic	1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maldives	2009	41.8	51.8	49.8	45.7	33.0	27.3	26.0	39.1	32.6	27.9	17.4	14.9	28.2	37.4	31.5	26.8	23.4	23.4
Nauru	2007	47.5	42.0	43.1	53.6	59.9	39.1	-	-	-	-	-	-	-	-	-	-	-	-
Nepal	2011	41.2	19.5	26.3	33.8	57.5	84.7	46.6	74.5	62.8	51.1	39.0	15.1	-	-	-	-	-	-
	2006	26.0	5.2	13.7	14.7	35.3	74.3	40.5	63.3	49.4	44.8	33.3	16.0	39.0	61.5	49.3	42.3	33.2	13.1
	2001	17.5	7.2	7.2	15.7	21.4	46.2	50.5	66.8	62.9	51.7	45.6	23.4	51.0	70.7	64.7	46.8	47.4	22.8
	1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	2006-2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1990-1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Philippines	2008	49.9	40.0	51.6	55.2	51.2	54.7	27.4	57.8	34.4	26.4	17.2	12.9	26.5	56.1	31.5	25.7	17.3	12.8
	2003	77.2	53.5	74.7	82.7	90.0	95.9	27.2	59.1	33.8	22.2	18.7	13.6	25.6	57.1	32.5	20.3	17.4	12.0
	1998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMI	2007	-	-	-	-	-	-	40.2	63.1	52.7	35.3	30.7	13.3	41.6	64.7	55.8	37.3	30.4	14.2
Samoa	2007	38.0	33.2	43.7	38.2	42.7	31.7	53.6	65.3	56.8	56.3	51.9	39.7	51.8	66.2	55.9	52.9	49.1	37.6
Solomon Islands	2007	29.4	25.1	18.7	17.1	26.1	63.9	52.9	65.3	52.2	56.9	51.1	41.6	54.5	69.6	55.8	58.1	53.1	39.2
Timor-Leste	2009-2010	36.7	25.9	25.7	29.6	44.1	58.1	53.3	72.1	62.7	57.9	50.7	29.9	59.4	75.8	73.2	66.5	55.5	33.3
	2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkmenistan	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuvalu	2007	63.2	76.3	62.5	64.4	59.0	54.4	25.6	30.4	26.2	28.9	25.2	18.3	24.9	29.0	25.5	26.4	21.7	22.6
Uzbekistan	1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam	2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

RMI = Republic of the Marshall Islands.

<sup>a</sup> Some data may be for children of a different age.Sources: ICF International (2012), individual demographic and health survey country reports (see <http://www.measuredhs.com>), and Government of Timor-Leste and UNICEF (2003).

Table A1.8: Child Malnutrition

Country	Year	Nutritional Status of Children Under 5 years by WHO standards																	
		Stunting (height-for-age below -2 standard deviations, %)						Underweight (weight-for-age below -2 standard deviations, %)						Wasting (weight-for-height below -2 standard deviations, %)					
		Total	Household Wealth Index				Total	Household Wealth Index				Total	Household Wealth Index						
			Lowest	Second	Middle	Fourth Highest		Lowest	Second	Middle	Fourth Highest		Lowest	Second	Middle	Fourth Highest			
Afghanistan	2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	2010	19.3	26.2	16.0	19.3	16.3	18.6	4.7	7.9	5.2	5.5	2.9	1.5	4.0	7.8	3.8	3.5	3.7	1.2
	2010 <sup>a</sup>	14.6	20.5	12.0	15.0	12.3	13.4	4.9	5.2	4.5	5.4	5.9	3.2	3.0	6.2	2.2	3.0	2.6	1.0
	2005 <sup>a</sup>	13.0	14.9	6.7	13.1	21.3	8.1	4.0	4.6	3.6	4.0	6.5	1.1	5.1	4.5	3.9	8.1	2.6	6.3
Azerbaijan	2006	25.1	33.2	30.5	25.7	14.9	15.2	7.7	15.4	8.7	6.0	2.8	2.2	6.8	10.0	8.0	5.3	5.5	3.8
Bangladesh	2011	41.3	53.7	45.4	40.7	35.9	25.7	36.4	50.3	41.6	36.0	27.5	20.9	15.6	17.5	16.2	17.7	13.6	12.1
	2007	43.2	54.0	50.7	42.0	38.7	26.3	41.0	50.5	45.9	41.0	38.1	26.0	17.4	20.8	17.8	16.9	17.6	13.2
	2004	50.5	62.2	54.8	49.9	48.3	30.5	42.5	55.6	46.7	38.5	38.8	25.9	14.5	17.7	15.3	15.3	11.6	11.1
	1999–2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1996–1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1993–1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambodia	2010	39.9	51.1	44.4	39.3	34.2	23.1	28.3	35.4	32.6	27.8	24.6	15.9	10.9	11.9	9.6	11.5	11.1	10.1
	2005	42.7	52.1	48.5	44.1	38.2	24.4	28.1	34.6	32.3	26.6	27.2	15.8	8.4	10.7	10.2	6.9	5.6	7.2
	2000	49.7	58.0	53.0	47.9	48.6	32.8	38.5	44.2	40.7	37.4	35.1	30.0	16.8	17.9	17.1	14.0	17.3	18.1
India	2005–2006	48.0	59.9	54.3	48.9	40.8	25.3	42.5	56.6	49.2	41.4	33.6	19.7	19.8	25.0	22.0	18.8	16.6	12.7
	1998–1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1992–1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2002–2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kiribati	2009	-	-	-	-	-	-	14.9	17.6	18.4	13.4	15.5	7.9	-	-	-	-	-	-
Kyrgyz Republic	1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maldives	2009	18.9	21.9	23.1	17.6	15.4	15.7	17.3	24.3	19.0	19.3	12.5	10.5	10.6	12.7	11.4	12.8	7.1	8.7
Nauru	2007	24.0	52.2	18.8	21.2	11.9	18.0	4.8	6.7	1.8	6.8	6.8	2.5	1.0	-	3.6	1.4	-	-
Nepal	2011	40.5	56.0	45.7	34.5	30.5	25.8	28.8	40.3	31.6	28.8	22.9	10.1	10.9	12.5	10.7	12.9	8.8	7.4
	2006	49.3	61.6	54.9	50.4	39.8	31.0	38.6	47.0	45.9	41.7	31.0	18.9	12.6	11.5	15.1	15.2	12.8	7.0
	2001	57.2	67.6	61.3	54.3	53.1	42.1	42.7	51.3	47.0	44.6	37.5	25.2	11.3	12.7	13.0	12.1	9.7	6.9
	1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	2006–2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1990–1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Philippines	2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMI <sup>b</sup>	2007	-	-	-	-	-	-	5.7	12.5	8.9	5.7	3.4	2.8	-	-	-	-	-	-
Samoa	2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solomon Islands	2007	32.8	34.2	39.4	31.6	33.7	22.0	11.8	13.7	12.3	13.4	9.1	9.8	4.3	4.6	3.7	5.1	3.7	4.6
Timor-Leste	2009–2010	58.1	63.0	63.5	60.5	55.4	47.1	44.7	49.4	48.0	48.1	41.4	35.3	18.7	20.8	18.7	19.6	17.6	16.2
	2009–2010 <sup>a</sup>	53.1	57.8	60.1	55.5	50.5	40.2	52.0	55.6	55.6	55.5	50.3	42.1	17.1	18.9	17.0	17.6	16.2	15.6
	2002 <sup>a</sup>	46.2	51.3	50.5	49.2	45.4	36.8	42.2	45.2	44.6	43.3	45.4	34.5	11.9	12.7	13.1	11.6	11.0	11.3
Turkmenistan	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuvalu	2007	10.0	7.6	10.5	8.0	11.7	12.9	1.6	0.7	1.4	2.2	4.3	-	3.3	4.0	2.2	2.1	8.5	1.5
Uzbekistan	1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam	2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

RMI = Republic of the Marshall Islands.

<sup>a</sup> Malnutrition data based on old NCHS/CDC/WHO standard, which is not directly comparable to the WHO standard adopted in 2006.

<sup>b</sup> These estimates are not directly comparable to other estimates, as they are based on observations (i.e., neither the NCHS/CDC/WHO or WHO standards apply).

Sources: ICF International (2012), individual demographic and health survey country reports (see <http://www.measuredhs.com>), and Government of Timor-Leste and UNICEF (2003).

**Table A2.1: Results for Assistance at Birth**

Country	Year	Share of Deliveries Assisted by a Doctor (%) <sup>a</sup>				Share of Deliveries Assisted by a Nurse or Assistant Nurse (%) <sup>a</sup>				Share of Deliveries Assisted by a Health Professional (%) <sup>a</sup>			
		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey	
		Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)
Afghanistan	2010	-	-	0.419	9.0	-	-	0.205	15.4	-	-	0.301	24.4
Armenia	2010	0.018	92.9	0.024	91.2	-0.282	5.7	-0.332	6.7	0.004	98.5	0.006	97.8
	2005	0.061	78.4	0.066	77.5	-0.281	16.7	-0.293	17.8	0.015	95.1	0.015	95.3
Azerbaijan	2006	0.079	78.4	0.083	76.0	-0.459	6.7	-0.426	8.1	0.052	85.2	0.051	84.1
Bangladesh	2011	0.390	13.5	-	-	0.155	8.0	-	-	0.320	21.5	-	-
	2007	0.483	7.6	0.493	6.4	0.321	4.2	0.357	3.4	0.435	11.8	0.453	9.8
	2004	0.590	3.7	0.574	3.2	0.330	4.4	0.343	3.7	0.480	8.1	0.474	6.9
	1999–2000	0.560	3.4	0.574	3.0	0.351	3.4	0.377	3.1	0.476	6.8	0.493	6.1
	1996–1997	0.563	2.5	0.546	2.4	0.521	1.4	0.516	1.4	0.549	3.9	0.535	3.8
	1993–1994	0.547	1.9	-	-	0.349	3.4	-	-	0.437	5.4	-	-
Cambodia	2010	0.507	6.3	0.491	6.2	0.030	61.1	0.063	55.1	0.111	67.4	0.137	61.3
	2005	0.593	2.9	0.589	2.7	0.227	30.7	0.245	28.2	0.282	33.6	0.296	30.8
	2000	0.553	1.0	0.530	1.0	0.300	21.6	0.301	20.7	0.317	22.6	0.317	21.7
India	2005–2006	0.335	24.6	0.347	23.0	0.077	11.0	0.094	10.3	0.272	35.5	0.285	33.3
	1998–99	0.358	19.4	-	-	0.171	10.0	-	-	0.305	29.4	-	-
	1992–1993	0.441	12.3	-	-	0.184	10.6	-	-	0.346	22.9	-	-
Indonesia	2007	0.130	0.8	0.148	0.9	0.131	64.2	0.141	61.8	0.131	65.1	0.141	62.7
	2002–2003	-0.037	0.7	0.002	0.7	0.157	57.3	0.164	54.7	0.155	58.0	0.162	55.5
	1997	0.496	3.7	0.492	3.6	0.212	34.4	0.223	32.7	0.253	38.1	0.262	36.3
Kazakhstan	1999	0.066	71.7	0.061	72.1	-0.224	27.7	-0.218	27.0	0.000	99.3	-0.002	99.2
	1995	0.062	73.6	-	-	-0.226	26.0	-	-	0.001	99.5	-	-
Kiribati	2009	-	-	0.380	5.6	-	-	-0.017	73.8	-	-	0.027	79.4
Kyrgyz Republic	1997	0.111	54.0	-	-	-0.159	43.3	-	-	0.008	97.3	-	-
Maldives	2009	-0.234	12.7	-0.177	12.7	0.044	83.1	0.045	80.8	0.014	95.7	0.020	93.5
Nauru	2007	-	-	-0.002	26.5	-	-	-0.002	71.1	-	-	-0.002	97.6
Nepal	2011	0.467	10.0	0.484	8.9	0.129	26.9	0.147	23.8	0.256	36.8	0.276	32.7
	2006	0.519	5.3	0.505	5.1	0.243	10.6	0.279	9.0	0.364	15.9	0.382	14.1
	2001	0.532	4.0	0.531	3.7	0.370	3.6	0.392	3.1	0.467	7.5	0.476	6.7
	1996	0.478	3.0	-	-	0.405	2.3	-	-	0.449	5.3	-	-
Pakistan	2006–2007	0.312	24.6	0.329	22.2	0.110	5.6	0.128	5.0	0.282	30.2	0.299	27.2
	1990–1991	0.574	5.5	0.582	5.1	0.313	4.4	0.307	4.4	0.487	9.9	0.488	9.5
Philippines	2008	0.358	23.3	0.357	22.5	-	-	0.058	25.6	-	-	0.226	48.2
	2003	0.350	22.2	0.366	21.3	0.070	24.7	0.062	24.6	0.228	46.8	0.233	45.9
	1998	0.399	19.7	0.409	18.2	0.073	23.0	0.091	23.2	0.258	42.7	0.265	41.4
RMI	2007	-	-	0.126	39.2	-	-	-0.072	52.7	-	-	0.023	91.9
Samoa	2007	-	-	-	-	-	-	-	-	-	-	0.061	75.9
Solomon Islands	2007	-	-	0.273	3.0	-	-	0.035	78.5	-	-	0.046	81.5
Timor-Leste	2009–2010	0.407	1.8	0.456	1.6	0.338	19.0	0.360	17.3	0.345	20.9	0.369	18.8
	2002	0.525	1.2	-	-	0.327	15.2	-	-	0.346	16.4	-	-
Turkmenistan	2000	0.029	79.5	0.028	79.5	-0.149	17.7	-0.135	17.6	0.001	97.3	0.002	97.0
Tuvalu	2007	-	-	0.142	16.0	-	-	-0.036	82.2	-	-	-0.002	98.2
Uzbekistan	1996	0.032	90.8	-	-	-0.408	5.1	-	-	0.015	96.0	-	-
Viet Nam	2002	0.234	38.1	-	-	-0.092	38.6	-	-	0.098	76.7	-	-
	1997	0.343	17.7	-	-	0.013	49.4	-	-	0.128	67.1	-	-

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

a Most skilled assistant at delivery shown.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and the United Nations Children's Fund (UNICEF) (2003).



Table A2.2: Results for Access to a Health Facility and the Incidence of Fever

Country	Year	Share of Deliveries in a Health Facility (%)				Share of Children 12 to 23 months (%) <sup>a</sup>				Share of Children with fever			
		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Fully Vaccinated		Provided Vitamin A Supplements		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey	
		Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)
Afghanistan	2010	-	-	0.302	22.6	-	-	-	-	-	-	-	-
Armenia	2010	0.017	95.7	0.020	94.4	-0.010	60.3	-	-	-0.017	14.6	-0.052	14.8
	2005	0.039	88.4	0.046	87.1	0.018	70.1	-	-	0.047	17.5	-0.021	16.1
Azerbaijan	2006	0.089	72.8	0.095	70.3	0.106	44.8	0.349	5.5	0.050	10.7	0.064	10.2
Bangladesh	2011	-	-	-	-	0.035	83.5	0.030	57.7	-	-	-	-
	2007	0.434	8.9	0.454	7.4	0.027	79.6	0.003	83.3	0.030	43.8	0.018	38.9
	2004	0.522	5.3	0.511	4.6	0.071	67.9	0.020	77.1	0.027	46.0	0.030	41.3
	1999–2000	0.549	3.7	0.566	3.3	0.081	55.5	-	-	0.033	42.6	0.019	37.9
	1996–1997	0.601	1.9	0.595	1.7	0.076	50.0	-	-	0.025	36.6	0.019	31.6
	1993–1994	0.671	1.2	-	-	0.077	54.4	-	-	-	-	-	-
Cambodia	2010	0.144	52.9	0.185	43.9	0.057	74.3	0.027	69.0	0.026	32.5	0.023	28.7
	2005	0.432	13.6	0.458	11.7	0.062	62.5	0.011	34.1	0.040	40.4	0.051	37.2
	2000	0.604	3.9	0.584	4.1	0.147	34.0	0.120	27.1	-0.021	38.6	-0.019	34.7
India	2005–2006	0.328	27.2	0.340	25.2	0.207	34.6	0.080	14.4	0.024	17.6	0.004	15.0
	1998–99	0.350	21.8	-	-	0.215	30.9	-	-	0.015	29.4	-	-
	1992–1993	0.427	14.9	-	-	0.262	26.1	-	-	0.032	21.9	-	-
Indonesia	2007	0.277	35.0	0.297	32.3	0.117	51.7	-	-	0.061	36.8	0.063	33.6
	2002–2003	0.330	28.2	0.340	26.3	0.106	45.9	0.048	71.5	0.025	29.7	0.026	26.6
	1997	0.425	12.4	0.435	11.7	0.098	49.4	-	-	0.013	29.5	0.010	26.1
Kazakhstan	1999	0.010	97.1	0.005	97.5	0.003	72.9	-	-	0.074	14.5	0.025	12.6
	1995	0.007	97.7	-	-	0.087	21.4	-	-	-0.122	10.0	-	-
Kiribati	2009	-	-	0.095	59.6	0.034	27.7	-0.006	66.0	-	-	0.011	23.6
Kyrgyz Republic	1997	0.018	94.1	-	-	0.012	68.8	-	-	0.034	13.5	-	-
Maldives	2009	0.007	96.0	0.014	93.7	-0.010	93.8	-0.136	54.6	0.011	30.1	0.017	29.3
Nauru	2007	-	-	-0.004	99.1	-	-	-	-	-	-	0.009	35.6
Nepal	2011	0.306	28.2	0.338	23.4	0.023	85.0	0.000	86.8	-0.023	21.7	-0.076	17.3
	2006	0.445	10.0	0.448	9.2	0.062	77.8	0.005	87.1	-0.022	19.4	-0.038	16.3
	2001	0.539	3.9	0.533	3.7	0.079	60.4	-	-	-0.002	37.0	0.008	32.3
	1996	0.514	3.7	-	-	0.150	36.8	-	-	0.005	39.6	-	-
Pakistan	2006–2007	0.316	25.6	0.337	22.7	0.159	39.8	0.027	58.6	-0.023	33.8	-0.028	29.9
	1990–1991	0.567	6.1	0.579	5.6	0.181	28.7	-	-	0.009	33.9	0.011	30.2
Philippines	2008	0.315	31.5	0.315	30.3	0.060	74.7	0.029	73.7	0.107	27.5	0.079	24.2
	2003	0.333	25.9	0.345	24.8	0.071	64.9	0.061	71.4	0.066	29.0	0.079	25.7
	1998	0.373	22.6	0.382	21.1	0.068	67.9	-	-	0.050	31.2	0.039	26.9
RMI	2007	-	-	0.068	79.3	0.045	32.8	-	-	-	-	0.010	9.3
Samoa	2007	-	-	0.060	75.7	0.111	22.6	-	-	-	-	0.011	19.4
Solomon Islands	2007	-	-	0.044	80.7	0.007	82.1	-0.023	7.6	-	-	-0.022	16.2
Timor-Leste	2009–2010	0.431	13.5	0.466	11.8	0.030	51.0	0.065	47.4	-0.086	20.0	-0.074	17.8
	2002	-	-	-	-	0.309	3.4	-	-	-	-	-0.438	15.7
Turkmenistan	2000	0.003	95.4	0.005	94.6	-0.024	86.9	0.111	14.1	-0.183	4.2	-0.177	3.3
Tuvalu	2007	-	-	-0.007	93.6	-	-	-	-	-	-	-	-
Uzbekistan	1996	0.035	90.8	-	-	-0.008	79.3	-	-	-0.098	7.4	-	-
Viet Nam	2002	0.129	68.4	-	-	-0.136	57.6	-	-	0.066	28.4	-	-
	1997	0.183	50.4	-	-	0.068	46.8	-	-	0.013	21.4	-	-

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

a Some data may be for children of a different age.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012), and Government of Timor-Leste and UNICEF (2003).

**Table A2.3: Results for Malnutrition Indicators**

Country	Year	Nutritional Status of Children Under 5 Years by WHO Standards					
		Stunting (height-for-age below -2 standard deviations, %)		Underweight (weight-for-age below -2 standard deviations, %)		Wasting (weight-for-height below -2 standard deviations, %)	
		Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)
Afghanistan	2010	-	-	-	-	-	-
Armenia	2010	0.063	20.5	0.257	5.8	0.262	5.1
	2010 <sup>a</sup>	0.076	15.8	0.040	5.1	0.262	3.8
	2005 <sup>a</sup>	-0.014	12.8	0.070	4.3	-0.031	4.9
Azerbaijan	2006	0.159	29.1	0.344	10.3	0.176	8.0
Bangladesh	2011	0.127	46.5	0.161	42.2	0.066	16.6
	2007	0.123	48.5	0.109	45.4	0.070	18.7
	2004	0.107	56.0	0.127	47.9	0.093	15.9
	1999–2000	-	-	-	-	-	-
	1996–1997	-	-	-	-	-	-
	1993–1994	-	-	-	-	-	-
Cambodia	2010	0.130	45.1	0.128	31.9	0.018	11.1
	2005	0.118	47.7	0.118	31.4	0.117	9.4
	2000	0.078	53.6	0.067	41.0	0.007	16.9
India	2005–2006	0.126	54.1	0.158	49.2	0.117	22.1
	1998–1999	-	-	-	-	-	-
	1992–1993	-	-	-	-	-	-
Indonesia	2007	-	-	-	-	-	-
	2002–2003	-	-	-	-	-	-
	1997	-	-	-	-	-	-
Kazakhstan	1999	-	-	-	-	-	-
	1995	-	-	-	-	-	-
Kiribati	2009	-	-	0.111	16.5	-	-
Kyrgyz Republic	1997	-	-	-	-	-	-
Maldives	2009	0.086	20.5	0.156	20.0	0.091	11.6
Nauru	2007	0.233	29.6	0.062	5.1	0.309	1.4
Nepal	2011	0.152	46.6	0.176	33.9	0.076	11.7
	2006	0.119	55.2	0.134	43.7	0.045	13.2
	2001	0.079	61.8	0.105	47.2	0.092	12.3
	1996	-	-	-	-	-	-
Pakistan	2006–2007	-	-	-	-	-	-
	1990–1991	-	-	-	-	-	-
Philippines	2008	-	-	-	-	-	-
	2003	-	-	-	-	-	-
	1998	-	-	-	-	-	-
RMP <sup>b</sup>	2007	-	-	0.305	7.5	-	-
Samoa	2007	-	-	-	-	-	-
Solomon Islands	2007	0.063	34.9	0.074	12.7	0.004	4.3
Timor-Leste	2009–2010	0.053	61.3	0.061	47.4	0.044	19.5
	2009–2010 <sup>a</sup>	0.065	56.5	0.048	54.5	0.035	17.7
	2002 <sup>a</sup>	0.063	49.2	0.044	44.0	0.032	12.3
Turkmenistan	2000	-	-	-	-	-	-
Tuvalu	2007	-0.089	9.1	-0.046	1.5	-0.001	3.3
Uzbekistan	1996	-	-	-	-	-	-
Viet Nam	2002	-	-	-	-	-	-
	1997	-	-	-	-	-	-

RMI = Republic of the Marshall Islands.

a Malnutrition data based on old NCHS/CDC/WHO standard, which is not directly comparable to the WHO standard adopted in 2006.

b These estimates are not directly comparable to other estimates, as they are based on observations (i.e., neither the NCHS/CDC/WHO or WHO standards apply).

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012), and Government of Timor-Leste and UNICEF (2003).

**Table A2.4: Results for Additional Health Indicators and Access to Primary School**

Country	Year	Share of Children Under 5 years with Acute Respiratory Illness (%) <sup>a</sup>		Infant and Child Mortality				Completed or Have Some Primary Education					
		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Infant Mortality (deaths per 1,000 infants)		Under-5 Mortality (deaths per 1,000 Children)		Women Aged 15-49 years (%)		Men Aged 15-49 years (%)	
		Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)
Afghanistan	2010	-	-	-	-	0.142	69.1	0.144	89.2	0.106	17.7	-	-
Armenia	2010	0.044	7.7	-0.023	7.8	0.142	30.8	0.131	36.6	0.000	99.9	0.000	99.6
	2005	0.029	11.2	-0.033	11.0	0.092	48.0	0.112	53.2	0.000	100.0	0.002	99.6
Azerbaijan	2006	0.092	2.7	0.137	3.4	0.074	52.9	0.084	63.3	0.005	98.4	0.001	99.5
Bangladesh	2011	-	-	0.070	6.2	-	-	-	-	-	-	-	-
	2007	0.155	6.6	0.143	5.5	0.109	62.8	0.112	81.5	0.128	57.5	0.120	61.0
	2004	0.079	24.5	0.080	20.7	0.071	77.7	0.100	105.9	0.171	48.4	-	-
	1999-2000	0.084	20.9	0.089	18.2	0.097	87.6	0.127	124.6	0.236	41.0	-	-
	1996-1997	0.026	15.6	0.043	13.4	0.066	95.5	0.085	138.5	0.253	33.8	0.170	48.2
	1993-1994	0.021	24.0	-	-	0.089	108.7	0.116	166.6	0.298	29.4	-	-
Cambodia	2010	0.123	8.1	0.125	7.2	0.187	68.3	0.177	79.5	0.062	78.9	0.034	89.1
	2005	-0.302	11.8	-0.326	10.2	0.131	99.3	0.140	120.7	0.074	74.6	-	-
	2000	0.002	21.8	-0.020	19.4	0.101	103.3	0.119	138.3	0.112	63.7	-	-
India	2005-2006	-0.336	7.2	-0.348	6.1	0.137	73.2	0.178	99.8	0.230	45.7	0.103	73.1
	1998-99	0.071	20.5	-	-	0.150	82.9	0.184	118.3	0.312	32.0	-	-
	1992-1993	0.079	7.3	-	-	0.149	98.7	0.172	138.7	0.373	24.0	-	-
Indonesia	2007	-	-	-	-	0.165	45.4	0.184	60.2	0.029	90.4	0.017	94.2
	2002-2003	0.085	9.0	0.065	8.1	0.190	50.9	0.189	64.5	0.030	89.3	0.020	94.0
	1997	0.038	10.3	0.060	9.5	0.198	61.7	0.211	84.7	0.048	82.6	-	-
Kazakhstan	1999	0.148	3.6	0.039	3.1	0.127	62.9	0.136	73.2	0.000	99.6	0.000	99.9
	1995	-0.143	4.4	-	-	-0.009	40.5	0.000	48.4	0.001	99.8	-	-
Kiribati	2009	-	-	0.139	7.9	0.107	50.4	0.113	79.5	0.015	92.8	0.016	89.2
Kyrgyz Republic	1997	0.131	5.0	-	-	0.115	74.1	0.111	84.5	0.000	99.8	-	-
Maldives	2009	-0.215	0.5	-0.049	0.8	0.034	23.1	0.078	28.7	0.066	70.5	0.111	58.3
Nauru	2007	-	-	0.086	17.5	-	-	-	-	0.000	99.9	0.001	99.7
Nepal	2011	0.095	6.4	0.053	4.8	0.078	57.4	0.097	68.6	0.166	50.2	0.068	80.4
	2006	-0.356	6.4	-0.349	5.3	0.088	66.0	0.114	88.5	0.191	38.0	0.068	73.1
	2001	-0.016	26.8	-0.005	22.7	0.072	83.3	0.102	120.1	0.292	19.9	0.088	56.9
	1996	0.007	34.3	-	-	0.058	98.6	0.094	152.9	0.352	13.0	-	-
Pakistan	2006-2007	0.036	16.2	0.014	14.3	0.105	84.7	0.125	104.3	0.409	20.7	-	-
	1990-1991	0.057	18.9	0.050	16.6	0.057	98.9	0.089	130.3	0.526	9.9	0.224	38.6
Philippines	2008	0.188	6.7	0.168	6.1	0.163	32.5	0.209	45.4	0.009	97.9	-	-
	2003	0.159	13.1	0.169	11.9	0.156	34.7	0.223	51.3	0.009	97.7	0.012	97.1
	1998	0.068	16.2	0.068	14.2	0.155	41.8	0.191	65.7	0.010	97.4	-	-
RMI	2007	-	-	0.250	1.9	0.123	37.3	0.153	53.2	0.000	99.7	0.003	99.1
Samoa	2007	-	-	-0.071	2.2	0.182	10.9	0.360	17.3	0.002	99.4	-0.001	99.4
Solomon Islands	2007	-	-	-	-	-0.054	24.7	-0.022	36.2	0.030	83.8	0.018	92.8
Timor-Leste	2009-2010	-0.065	2.2	-0.088	1.9	0.082	61.5	0.079	87.4	0.116	62.5	0.069	75.1
	2002	-	-	0.110	15.7	0.111	95.3	0.122	137.1	-	-	-	-
Turkmenistan	2000	-0.290	0.6	-0.193	0.6	0.088	78.3	0.079	96.3	0.001	99.0	-	-
Tuvalu	2007	-	-	0.023	2.9	0.226	33.5	0.143	37.2	0.000	99.8	0.000	99.7
Uzbekistan	1996	-0.460	0.6	-	-	0.051	45.6	0.057	58.4	0.000	99.9	-	-
Viet Nam	2002	0.100	21.5	-	-	0.217	29.9	0.237	40.1	0.042	89.7	-	-
	1997	0.067	15.2	-	-	0.140	40.2	0.158	54.0	0.028	92.6	-	-

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

a Some data may be for children of a different age.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012), and Government of Timor-Leste and UNICEF (2003).

**Table A2.5: Results for Additional Education Indicators**

Country	Year	Highest Educational Level is Secondary or Higher (some or completed)				Literacy Rate (%)			
		Women Aged 15-49 years (%)		Men Aged 15-49 years (%)		Women Aged 15-49 years (%)		Men Aged 15-49 years (%)	
		Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)
Afghanistan	2010	0.249	6.4	-	-	-	-	-	-
Armenia	2010	0.001	99.4	0.000	99.6	-	-	-	-
	2005	0.001	99.5	0.004	99.1	-	-	-	-
Azerbaijan	2006	0.010	96.5	0.003	98.8	-	-	-	-
Bangladesh	2011	-	-	-	-	-	-	-	-
	2007	0.288	25.8	0.315	25.0	0.185	44.5	0.164	53.8
	2004	0.354	18.9	-	-	-	-	-	-
	1999-2000	0.461	13.8	-	-	-	-	-	-
	1996-1997	0.496	9.2	0.376	18.2	-	-	-	-
	1993-1994	0.582	6.3	-	-	-	-	-	-
Cambodia	2010	0.318	23.7	0.236	39.0	0.117	65.0	0.070	77.6
	2005	0.389	15.1	-	-	0.133	60.2	-	-
	2000	0.485	8.9	-	-	-	-	-	-
India	2005-2006	0.333	29.8	0.194	51.9	0.261	40.7	0.111	70.9
	1998-99	0.458	16.1	-	-	-	-	-	-
	1992-1993	0.528	10.4	-	-	-	-	-	-
Indonesia	2007	0.252	34.1	0.231	39.1	0.054	82.6	0.038	87.5
	2002-2003	0.296	26.8	0.263	33.5	-	-	-	-
	1997	0.360	18.0	-	-	-	-	-	-
Kazakhstan	1999	0.001	99.3	0.117	47.8	-	-	-	-
	1995	0.003	99.1	-	-	-	-	-	-
Kiribati	2009	0.242	27.4	0.256	22.9	0.005	96.4	0.002	96.4
Kyrgyz Republic	1997	0.002	99.3	-	-	-	-	-	-
Maldives	2009	0.200	32.7	0.258	26.5	-	-	-	-
Nauru	2007	0.004	97.5	0.030	90.7	0.000	99.3	0.022	93.4
Nepal	2011	0.267	31.4	0.160	55.8	0.141	57.3	0.063	80.8
	2006	0.315	20.1	0.197	39.9	0.162	45.7	0.071	75.0
	2001	0.466	7.1	0.244	24.7	-	-	-	-
	1996	0.547	4.1	-	-	-	-	-	-
Pakistan	2006-2007	0.558	9.2	-	-	0.399	21.3	-	-
	1990-1991	0.668	3.9	0.422	17.3	-	-	-	-
Philippines	2008	0.112	70.4	-	-	0.018	95.2	-	-
	2003	0.125	66.1	0.180	55.8	-	-	-	-
	1998	0.137	62.3	-	-	-	-	-	-
RMI	2007	0.094	66.8	0.076	67.6	0.016	94.2	0.007	93.9
Samoa	2007	0.013	93.7	0.033	84.1	0.004	98.2	0.012	93.9
Solomon Islands	2007	0.250	23.4	0.178	37.3	0.045	74.9	0.035	85.1
Timor-Leste	2009-2010	0.238	36.4	0.175	45.3	0.132	59.0	0.076	73.1
	2002	-	-	-	-	0.145	45.7	0.114	59.2
Turkmenistan	2000	0.001	98.0	-	-	-	-	-	-
Tuvalu	2007	0.112	59.4	0.117	59.2	0.010	96.1	0.023	93.0
Uzbekistan	1996	0.001	99.5	-	-	-	-	-	-
Viet Nam	2002	0.164	55.9	-	-	-	-	-	-
	1997	0.165	55.0	0.000	0.0	-	-	-	-

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

Sources: Author's estimates based on the STAtcompiler and country demographic and health survey reports available at ICF International (2012), and Government of Timor-Leste and UNICEF (2003).

**Table A2.6: Results for Infrastructure-Related Indicators**

Country	Year	Share of Children Under 5 years with Diarrhea in the Last 2 Weeks (%) <sup>a</sup>				Disposal of Stools of Children Under 5 years <sup>a</sup>			Share of Women 15-49 years Reporting a Serious Problem in Accessing Health Care as (%)			
		Births in 3 Years Preceding		Births in 5 Years Preceding		Share Disposed Safely (%)			Distance to Health Facility		Having to Take Transport	
		Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)	(v=2)	Concentration Index (v=2)	Achievement (v=2)	Concentration Index (v=2)	Achievement (v=2)
Afghanistan	2010	-	-	-	-	-	-	0.087	78.3	0.074	78.7	
Armenia	2010	0.060	19.8	0.093	20.4	0.019	91.3	0.305	26.5	0.300	22.6	
	2005	0.122	11.2	0.190	11.9	0.029	86.5	0.298	38.6	0.253	44.2	
Azerbaijan	2006	0.065	13.1	0.132	13.9	-	-	0.288	47.3	0.283	45.7	
Bangladesh	2011	-	-	-	-	-	-	-	-	-	-	
	2007	0.021	11.6	0.009	11.5	-	-	-	-	-	-	
	2004	0.050	9.8	0.063	9.9	-	-	0.064	8.9	0.085	13.5	
	1999–2000	0.025	8.3	0.039	8.4	-	-	-	-	-	-	
	1996–1997	0.059	9.9	0.089	10.1	-	-	-	-	-	-	
	1993–1994	0.022	12.6	-0.007	12.2	-	-	-	-	-	-	
Cambodia	2010	0.098	20.3	0.140	21.1	0.091	60.3	0.167	42.1	-	-	
	2005	0.076	26.4	0.095	26.8	0.136	50.0	0.193	46.2	0.197	46.3	
	2000	0.025	23.9	-0.008	23.1	-	-	0.176	47.4	0.154	48.5	
India	2005–2006	-0.005	12.1	-0.039	11.7	0.519	10.1	0.325	33.4	0.346	30.8	
	1998–99	0.035	19.6	0.030	19.5	-	-	-	-	-	-	
	1992–1993	0.018	11.7	-0.004	11.4	-	-	-	-	-	-	
Indonesia	2007	0.100	18.4	0.169	19.5	0.167	54.8	0.369	20.9	0.403	18.7	
	2002–2003	0.005	13.6	-0.052	12.8	0.173	53.0	0.401	17.4	0.454	16.7	
	1997	0.076	14.1	0.095	14.3	-	-	-	-	-	-	
Kazakhstan	1999	0.037	19.4	0.028	19.2	-	-	-	-	-	-	
	1995	0.046	16.4	0.083	17.0	-	-	-	-	-	-	
Kiribati	2009	-	-	-	-	0.118	29.8	0.089	45.1	0.124	46.5	
Kyrgyz Republic	1997	0.084	19.1	0.112	19.6	-	-	-	-	-	-	
Maldives	2009	0.181	6.3	0.268	6.7	-0.122	46.9	0.194	31.0	0.101	31.1	
Nauru	2007	-	-	-	-	0.017	46.7	-	-	-	-	
Nepal	2011	0.012	18.9	-0.035	18.0	0.293	29.1	0.245	58.0	-	-	
	2006	0.001	15.4	-0.001	15.4	0.458	14.1	0.219	49.4	0.232	48.1	
	2001	0.047	26.7	0.040	26.5	0.377	10.9	0.166	58.9	0.180	60.2	
	1996	0.063	29.2	0.087	29.9	-	-	-	-	-	-	
Pakistan	2006–2007	0.043	29.1	0.038	28.9	-	-	-	-	-	-	
	1990–1991	0.011	18.2	0.029	18.5	-	-	-	-	-	-	
Philippines	2008	0.099	13.3	0.130	13.7	0.052	47.3	0.294	35.4	0.284	34.0	
	2003	0.078	14.9	0.124	15.5	0.108	68.9	0.286	35.0	0.301	33.3	
	1998	0.091	10.7	0.099	10.8	-	-	-	-	-	-	
RMI	2007	-	-	-	-	-	-	0.241	49.9	0.244	51.8	
Samoa	2007	-	-	-	-	-0.003	38.1	0.083	58.0	0.098	56.9	
Solomon Islands	2007	-	-	-	-	0.209	23.3	0.074	56.8	0.094	59.6	
Timor-Leste	2009–2010	-0.049	17.9	-0.113	16.7	0.179	30.1	0.149	61.2	0.145	68.0	
	2002	-	-	-	-	-	-	-	-	-	-	
Turkmenistan	2000	-0.122	3.5	-0.154	3.4	-	-	-	-	-	-	
Tuvalu	2007	-	-	-	-	-0.056	66.7	0.080	27.6	0.053	26.2	
Uzbekistan	1996	-0.167	4.3	-0.269	3.8	-	-	-	-	-	-	
Viet Nam	2002	0.248	14.1	0.402	15.8	-	-	-	-	-	-	
	1997	0.048	10.6	0.004	10.1	-	-	-	-	-	-	

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

a. Some data may be for children of a different age.

Sources: Author's estimates based on the STATAcompiler and country demographic and health survey reports available at ICF International (2012) and Government of Timor-Leste and UNICEF (2003)

**Table A2.7: Results for Health Indicators at a Higher Aversion to Inequality**

Country	Year	Share of Deliveries Assisted by a Doctor (%) <sup>a</sup>				Share of Deliveries Assisted by a Nurse or Assistant Nurse				Share of Deliveries Assisted by a Health Professional (%) <sup>a</sup>			
		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey	
		Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)
Afghanistan	2010	-	-	0.661	5.3	-	-	0.385	11.9	-	-	0.508	17.2
Armenia	2010	0.050	89.8	0.064	87.4	-0.439	6.4	-0.559	7.8	0.028	96.2	0.033	95.2
	2005	0.124	73.1	0.141	71.3	-0.447	18.8	-0.490	20.5	0.047	91.9	0.051	91.9
Azerbaijan	2006	0.168	70.9	0.168	69.0	-0.735	8.0	-0.688	9.6	0.122	78.9	0.114	78.5
Bangladesh	2011	0.630	8.2	-	-	0.300	6.6	-	-	0.532	14.8	-	-
	2007	0.673	4.8	0.694	3.9	0.542	2.9	0.597	2.1	0.634	7.6	0.665	6.0
	2004	0.848	1.4	0.814	1.4	0.511	3.2	0.531	2.7	0.705	4.6	0.692	4.1
	1999–2000	0.758	1.9	0.763	1.7	0.499	2.6	0.538	2.3	0.654	4.5	0.670	4.0
	1996–1997	0.753	1.4	0.723	1.4	0.756	0.7	0.737	0.7	0.754	2.1	0.728	2.2
	1993–1994	0.732	1.1	-	-	0.456	2.9	-	-	0.578	4.0	-	-
Cambodia	2010	0.691	4.0	0.662	4.1	0.123	55.3	0.179	48.3	0.219	59.2	0.261	52.5
	2005	0.802	1.4	0.788	1.4	0.396	24.0	0.415	21.8	0.457	25.4	0.470	23.2
	2000	0.783	0.5	0.735	0.6	0.472	16.3	0.458	16.0	0.493	16.8	0.477	16.6
India	2005–2006	0.554	16.5	0.566	15.3	0.213	9.4	0.240	8.6	0.471	25.8	0.486	23.9
	1998–99	0.577	12.8	-	-	0.347	7.9	-	-	0.512	20.7	-	-
	1992–1993	0.663	7.4	-	-	0.369	8.2	-	-	0.554	15.6	-	-
Indonesia	2007	0.198	0.8	0.187	0.8	0.273	53.8	0.290	51.1	0.272	54.6	0.289	51.9
	2002–2003	-0.100	0.7	0.045	0.7	0.301	47.5	0.312	45.0	0.297	48.3	0.309	45.7
	1997	0.714	2.1	0.705	2.1	0.402	26.1	0.411	24.8	0.447	28.2	0.453	26.9
Kazakhstan	1999	0.142	65.8	0.125	67.2	-0.359	30.7	-0.324	29.4	0.028	96.6	0.025	96.6
	1995	0.118	69.2	-	-	-0.317	27.9	-	-	0.025	97.1	-	-
Kiribati	2009	-	-	0.594	3.7	-	-	-0.004	72.8	-	-	0.062	76.5
Kyrgyz Republic	1997	0.189	49.3	-	-	-0.198	44.8	-	-	0.042	94.0	-	-
Maldives	2009	-0.368	14.1	-0.279	13.8	0.097	78.4	0.100	76.1	0.047	92.5	0.058	89.9
Nauru	2007	-	-	0.062	24.8	-	-	-0.001	71.1	-	-	0.016	95.8
Nepal	2011	0.701	5.6	0.727	4.7	0.311	21.2	0.325	18.8	0.458	26.8	0.479	23.5
	2006	0.695	3.4	0.684	3.3	0.432	7.9	0.473	6.6	0.548	11.3	0.569	9.8
	2001	0.726	2.3	0.709	2.3	0.546	2.6	0.599	2.0	0.654	4.9	0.666	4.3
	1996	0.644	2.1	-	-	0.592	1.6	-	-	0.623	3.6	-	-
Pakistan	2006–2007	0.506	17.7	0.520	15.9	0.303	4.4	0.335	3.8	0.475	22.1	0.493	19.7
	1990–1991	0.805	2.5	0.819	2.2	0.472	3.4	0.455	3.5	0.694	5.9	0.695	5.7
Philippines	2008	0.600	14.5	0.597	14.1	-	-	0.246	20.5	-	-	0.443	34.7
	2003	0.597	13.7	0.616	12.9	0.241	20.1	0.232	20.1	0.441	33.9	0.448	33.0
	1998	0.657	11.2	0.663	10.4	0.262	18.3	0.297	17.9	0.487	29.5	0.498	28.3
RMI	2007	-	-	0.248	33.7	-	-	-0.090	53.6	-	-	0.071	87.4
Samoa	2007	-	-	-	-	-	-	-	-	-	-	0.134	69.9
Solomon Islands	2007	-	-	0.382	2.5	-	-	0.098	73.4	-	-	0.112	75.9
Timor-Leste	2009–2010	0.634	1.1	0.692	0.9	0.527	13.6	0.557	12.0	0.537	14.7	0.570	12.8
	2002	0.876	0.3	-	-	0.556	10.0	-	-	0.588	10.3	-	-
Turkmenistan	2000	0.065	76.7	0.061	76.7	-0.194	18.4	-0.169	18.1	0.023	95.1	0.025	94.8
Tuvalu	2007	-	-	0.277	13.4	-	-	-0.044	82.8	-	-	0.017	96.3
Uzbekistan	1996	0.093	85.2	-	-	-0.746	6.4	-	-	0.061	91.5	-	-
Viet Nam	2002	0.372	31.2	-	-	0.020	34.6	-	-	0.226	65.8	-	-
	1997	0.537	12.5	-	-	0.130	43.6	-	-	0.272	56.1	-	-

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

a Most skilled assistant at delivery shown.

Sources: Author's estimates based on the STATcompiler and country demographic and health survey reports available at ICF International (2012), and Government of Timor-Leste and UNICEF (2003).

Table A2.8: Results for Additional Indicators at a Higher Aversion to Inequality

Country	Year	Share of Deliveries in a Health Facility (%)				Share of Children 12 to 23 months (%) <sup>a</sup>				Completed or Have Some Primary Education			
		Births in 3 Years Preceding the Survey		Births in 5 Years Preceding the Survey		Fully Vaccinated		Provided Vitamin A Supplements		Women Aged 15-49 years (%)		Men Aged 15-49 years (%)	
		Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)	Concentration Index (v=4)	Achievement (v=4)
Afghanistan	2010	-	-	0.519	15.6	-	-	-	-	0.133	17.2	-	-
Armenia	2010	0.060	91.6	0.067	90.0	0.031	57.8	-	-	0.019	98.0	0.017	97.9
	2005	0.092	83.5	0.107	81.6	0.071	66.3	-	-	0.018	98.1	0.024	97.4
Azerbaijan	2006	0.174	66.0	0.186	63.2	0.231	38.6	0.462	4.6	0.030	95.9	0.021	97.5
Bangladesh	2011	-	-	-	-	0.091	78.7	0.079	54.8	-	-	-	-
	2007	0.617	6.1	0.656	4.7	0.058	77.1	0.020	81.9	0.248	49.6	0.241	52.6
	2004	0.742	2.8	0.724	2.6	0.160	61.4	0.060	74.0	0.332	39.0	-	-
	1999-2000	0.726	2.2	0.737	2.0	0.158	50.9	-	-	0.442	29.9	-	-
	1996-1997	0.791	1.0	0.767	1.0	0.146	46.3	-	-	0.442	25.2	0.305	40.4
	1993-1994	0.861	0.5	-	-	0.154	49.8	-	-	0.512	20.4	-	-
Cambodia	2010	0.256	46.0	0.314	36.9	0.136	68.1	0.086	64.8	0.138	72.5	0.086	84.3
	2005	0.621	9.1	0.645	7.6	0.138	57.4	0.073	32.0	0.159	67.8	-	-
	2000	0.797	2.0	0.766	2.3	0.249	29.9	0.194	24.8	0.211	56.6	-	-
India	2005-2006	0.547	18.3	0.563	16.7	0.366	27.6	0.161	13.1	0.433	33.7	0.223	63.3
	1998-99	0.570	14.4	-	-	0.381	24.4	-	-	0.545	21.2	-	-
	1992-1993	0.651	9.1	-	-	0.443	19.8	-	-	0.609	14.9	-	-
Indonesia	2007	0.508	23.8	0.536	21.3	0.236	44.7	-	-	0.074	86.1	0.053	90.7
	2002-2003	0.564	18.3	0.580	16.7	0.214	40.3	0.123	65.8	0.074	85.3	0.058	90.4
	1997	0.684	6.8	0.692	6.4	0.185	44.6	-	-	0.107	77.5	-	-
Kazakhstan	1999	0.048	93.4	0.037	94.4	0.064	68.4	-	-	0.018	97.8	0.018	98.1
	1995	0.038	94.7	-	-	0.132	20.3	-	-	0.019	98.0	-	-
Kiribati	2009	-	-	0.174	54.4	0.043	27.5	0.026	63.9	0.046	89.9	0.038	87.2
Kyrgyz Republic	1997	0.061	89.9	-	-	0.045	66.5	-	-	0.019	97.9	-	-
Maldives	2009	0.035	93.2	0.051	90.3	0.000	92.8	-0.183	56.9	0.135	65.3	0.222	50.9
Nauru	2007	-	-	0.011	97.7	-	-	-	-	0.020	97.9	0.021	97.7
Nepal	2011	0.526	19.2	0.560	15.5	0.055	82.1	0.028	84.4	0.305	41.9	0.147	73.6
	2006	0.656	6.2	0.655	5.8	0.145	70.9	0.043	83.7	0.315	32.1	0.134	68.0
	2001	0.716	2.4	0.709	2.3	0.157	55.3	-	-	0.430	16.0	0.154	52.8
	1996	0.697	2.3	-	-	0.244	32.7	-	-	0.514	9.7	-	-
Pakistan	2006-2007	0.518	18.0	0.541	15.7	0.321	32.1	0.062	56.5	0.685	11.0	-	-
	1990-1991	0.792	2.9	0.812	2.5	0.306	24.3	-	-	0.789	4.4	0.393	30.2
Philippines	2008	0.561	20.2	0.558	19.6	0.149	67.7	0.096	68.6	0.040	94.8	-	-
	2003	0.579	16.3	0.594	15.4	0.164	58.4	0.137	65.6	0.039	94.7	0.046	93.7
	1998	0.625	13.5	0.633	12.5	0.152	61.7	-	-	0.043	94.3	-	-
RMI	2007	-	-	0.163	71.2	0.215	26.9	-	-	0.020	97.6	0.028	96.6
Samoa	2007	-	-	0.131	69.9	0.229	19.6	-	-	0.023	97.3	0.019	97.5
Solomon Islands	2007	-	-	0.103	75.8	0.033	80.0	-0.056	7.8	0.071	80.3	0.050	89.8
Timor-Leste	2009-2010	0.649	8.4	0.694	6.8	0.117	46.4	0.132	44.0	0.218	55.3	0.134	69.8
	2002	-	-	-	-	0.548	2.2	-	-	-	-	-	-
Turkmenistan	2000	0.027	93.2	0.029	92.4	-0.007	85.4	0.152	13.4	0.020	97.1	-	-
Tuvalu	2007	-	-	0.022	90.9	-	-	-	-	0.019	97.9	0.018	97.9
Uzbekistan	1996	0.102	84.5	-	-	0.016	77.4	-	-	0.020	97.9	-	-
Viet Nam	2002	0.277	56.7	-	-	0.264	49.1	-	-	0.113	83.0	-	-
	1997	0.345	40.4	-	-	0.144	43.0	-	-	0.081	87.5	-	-

RMI = Republic of the Marshall Islands.

v = a parameter capturing the aversion to inequality.

<sup>a</sup> Some data may be for children of a different age.

Sources: Author's estimates based on the STAtcompiler and country demographic and health survey reports available at ICF International (2012), and Government of Timor-Leste and UNICEF (2003).

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### **Is Growth in Asia and the Pacific Inclusive?**

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