

Estimates and Projections

What are Asia's prospects for reducing poverty over the next decade? Tables P1 and P2 give estimates and projections for \$1-a-day and \$2-a-day poverty for 20 developing member countries (DMCs) and provide a perspective on this question. The tables present poverty estimates for 1990 and 2003, and updated poverty projections for 2015, on the basis of various scenarios for economic growth and the distribution of household consumption expenditures.¹ While 1990 and 2015 represent the start and end years of the Millennium Development Goals (MDGs), 2003 is the most recent common reference year for which data on household consumption expenditures can be obtained for a large number of DMCs.² A discussion of the poverty estimates and projections is provided below. This is followed by a brief description of the methodology used to derive the estimates and projections, including the assumptions made on economic growth and distribution used for the poverty projections for 2015.

As can be inferred from Table P1, Asia is well placed to meet the MDG target of halving the incidence of \$1-a-day poverty between 1990 and 2015. With the incidence of poverty around 34% in 1990, halving poverty incidence would require that it be around 17% by 2015. This target rate of poverty incidence has already been almost achieved. As can be seen from the last row of Table P1, poverty incidence was down to 19.3% by 2003, only around two percentage points higher than the target poverty incidence that needs to be achieved by 2015. In fact, a number of DMCs have already halved or more than halved their 1990 poverty rate. These include the PRC in East Asia; Indonesia, Malaysia, Thailand, and Viet Nam in Southeast Asia; Sri Lanka in South Asia; and Azerbaijan in Central Asia.³

On the basis of the “benchmark” growth scenario—current growth trends for most DMCs—virtually all DMCs would meet the first MDG target. The only exceptions are some of the Central Asian Republics when benchmark growth is associated with a “less equal” distribution. But

even in these cases, poverty would be either negligible or well under double digits. Most DMCs would also meet the first MDG target if growth is 1 percentage point lower than benchmark growth (“low growth”) and the distribution is less equal. In addition to some of the Central Asian Republics, the exception is Nepal from South Asia, which would miss the MDG by around 1 percentage point.

While these projections suggest that Asia has made, and continues to make, good progress in reducing poverty, three issues need to be kept in mind. First, these projections are only as good as the assumptions made about economic growth and distribution. Where growth turns out weaker or where distributional changes work against the poor, poverty will be higher than projected. This point is perhaps best seen by comparing the various projections of poverty for Pakistan. On the basis of benchmark growth and a more equal distribution, poverty would be 3.5% in 2015. The same growth rate, but now combined with a less equal distribution, would lead to an increase in the poverty rate by more than 10 percentage points. A reduction in growth rate by 1 percentage point would lead to a further 5 percentage point increase in the poverty rate in 2015.

Second, poverty as defined by the \$1-a-day poverty line pertains to an extremely low standard of living. If the \$2-a-day poverty line were used, the estimates in Table P2 reveal that poverty would still be a significant problem in Asia by 2015. Whereas the estimates in Table P1 indicate that the first MDG target would be met comfortably even under the scenario of low growth with less equal distribution, this is not the case for the MDG target based on the \$2-a-day poverty line. As may be seen from Table P2, Asia would fail outright to meet the redefined target under the scenario of low growth with less equal distribution and meet it narrowly under the scenario of benchmark growth with less equal distribution.

More significantly, even in the scenarios where the redefined MDG target is met, this is in large part due to the large projected decline of poverty in the PRC. Conversely, the fact that Asia will have some difficulty meeting the redefined MDG target is due to the relatively weak projected decline of poverty in South Asia. Indeed, the contrast between Asia's two giants is striking: whereas the PRC comfortably meets a redefined MDG target in all four scenarios for growth and distribution, India fails to do so in all four scenarios. Bangladesh, Nepal, and Pakistan are also unable to meet the redefined MDG target in all four scenarios.

¹ ADB (2004) presented poverty estimates and projections for 1990, 2002, and 2015.

² Data on household consumption expenditures are vital for estimating poverty.

³ Table P1 reveals that Pakistan has also already achieved the MDG target. However, it is possible that this is the result of an overly high estimate of poverty in 1990. See the discussion in ADB (2004) for details on data-related issues.

Table P1: **\$1-a-Day Poverty Index and Magnitude of Poor in Selected DMCs, 1990, 2003, and 2015**

Country	Headcount Ratio (%)					
	1990	2003	2015			
			Benchmark Growth		Low Growth	
			More Equal Distribution	Less Equal Distribution	More Equal Distribution	Less Equal Distribution
China, People's Rep. of	33.0	13.4	0.1	2.6	0.2	3.3
Mongolia	28.0	18.9	5.7	9.1	8.3	12.0
East Asia	33.0	13.4	0.1	2.6	0.2	3.3
Bangladesh	34.0	30.3	3.6	10.8	7.1	15.6
India	42.1	30.7	6.8	11.3	10.3	15.8
Nepal	44.1	23.8	9.0	17.9	13.0	23.0
Pakistan	47.8	19.7	3.5	15.6	7.0	20.4
Sri Lanka	3.8	1.0	0.2	0.3	0.4	0.5
South Asia	41.3	29.0	6.1	11.8	9.5	16.3
Cambodia	46.0	33.8	10.6	12.3	14.2	16.6
Indonesia	20.5	6.5	0.4	1.6	0.8	3.4
Lao PDR	52.7	28.8	2.4	10.1	4.6	14.1
Malaysia	0.6	0.2	0.0	0.2	0.0	0.3
Philippines	19.7	14.1	0.5	6.9	2.3	9.9
Thailand	10.1	0.7	0.0	0.7	0.0	0.7
Viet Nam	50.7	9.7	0.1	0.5	0.3	0.8
Southeast Asia	23.9	8.4	0.6	2.6	1.3	4.1
Azerbaijan	11.4	1.9	0.2	0.7	0.3	0.9
Kazakhstan	0.0	0.0	0.0	0.1	0.0	0.1
Kyrgyz Republic	0.0	0.4	0.0	1.0	0.0	1.5
Tajikistan ^a	0.6	5.9	0.0	0.0	0.0	0.0
Turkmenistan	0.0	4.6	0.0	0.5	0.0	0.6
Uzbekistan	1.3	13.3	0.0	6.5	0.0	9.0
Central Asia	1.9	6.4	0.0	2.9	0.0	4.0
Total Regions	34.3	19.3	2.9	6.7	4.6	9.3

a Only one distribution available.

In addition to the PRC, only a handful of other DMCs would be able to meet a redefined \$2-a-day MDG target under all the scenarios considered here. These are Azerbaijan, Kazakhstan, Malaysia, Sri Lanka, Thailand, and Viet Nam. Cambodia and Lao PDR would fail to meet a redefined MDG target under all four scenarios, as would Kyrgyz Republic and Uzbekistan from Central Asia.

Finally, even under the most favorable scenario considered here, there would still be one billion Asians who would live on less than \$2 a day. Clearly, the challenge of poverty reduction is one that is going to remain with Asia for a long time.

Some Notes on the Methodology

The methods used to obtain the poverty estimates and projections in Tables P1 and P2 are identical to those in ADB (2004), which, among other things, provided poverty

estimates for 1990 and 2002 and poverty projections for 2015. However, a few points on methodology are worth noting here. First, for any given poverty line—a benchmark level of consumption expenditure that enables a person to attain a threshold standard of living—poverty is easily estimated from knowledge of the mean and distribution of per capita expenditures, themselves derived from nationally representative survey data on household expenditures.

Second, the poverty estimates for 1990 and 2003 reported in Tables P1 and P2 are not necessarily based on household expenditure surveys carried out in those years. Because national statistical agencies typically carry out household expenditure surveys every 3 to 5 years, there is often little overlap in the years in which such surveys are carried out.⁴ In order to derive poverty estimates for common reference years, it becomes necessary to use

⁴ For example, only five DMCs carried out household expenditure surveys in 1990. See ADB (2004) for details.

Table P1: (continued)

		Magnitude ('000)				
		2015				
		Benchmark Growth		Low Growth		
1990	2003	More Equal Distribution	Less Equal Distribution	More Equal Distribution	Less Equal Distribution	Country
377,055	173,072	1,841	36,116	3,257	45,695	China, People's Rep. of
594	468	175	278	254	366	Mongolia
377,649	173,540	2,016	36,394	3,511	46,061	East Asia
36,925	41,809	6,620	19,652	12,919	28,268	Bangladesh
351,245	326,692	85,245	140,949	128,264	196,695	India
7,994	5,873	2,895	5,721	4,174	7,367	Nepal
51,600	29,256	7,177	31,958	14,358	41,715	Pakistan
621	194	45	66	76	101	Sri Lanka
448,385	403,824	101,982	198,347	159,791	274,146	South Asia
3,953	4,526	1,954	2,271	2,622	3,054	Cambodia
36,789	13,906	902	4,010	1,978	8,508	Indonesia
2,183	1,630	172	737	338	1,025	Lao PDR
103	37	3	59	3	83	Malaysia
12,220	11,508	482	6,620	2,182	9,513	Philippines
5,651	415	0	466	0	466	Thailand
33,446	7,861	114	474	294	796	Viet Nam
94,346	39,883	3,627	14,638	7,418	23,445	Southeast Asia
819	153	18	62	26	83	Azerbaijan
0	6	2	9	2	12	Kazakhstan
0	22	0	58	0	90	Kyrgyz Republic
31	372	0	0	0	0	Tajikistan ^a
0	221	0	27	0	35	Turkmenistan
269	3,407	0	1,981	0	2,755	Uzbekistan
1,119	4,181	19	2,137	27	2,976	Central Asia
921,500	621,429	107,644	251,516	170,747	346,628	Total Regions

Sources: UN, Population Division. *World Population Prospects: The 2002 Revision*, medium variant projections.

WB, PovcalNet Database for 1990 poverty estimates except Cambodia, Lao PDR, and Viet Nam which are ADB staff estimates.

WB, *World Development Indicators Online*.

ADB staff estimates for 2003 and 2015 poverty estimates.

methods for interpolating and extrapolating poverty estimates. The methods used here are those of Chen and Ravallion (2004), which also form the basis for the World Bank's global and regional poverty counts.⁵

Third, the poverty estimates reported here for 1990 are identical to those reported in ADB (2004).

Fourth, poverty estimates for 2003 are mostly obtained by updating the mean per capita expenditures used in deriving the poverty estimates for 2002 reported in ADB (2004). This updating is carried out by computing and using the growth in per capita private consumption expenditures (PCE) between 2002 and 2003 obtained from national accounts statistics. More specifically, the mean per capita expenditures for 2002, which are based on household

expenditure survey data, are assumed to grow at the same rate at which per capita PCE grew between 2002 and 2003. The resulting estimate for mean per capita expenditures in 2003 is then combined with the distribution data used to compute poverty rates for 2002 in order to arrive at poverty estimates for 2003. Three exceptions to this procedure are the PRC, India, and Nepal, for which information from household expenditure surveys carried out in 2003 was available. In the case of the PRC and India, the updating of mean per capita expenditures is based on household expenditure data from rural and urban sectors for 2003.⁶ In the case of Nepal, both the mean and the distribution of per capita expenditure are obtained from the Nepal Living Standard Survey 2003/2004 in order to estimate poverty.

⁵ See Chen and Ravallion (2004) for details.

⁶ Data on mean per capita expenditures for India were obtained from National Sample Survey Organization (2005), while those for the PRC were obtained from National Bureau of Statistics, PRC (2004).

Table P2: \$2-a-Day Poverty Index and Magnitude of Poor in Selected DMCs, 1990, 2003, and 2015

Country	Headcount Ratio (%)					
	1990	2003	2015			
			Benchmark Growth		Low Growth	
			More Equal Distribution	Less Equal Distribution	More Equal Distribution	Less Equal Distribution
China, People's Rep. of	72.2	41.6	7.0	14.1	9.5	16.9
Mongolia	70.8	63.9	35.4	40.4	41.8	46.4
East Asia	72.2	41.7	7.0	14.2	9.6	17.0
Bangladesh	85.5	79.5	47.2	57.8	55.8	64.5
India	86.1	78.0	50.6	57.4	57.8	63.5
Nepal	83.8	65.0	48.4	58.9	54.9	64.3
Pakistan	87.9	72.6	52.9	60.4	61.7	66.5
Sri Lanka	40.6	24.3	7.1	11.2	10.3	15.5
South Asia	85.5	76.6	49.9	57.3	57.5	63.4
Cambodia	84.3	77.3	51.9	55.3	58.4	61.4
Indonesia	70.9	50.5	22.6	32.5	29.1	40.0
Lao PDR	91.1	74.4	47.4	52.5	55.5	58.9
Malaysia	11.4	9.0	0.2	3.8	0.3	5.4
Philippines	54.9	44.4	26.8	33.6	31.5	38.2
Thailand	43.3	27.8	8.5	12.1	12.0	16.1
Viet Nam	87.4	54.2	18.5	21.3	23.7	27.2
Southeast Asia	65.0	46.8	21.0	27.8	26.3	33.7
Azerbaijan	45.2	25.4	4.8	7.6	7.4	10.0
Kazakhstan	11.7	3.7	0.0	1.1	0.0	1.8
Kyrgyz Republic	0.0	22.0	2.4	14.4	4.5	18.0
Tajikistan ^a	3.3	34.4		9.2		11.9
Turkmenistan	12.2	28.9	0.0	8.1	0.0	10.9
Uzbekistan	10.6	63.1	24.9	44.1	31.2	48.6
Central Asia	13.9	36.1	12.0	22.0	15.3	25.1
Total Regions	75.3	57.4	28.6	35.9	33.9	40.6

a Only one distribution available.

Fifth, as in ADB (2004), poverty projections for 2015 are based on two scenarios for economic growth (“benchmark” versus “low” growth), as well as two scenarios for the evolution of distribution (“more equal” versus “less equal” distribution). Projections of growth in GDP per capita are essential, as these are used to derive projections of mean per capita expenditures in 2015.⁷ The benchmark scenario for economic growth simply assumes that except for the PRC and the Central Asian Republics, GDP per capita would grow by the average of annual growth rates registered over the 2000–2004 period.⁸ For the PRC and the Central Asian Republics, recent growth rates have been very high and it is assumed that growth rates over

the next decade or so will be lower. For the PRC, GDP per capita is assumed to grow by 6% per year while for the Central Asian Republics it is assumed to grow by 5% per year. The low growth rate scenario is defined as one that is equal to the benchmark growth rate minus 1 percentage point. As regards distribution, every available distribution of per capita expenditures is considered. The distribution that yields the lowest poverty rate, when combined with projected mean per capita expenditures for 2015, is referred to as a “more equal” distribution, while the distribution that yields the highest poverty rate is referred to as a “less equal” distribution.^{9,10}

⁷ In particular, the empirical finding that a 1% increase in GDP per capita is associated with a 0.8% increase in survey-based mean per capita consumption expenditures is used to project the survey means of 2003 all the way to 2015. The empirical relationship is obtained by regressing the first difference of actual survey means in logs on a constant and the first difference of real GDP per capita in logs for the DMCs.

⁸ These growth rates were obtained from ADB (2005).

⁹ For example, in the case of Viet Nam, three survey datasets are available (for 1993, 1998, and 2002) and thus there are three distinct distributions. Whatever the projected value of the survey mean may be in 2015, applying it to each of these three distributions will yield three distinct values for poverty incidence, since the distributions vary.

¹⁰ Tajikistan has only one distribution. Therefore, the poverty estimates based on more equal and less equal distributions will coincide for each growth scenario.

Table P2: (continued)

		Magnitude ('000)				
		2015				
		Benchmark Growth		Low Growth		
1990	2003	More Equal Distribution	Less Equal Distribution	More Equal Distribution	Less Equal Distribution	Country
825,043	536,554	97,770	197,774	133,096	236,935	China, People's Rep. of
1,501	1,584	1,081	1,234	1,274	1,415	Mongolia
826,544	538,138	98,850	199,008	134,371	238,350	East Asia
92,895	109,749	85,702	104,821	101,170	116,987	Bangladesh
718,907	830,008	630,782	715,631	720,999	791,019	India
15,169	16,029	15,495	18,861	17,586	20,567	Nepal
94,935	107,767	108,141	123,524	126,220	135,967	Pakistan
6,601	4,678	1,460	2,312	2,136	3,193	Sri Lanka
928,507	1,068,231	841,580	965,148	968,110	1,067,733	South Asia
7,248	10,361	9,563	10,187	10,767	11,316	Cambodia
127,209	108,487	56,503	81,356	72,969	100,137	Indonesia
3,773	4,210	3,449	3,821	4,045	4,291	Lao PDR
2,065	2,223	50	1,118	101	1,594	Malaysia
34,044	36,185	25,829	32,329	30,393	36,777	Philippines
24,168	17,217	5,886	8,424	8,361	11,171	Thailand
57,675	44,063	17,494	20,204	22,464	25,749	Viet Nam
256,181	222,746	118,774	157,440	149,099	191,036	Southeast Asia
3,242	2,092	451	715	701	949	Azerbaijan
1,916	543	2	176	2	280	Kazakhstan
0	1,113	144	857	268	1,073	Kyrgyz Republic
176	2,169	669	669	864	864	Tajikistan ^a
460	1,407	0	471	0	634	Turkmenistan
2,175	16,143	7,654	13,532	9,581	14,937	Uzbekistan
7,969	23,467	8,920	16,421	11,416	18,737	Central Asia
2,019,201	1,852,582	1,068,124	1,338,017	1,262,996	1,515,856	Total Regions

Sources: UN, Population Division, *World Population Prospects: The 2002 Revision*, medium variant projections.

WB, PovcalNet Database for 1990 poverty estimates except Cambodia, Lao PDR, and Viet Nam which are ADB staff estimates.

WB, *World Development Indicators Online*.

ADB staff estimates for 2003 and 2015 poverty estimates.

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