

V

iewing the world at purchasing power parity

Comparable measures of economic activity and living standards are useful for many purposes. Foreign investors, traders, and potential immigrants want to know an economy's market size, productivity, and prices. The globalization of markets for goods, services, finance, labor, and ideas reinforces the interdependence of economies and the need to measure them on a common scale. Countries cannot share responsibilities for global public goods—the environment, security, development assistance, and global governance—without meaningful assessments of the real size of their economies and the well-being of their people.

But comparing the real size of economies is not easy. Even in an integrated global economy large differences in the costs of goods and services persist. Exchange rates can be used to convert values in one currency to another, but since they do not fully reflect differences in price levels they cannot measure the real volume of output. Exchange rates are determined by the demand for and supply of currencies used in international transactions, ignoring domestic economic sectors where prices are set in relative isolation from the rest of the world. Thus the familiar experience of international travelers, who discover that they can buy more, or less, of the same goods in different countries when converting their money using the prevailing exchange rates.

To measure the real size of the world's economy and to compare costs of living across countries, we need to adjust for differences in purchasing power. Finding a way to adjust for those differences has given rise to the efforts to measure purchasing power parties (PPPs), which convert local currencies to a common currency, such as the U.S. dollar.

Since 1970 the International Comparison Program (ICP) has conducted eight rounds of PPP estimates for the major components of countries' gross domestic product (GDP)—the most recent for 2005. The PPP process calls for the systematic collection of price data on hundreds of representative and carefully defined products and services consumed in each country, requiring the full cooperation of national statistical agencies and international organizations.

High-income countries regularly take part in such programs, but 2005 was the first time since 1993 that comprehensive price surveys were carried out in developing economies. An unprecedented number, 101, took part. These new PPPs provide a better and more complete view of the world economy. They show that in 2005 developing country economies were on average 2.2 times larger when measured by PPPs than by exchange rates. They also reveal that past estimates of the real size of the economies of developing countries based on the 1993 ICP round were often too large.

This section reports the major findings of the 2005 ICP round and explores some of the implications. In doing so, it aims to provide a better picture of today's important issues, highlighting the diversity—and the commonality—of development patterns and outcomes.

Country participation and population coverage

The eighth round of the ICP included 146 economies—101 of them classified by the World Bank as low and middle income based on gross national income per capita at market exchange rates—covering more than 95 percent of the world's people (figure 1a). This was the first global price collection since 1993, although some European economies have carried out regular price comparisons, the last in 2002. Some large economies, such as China, and many smaller ones in Africa, took part for the first time. India took part for the first time since 1985.

Noteworthy is that the two poorest developing regions, South Asia and Sub-Saharan Africa, have the best population coverage—more than 98 percent (figure 1b). Latin America and the Caribbean and the Middle East and North Africa recorded less coverage, both below 87 percent. Caribbean countries and Algeria, Libya, and West Bank and Gaza did not participate in the 2005 round. Many fragile and conflict-beset states were underrepresented (with coverage around 50 percent), with weak statistical capacity and conditions inimical to data collection.

The new ICP round, with its expanded coverage, provides a more complete view of the world economy and, not surprisingly, a different picture of its size and structure.

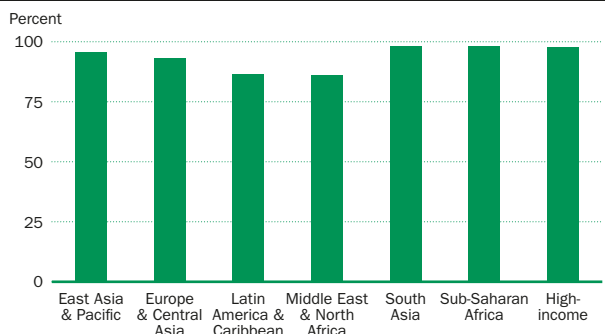
Participation in the International Comparison Program has been growing

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The 2005 International Comparison Program's population coverage was above 85 percent in every region

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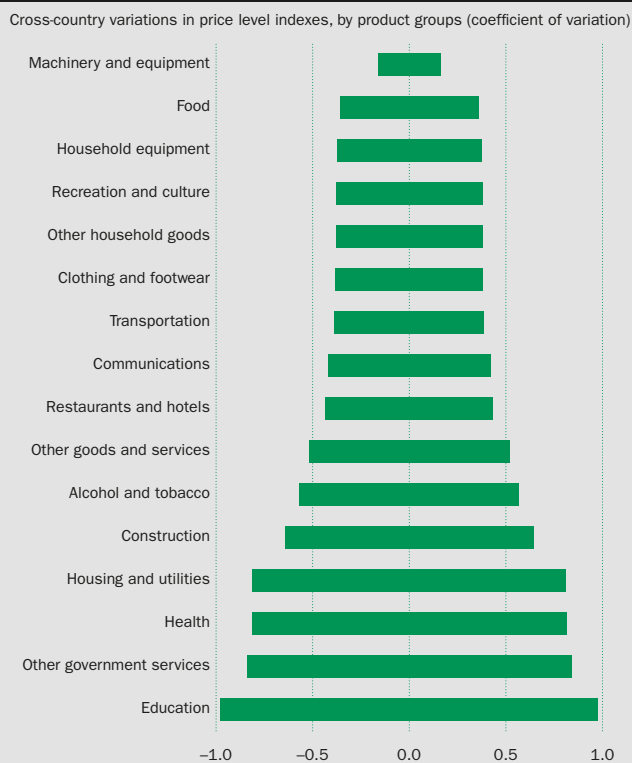
Measuring price differences

Purchasing power parities are needed because similar goods and services have widely varying prices across countries when converted to a common currency using market exchange rates. Differences are greatest in sectors not commonly traded internationally, such as housing, construction, and health and education services (figure 1c). Price differences are smaller for widely traded products, such as machinery and equipment, after allowing for taxes, distributor margins, and transport costs. PPPs include the prices of tradable and nontradable goods, using weights that reflect their relative importance in total GDP.

Comparing prices across economies is complicated by tension between comparability and representativeness. Goods and services should have similar characteristics (comparable) and be consumed everywhere (representative). To compensate for noncomparability of representative products, the ICP conducted parallel programs: selecting items at the regional level, where consumption patterns are broadly similar across countries, and selecting items for global comparison among a few countries from each region. The results of the second program were used to link the results of the first into a single set of global PPPs. For details see the *ICP Global Report* (World Bank 2008).

Nontradable goods and services show wider variation in prices

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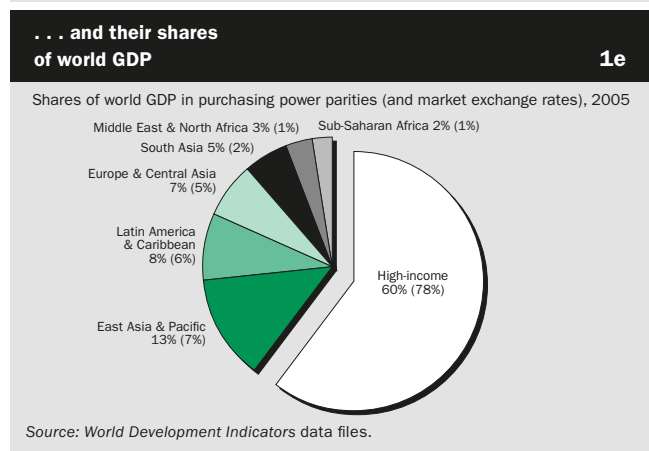
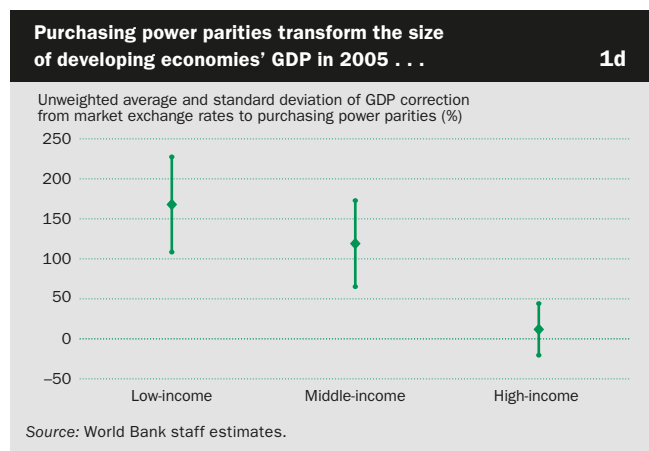


The size of the global economy

Converting GDP and its components to a common currency using PPPs leads to dramatic revisions in size and structure of world economies. Generally, the poorer an economy, the greater the upward revision of estimates based on market exchange rates. The GDPs of low-income economies are on average revised upward 160 percent and those of middle-income economies 120 percent (figure 1d). The GDPs of high-income economies are revised upward only 10 percent. But the results are not uniform. Within each group, particularly low-income economies, the diversity of patterns is great.

Viewed through PPPs, low-income economies produced 7 percent of global GDP in 2005, compared with 3 percent at market exchange rates. Middle-income economies produced 33 percent, compared with 19 percent at market exchange rates. High-income economies produced 60 percent of world GDP at PPPs, compared with 78 percent at market exchange rates.

East Asia and Pacific has the largest upward revision—from 7 percent of world GDP to 13 percent (figure 1e). But South Asia and the Middle East and North Africa have the largest relative increases. Sub-Saharan Africa produced 2 percent of world GDP at PPPs in 2005, twice that at market exchange rates.

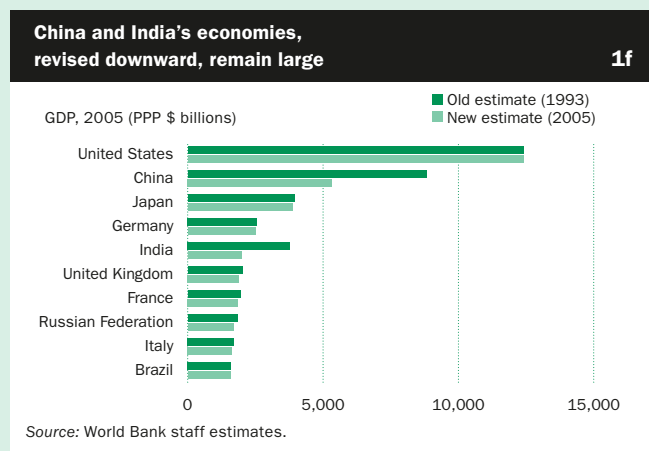


What has changed since the 1993 round?

The PPPs previously published in *World Development Indicators* and used to estimate international poverty rates were extrapolated from the benchmark results of the 1993 ICP. Data for economies participating in the more recent price collection by Eurostat were updated through 2002 and then extrapolated forward and backward. The extrapolation method assumes that an economy's PPP conversion factor adjusts according to the different rates of inflation for its economy and the base economy, the United States. A good approximation in the short run, but over a longer period changes in the relative prices of goods and services and in the structure of economies—what they produce and consume—distort this relationship, and new measurements must be made. New methods of data collection, differences in country participation, and changes in analytical methods all add to the differences between new PPPs and old.

Under the new PPPs the aggregate GDP of developing economies in 2005 is 21 percent smaller than previously estimated, corresponding to a 7 percentage point reduction in their share of world GDP—from 47 percent to 40 percent.

The largest revisions are for developing economies. Among the 20 economies with the largest revisions are 14 Sub-Saharan African countries, 10 fragile states, and 10 economies that did not participate in the 1993 ICP. In absolute terms the largest changes were for China and India, which did not participate in the 1993 ICP. China's estimated GDP in 2005 was revised downward 40 percent and India's 36 percent, accounting for a large part of the net decrease in developing economy GDP (figure 1f). The smaller share of world GDP attributed to developing economies increases high-income economies' shares. The United States—as the base country, unaffected by any revision—increased its share from 20.6 percent to 22.1 percent.



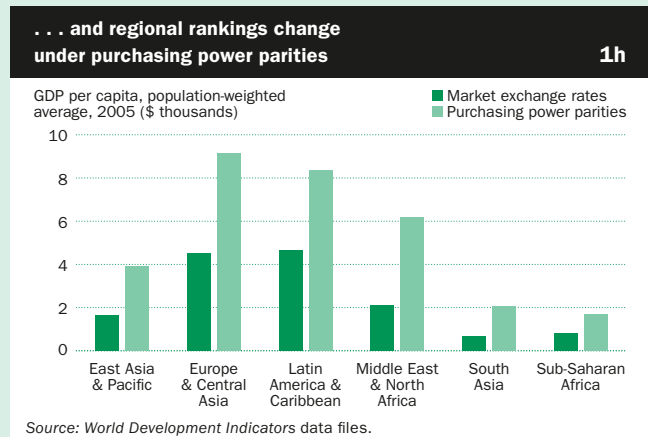
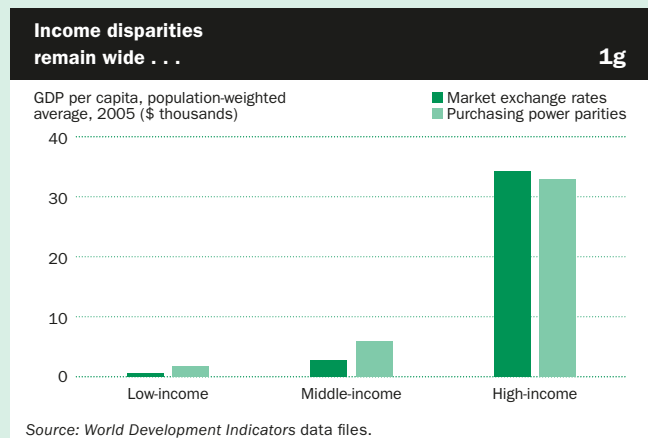
The global distribution of income

From a global perspective income inequality has two sources: inequalities within countries and inequalities between countries. PPPs provide a clearer picture of both.

The distribution of income between economies can be measured by differences in their average GDP per capita. Because PPPs tend to increase the value of output from poorer economies, inequality between economies is less when measured in PPPs.

In 2005 PPP GDP per capita in high-income economies was more than five times higher than that in middle-income economies and more than 19 times higher than that in low-income economies (figure 1g). At market exchange rates the inequalities would have been greater.

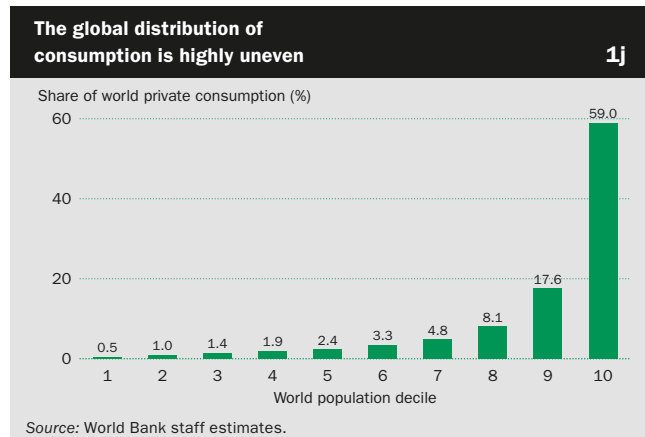
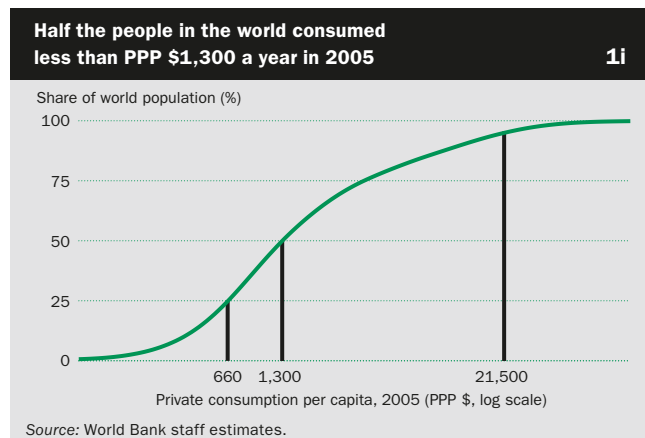
The use of PPPs also leads to a reordering of regions by GDP per capita. South Asia, the poorest region at market exchange rates, surpasses Sub-Saharan Africa at PPPs (figure 1h). Average incomes in Europe and Central Asia are higher than those in Latin America and the Caribbean at PPPs, and the gap between the Middle East and North Africa and East Asia and Pacific widens under PPPs compared with the gap under market exchange rates.



Combining inequalities within and between countries

Inequality within countries is measured using household survey data on income or consumption per capita. Common inequality measures include the Gini coefficient and the ratio of income or consumption of the richest 20 percent of the population to that of the poorest 20 percent (table 2.7). At the low end of the inequality range the Gini may be 25–30 and the ratio of the richest to poorest less than 4 (many countries in Eastern Europe). At the high end the Gini may be as high as 60 and the ratio of the richest to poorest more than 15 (many countries in Latin America and parts of Africa).

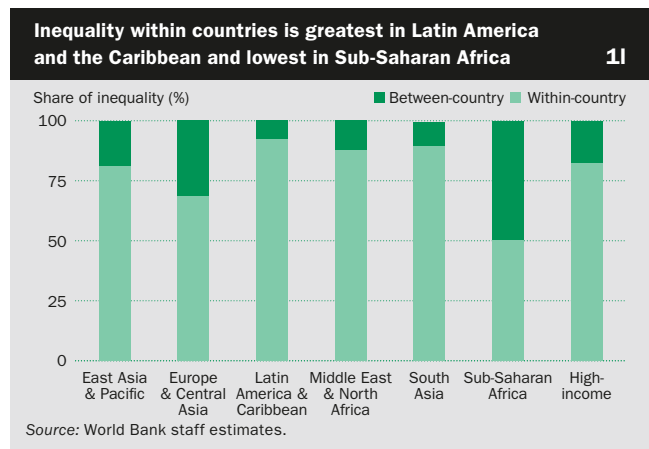
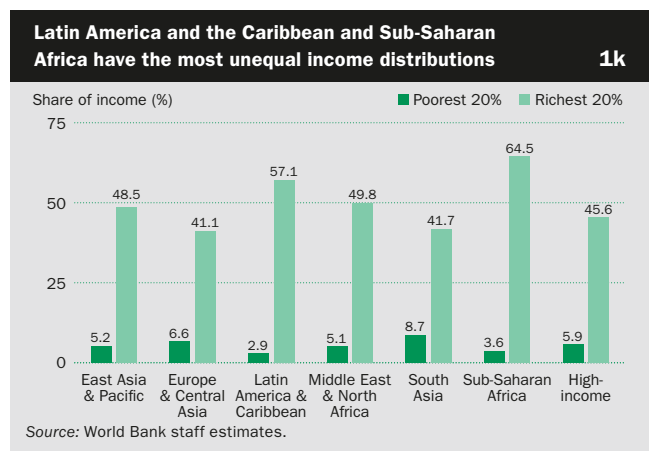
Under PPPs both sources of inequalities—between and within countries—can be combined. PPPs are used to compare incomes of individuals from different countries and create a global income distribution curve. Including inequalities within countries widens already highly unequal income distribution between countries. Based on countries with data (90 percent of the world's population), half the world's people consumed less than PPP \$1,300 a year and the bottom quarter less than PPP \$660 in 2005 (figure 1i). The richest 20 percent of the world's population spent more than 75 percent of the world total, while the poorest 20 percent spent less than 2 percent (figure 1j).



Regional inequalities

Inequalities between individuals are high in Latin America and the Caribbean and Sub-Saharan Africa, where the income share of the richest 20 percent of the population is at least 18 times that of the poorest 20 percent, and lower in South Asia and Europe and Central Asia, where the ratio falls below 7 (figure 1k). East Asia and Pacific and the Middle East and North Africa stand in between, but the estimate for the Middle East and North Africa is less reliable because many countries have no household surveys for estimating income distribution.

Half of Sub-Saharan Africa's inequalities can be attributed to differences in average incomes between countries, reflecting the region's low economic integration. Its average per capita private consumption is the lowest of all regions, but there are large differences across countries. By contrast, less than 20 percent of inequality in South Asia, East Asia and Pacific, and Latin American and the Caribbean can be attributed to different country patterns (figure 1l). There are different reasons for similar patterns. South Asia and East Asia and Pacific are each dominated by one large economy. In contrast, Latin America and the Caribbean has more equally sized economies with similar consumption per capita.

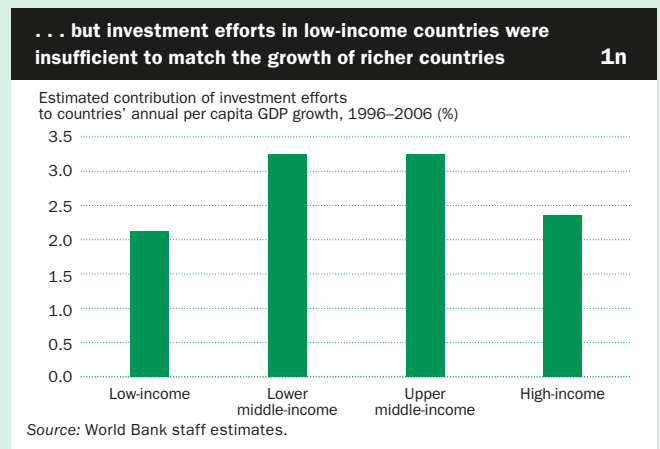
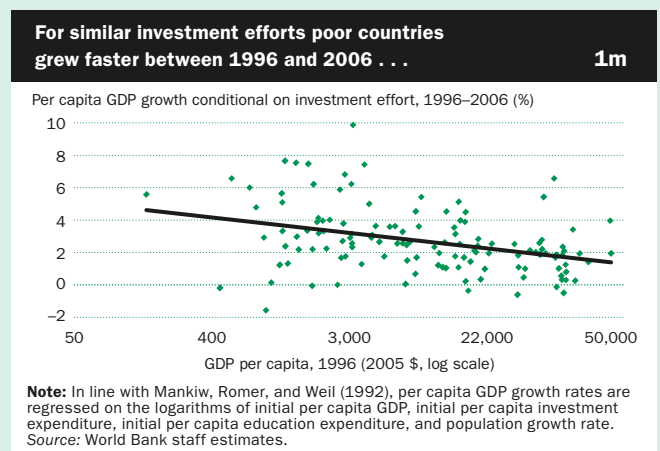


Convergence in incomes?

Have income inequalities across countries declined? Although developing economies have grown faster than high-income economies, PPP data show that economies starting from a lower GDP per capita did not systematically grow more rapidly between 1996 and 2006. The reason: large, high-performing economies, such as China and India, raise their group averages.

But after controlling for investment in 1996 (PPP per capita expenditure in education and gross fixed capital formation), initial GDP per capita had a substantial effect on future growth: for the same investment poorer countries grew faster than richer ones over the decade (figure 1m). This emphasizes the importance of improving the investment climate in developing economies; an effectively invested dollar generates much higher growth in poor countries.

Yet low-income countries did not systematically catch up with richer ones, as their investments in human and physical capital were on average much smaller. From 1996 to 2006 the average yield of these expenditures is about 2 percentage points of annual per capita GDP growth in low-income countries, compared with more than 3 percentage points in middle-income countries (figure 1n).



Comparing standards of living

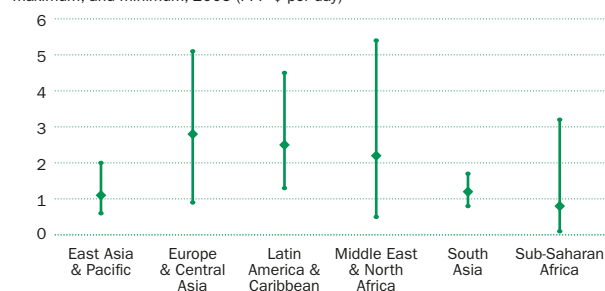
The 2005 ICP estimated PPPs for subcomponents of GDP, including expenditures on food, health, and education. As has long been observed, differences in spending on food are smaller than differences in income or overall consumption. South Asia's GDP per capita is one-sixteenth that of high-income economies; per capita food consumption, only one-fifth. And despite wide differences in income per capita, food expenditures in South Asia and East Asia and Pacific are almost the same (figure 1o). These two regions also have the smallest range between maximum and minimum average food.

Within developing countries per capita food consumption is strongly correlated with malnutrition, accounting for more than half the differences across countries. But even at similar average food per capita consumption, differences in malnutrition rates remain significant. Average expenditures conceal inequalities in the food consumption measure, specific diets, geographic conditions, and the absence of complementary factors that can prevent malnutrition (micronutrients, health care, education). In South Asia five of seven countries have malnutrition rates much above the average of developing economies at similar food consumption levels.

Regional differences in food consumption are less than differences in income

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Per capita food consumption, unweighted average, maximum, and minimum, 2005 (PPP \$ per day)

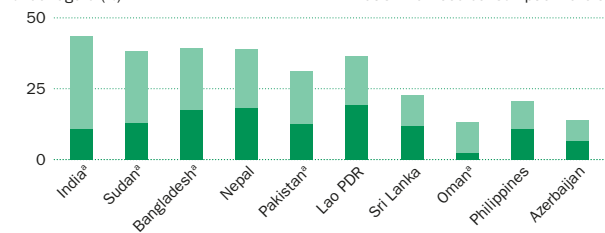


Source: World Bank staff estimates.

For similar levels of food consumption, malnutrition is particularly high in South Asia

1p

Underweight children under age 5 (%)



Note: Calculations based on countries that took part in the 2005 International Comparison Program. The relationship between malnutrition and food consumption is estimated for a sample of 77 developing countries with data. a. Economy deviates significantly from the sample average. Source: World Bank staff estimates.

Health and education

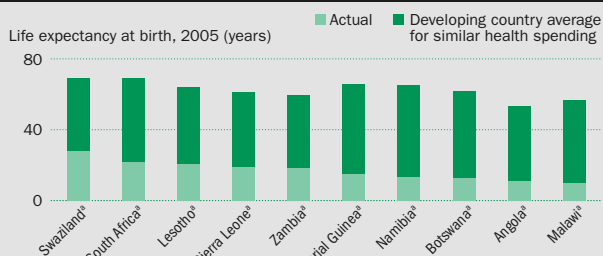
Similar cross-country comparisons can be made for the relative impact of health and education expenditures on selected outcomes, such as life expectancy at birth and the youth literacy rate. Both public and private expenditures contribute to the improvement of these and of many other indicators. And many factors other than spending affect life expectancy and literacy outcomes. But it is still interesting to observe that among countries with similar expenditures per capita, there is a large range of outcomes.

Among developing economies with similar per capita health spending, Southern African countries have much lower life expectancy, which must to some extent be the consequence of high HIV/AIDS prevalence (figure 1q). In contrast, most developing regions have some countries that record above-average life expectancies.

Compared with developing countries at similar per capita education expenditures, West African countries record particularly low literacy rates for youth ages 15–24 (figure 1r). Again, while worst performers are concentrated geographically, best performers are from diverse regions, including Sub-Saharan Africa.

Health spending has less impact on life expectancy in Sub-Saharan Africa

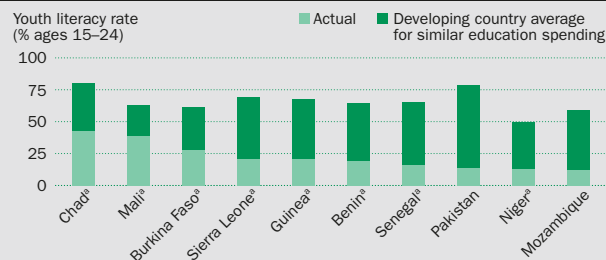
1q



Note: Calculations based on countries that took part in the 2005 International Comparison Program. The relationship between life expectancy and health spending is estimated for a sample of 105 developing countries with data. a. Economy deviates significantly from the sample average. Source: World Bank staff estimates.

For similar education spending youth literacy rates are much lower in West Africa

1r

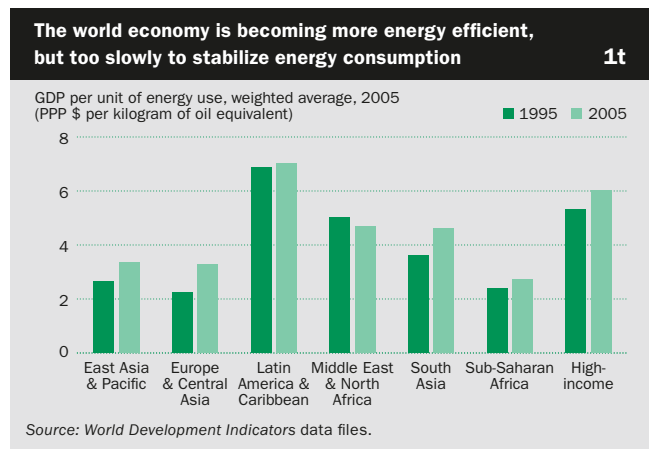
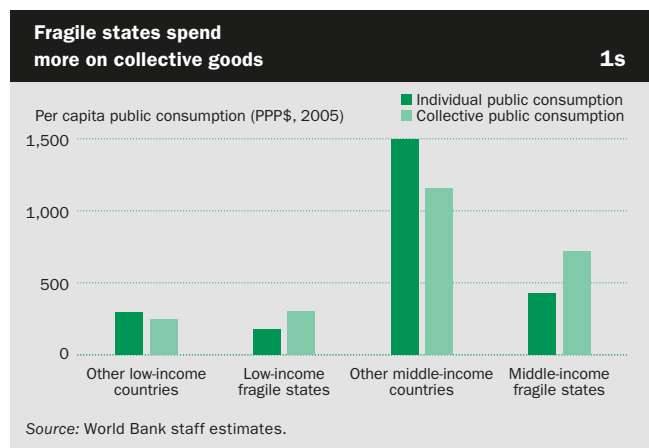


Note: Calculations based on countries that took part in the 2005 International Comparison Program. The relationship between youth literacy and education spending is estimated for a sample of 86 developing countries with data. a. Economy deviates significantly from the sample average. Source: World Bank staff estimates.

Public goods

Governments finance the provision of services destined to individuals, such as public health and education, and the provision of public goods, such as security, justice, and the environment. Countries at similar levels of development devote different amounts to collective consumption, most to financing public institutions through recurrent administrative expenditures. While fragile states spend relatively more on collective goods than do nonfragile states at similar levels of development (figure 1s), interpreting this result is difficult. It might reflect a response to the poor quality and prior underfunding of general administration, poor governance that yields less value for money, or the diversion of resources into conflict-related expenditures, such as security and defense.

Energy consumption has a strong impact on the local and global environment. Regions differ in energy efficiency (PPP GDP per unit of energy consumed), but all increased energy efficiency between 1995 and 2005, except the Middle East and North Africa (figure 1t). In 2005 \$1 of GDP was produced with 13 percent less energy than in 1995. But the world's GDP grew 42 percent in that same period, for a net increase of 24 percent in global energy consumption.

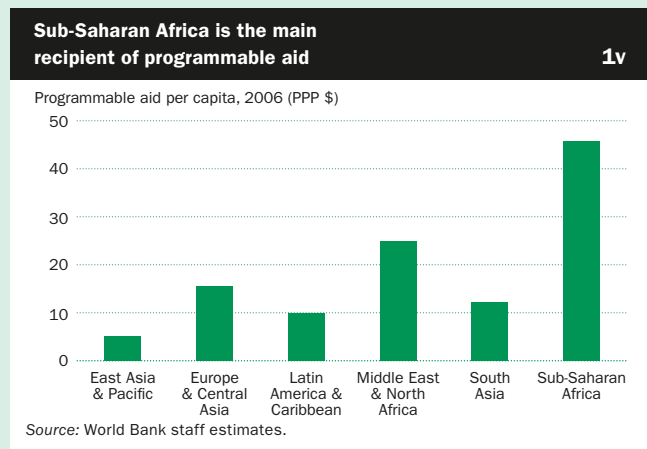
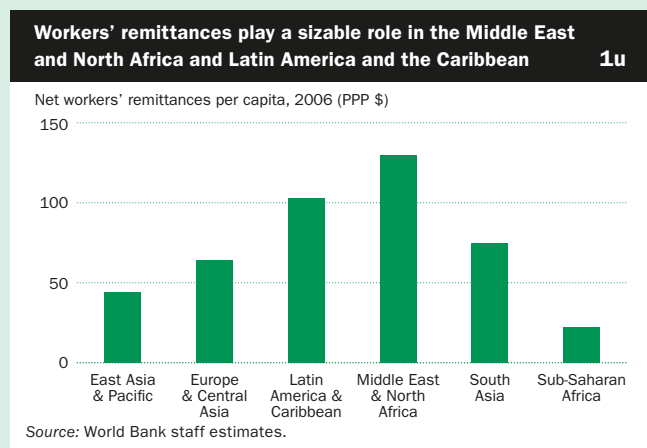


Foreign resources

Developing economies receive large financial flows from official development assistance (ODA) and the remittances of workers abroad. Because prices in developing economies are lower, the purchasing power of aid or remittances spent in the local economy is greater than the purchasing power of the same amount spent in the sending country. Adjusting ODA and remittances by the PPP price level index provides better measures of their relative impact.

In 2006 developing countries received PPP \$15 per capita in net programmable assistance (net ODA excluding debt relief, humanitarian assistance, and technical cooperation). Low-income countries received PPP \$25 per capita, and middle-income countries received PPP \$7. Fragile states received PPP \$50.

Developing countries received 2006 PPP \$62 per capita in net workers' remittances. Middle-income countries received PPP \$67, low-income countries PPP \$55, and fragile states PPP \$16. The Middle East and North Africa is the main recipient of remittances. At the other end Sub-Saharan Africa received PPP \$22 in remittances in 2006 (figure 1u), half what it received in programmable aid (figure 1v).





1.a

New purchasing power parity estimates from the 2005 International Comparison Program

	Purchasing power parity (PPP) conversion factor	Market exchange rate	Ratio of PPP conversion factor to market exchange rate	Gross domestic product		Fixed capital formation	Collective government consumption	Consumption expenditure				
				PPP \$ billions	per capita PPP \$			Individual by household Final	Actual individual	per capita PPP \$		
										Food	Education	Health
2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	
Albania	48.56	99.87	0.49	17.2	5,465	1,374	639	3,241	4,280	650	681	855
Angola	44.49	87.16	0.51	60.0	3,729	850	712	541	692	132	122	75
Argentina	1.269	2.904	0.44	419.0	10,815	1,775	1,120	6,226	7,463	1,192	779	1,641
Armenia	178.6	457.7	0.39	12.6	4,162	750	423	2,855	3,925	1,380	1,237	510
Australia	1.388	1.309	1.06	695.8	34,106	8,133	3,297	17,487	21,915	1,613	3,421	3,449
Austria	0.8736	0.8041	1.09	280.6	34,075	6,254	2,424	18,163	23,443	1,813	2,568	3,499
Azerbaijan ^a	0.3263	0.9454	0.35	38.4	4,573	1,073	334	1,795	2,669	903	1,127	385
Bahrain	0.2488	0.376	0.66	24.2	33,451	6,926	2,441	10,170	12,822	2,268	2,632	2,376
Bangladesh	22.64	61.75	0.37	163.7	1,068	254	71	764	903	290	238	112
Belarus	779.3	2154	0.36	83.5	8,541	1,351	829	4,438	6,733	1,422	2,435	1,453
Belgium	0.8988	0.8041	1.12	332.2	31,699	6,512	2,427	16,077	21,647	1,958	2,759	3,957
Benin	219.6	527.5	0.42	10.3	1,213	184	232	758	948	197	168	73
Bhutan	15.74	44.1	0.36	2.3	3,649	1,715	868	1,277	1,924	417	446	906
Bolivia	2.232	8.066	0.28	34.1	3,715	298	557	2,151	2,972	481	1,129	519
Bosnia and Herzegovina	0.7268	1.573	0.46	23.3	5,949	1,157	923	4,859	6,320	1,163	1,075	963
Botswana	2.421	5.110	0.47	22.0	12,010	1,981	3,491	2,228	2,895	352	1,428	307
Brazil	1.357	2.434	0.56	1,583.2	8,474	1,218	1,640	4,416	5,639	712	851	1,306
Brunei Darussalam	0.9031	1.664	0.54	17.6	46,991	4,825	14,595	9,283	12,672	1,489	6,086	1,653
Bulgaria	0.5928	1.574	0.38	72.2	9,328	1,418	1,563	5,234	7,285	925	1,822	1,306
Burkina Faso	200.2	527.5	0.38	14.8	1,061	136	414	624	778	170	135	51
Burundi	343.0	1082	0.32	2.5	319	..	..	..	..	..	..	..
Cambodia	1,279	4097	0.31	20.1	1,440	146	202	926	1,197	324	594	430
Cameroon	251.0	527.5	0.48	35.5	1,993	210	268	1,211	1,499	335	233	72
Canada	1.214	1.212	1.00	1,130.0	34,972	7,265	2,695	18,233	23,526	1,465	2,743	3,269
Cape Verde	69.36	88.67	0.78	1.3	2,521	936	421	1,964	2,449	480	766	239
Central African Republic	263.7	527.5	0.50	2.7	654	36	85	496	607	168	96	22
Chad	208.0	527.5	0.39	14.9	1,471	166	576	548	781	169	469	62
Chile	333.7	560.1	0.60	199.6	12,248	2,372	995	6,143	7,430	917	1,084	1,323
China ^b	3.448	8.194	0.42	5,333.2	4,088	1,581	823	1,310	1,751	265	582	549
Hong Kong, China	5.688	7.777	0.73	243.2	35,690	8,326	3,078	16,320	19,622	1,266	2,923	3,632
Macao, China	5.270	7.987	0.66	17.4	36,869	8,520	2,735	8,266	10,525	963	2,181	2,164
Taiwan, China	19.34	32.18	0.60	592.3	26,057	5,303	4,257	13,645	16,836	1,407	4,727	4,803
Colombia	1,082	2135	0.51	263.7	5,867	962	1,002	3,266	4,098	610	678	914
Comoros	226.2	395.6	0.57	0.7	1,127	98	406	762	918	330	171	39
Congo, Dem. Rep.	214.3	473.9	0.45	15.7	267	52	77	125	151	45	20	16
Congo, Rep.	268.8	527.5	0.51	11.7	3,246	252	549	679	943	166	478	135
Côte d'Ivoire	287.5	527.5	0.55	30.0	1,614	63	279	991	1,216	271	118	90
Croatia	3.935	5.949	0.66	58.8	13,231	3,161	1,695	6,641	9,076	1,423	1,740	1,805
Cyprus	0.424	0.4636	0.91	18.6	24,534	4,647	2,601	14,709	17,859	2,213	2,420	1,725
Czech Republic	14.40	23.96	0.60	207.6	20,280	3,770	2,897	9,278	13,145	1,322	2,145	2,756
Denmark	8.517	5.997	1.42	182.2	33,645	6,955	2,960	15,082	21,490	1,583	2,895	3,283
Djibouti	84.69	177.7	0.48	1.5	1,850	240	762	864	1,135	187	366	104
Ecuador	0.4226	1	0.42	88.0	6,737	1,329	690	3,680	4,577	781	781	785
Egypt, Arab Rep.	1.616	6.004	0.27	333.2	4,574	570	887	2,835	3,662	856	1,230	665
Equatorial Guinea ^c	287.4	527.5	0.54	13.8	13,610	2,019	860	2,359	2,912	558	731	612
Estonia	7.813	12.59	0.62	22.2	16,456	3,694	2,008	7,811	11,291	1,306	2,605	1,731
Ethiopia	2.254	8.652	0.26	43.7	581	70	121	373	457	139	..	29
Fiji	1.430	1.691	0.85	3.5	4,282	1,116	731	2,996	3,768	750	1,016	691
Finland	0.9834	0.8041	1.22	159.8	30,462	5,969	2,475	13,761	19,501	1,672	2,473	3,234
France	0.9225	0.8041	1.15	1,862.2	30,591	5,654	2,260	16,724	23,027	2,263	2,567	4,059
Gabon	256.2	527.5	0.49	17.8	13,821	2,428	2,304	2,641	3,620	594	1,691	595
Gambia, The	7.560	28.58	0.26	1.7	1,078	62	409	405	550	75	..	121
Georgia	0.7380	1.812	0.41	15.7	3,520	650	366	2,200	3,063	564	820	836
Germany	0.8926	0.8041	1.11	2,510.7	30,445	4,963	2,325	17,278	21,742	1,780	1,436	4,123
Ghana	3,721	9073	0.41	26.1	1,160	254	118	745	912	189	241	140
Greece	0.7022	0.8041	0.87	324.9	29,261	5,523	3,313	15,481	18,545	2,168	2,170	2,557

New purchasing power parity estimates from the 2005 International Comparison Program

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WORLD VIEW

	Purchasing power parity (PPP) conversion factor	Market exchange rate	Ratio of PPP conversion factor to market exchange rate	Gross domestic product		Fixed capital formation	Collective government consumption	Consumption expenditure				
				PPP \$ billions	per capita PPP \$			Individual by household Final	Actual individual	per capita PPP \$		
										Food	Education	Health
2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	
Guinea	1,219	3640	0.33	9.9	1,105	167	95	548	682	123	241	143
Guinea-Bissau	217.3	527.5	0.41	0.7	458	57	266	295	361	96	49	25
Hungary	128.5	199.6	0.64	171.6	17,014	2,804	2,129	8,481	12,365	1,242	2,189	2,434
Iceland	97.06	62.98	1.54	10.5	35,465	12,207	3,245	19,100	26,816	1,808	4,118	4,394
India	14.67	44.27	0.33	2,431.9	2,222	504	233	1,183	1,464	317	391	485
Indonesia	3,934	9705	0.41	707.9	3,209	615	248	1,934	2,326	607	658	144
Iran, Islamic Rep.	2,675	8964	0.30	643.5	9,314	1,646	1,489	5,275	6,645	655	1,257	2,119
Iraq	558.7	..	..	..	..	269	1,643	1,297	1,862	394	543	877
Ireland	1.023	0.8041	1.27	157.6	37,886	8,864	2,183	15,560	20,997	867	3,177	2,998
Israel	3.717	4.488	0.83	156.7	22,627	3,775	3,602	11,096	15,278	1,681	3,385	2,248
Italy	0.8750	0.8041	1.09	1,626.3	27,750	6,016	2,165	15,678	19,667	2,032	1,865	2,914
Japan	129.6	110.2	1.18	3,870.3	30,290	6,656	2,615	15,342	20,438	1,348	1,767	4,653
Jordan	0.3805	0.709	0.54	23.5	4,342	1,552	875	2,947	3,843	898	1,202	724
Kazakhstan	57.61	132.9	0.43	131.8	8,699	1,632	811	3,746	5,426	735	2,768	1,728
Kenya	29.52	75.55	0.39	49.0	1,375	145	177	948	1,196	221	351	259
Korea, Rep.	788.9	1024	0.77	1,027.4	21,273	6,376	2,046	9,829	12,157	874	2,124	2,240
Kuwait	0.2136	0.292	0.73	110.4	43,551	9,288	5,292	10,978	13,683	2,316	2,437	1,365
Kyrgyz Republic	11.35	41.02	0.28	8.9	1,728	138	251	1,249	1,901	403	841	282
Lao PDR	2,988	10636	0.28	10.3	1,814	476	678	859	1,109	268	575	165
Latvia	0.2980	0.5647	0.53	30.4	13,215	2,663	2,007	6,985	9,745	1,277	2,464	1,498
Lebanon	847.5	1508	0.56	38.3	9,545	2,814	1,715	6,265	7,639	1,842	3,260	1,390
Lesotho	3.490	6.359	0.55	2.6	1,311	274	219	1,319	1,686	309	738	446
Liberia ^d	0.4926	1	0.49	1.1	312	59	60	200	248	31	216	37
Lithuania	1.484	2.776	0.53	48.1	14,084	2,030	1,551	8,169	11,402	1,888	2,478	1,944
Luxembourg	0.9225	0.8041	1.15	31.9	69,776	14,390	3,898	27,061	34,295	1,849	2,853	4,345
Macedonia, FYR	19.06	49.29	0.39	15.0	7,394	905	1,276	4,623	6,123	1,181	991	1,007
Madagascar	649.6	2003	0.32	15.5	834	119	249	557	702	189	383	66
Malawi	39.46	118.4	0.33	8.6	648	121	124	400	482	53	161	139
Malaysia	1.734	3.8	0.46	299.6	11,678	2,483	1,642	4,302	5,669	649	1,728	779
Maldives	8.134	12.8	0.64	1.2	3,995	1,965	1,497	1,496	2,190	355	2,095	932
Mali	240.1	527.5	0.46	11.7	1,004	98	290	616	772	180	176	76
Malta	0.2474	0.346	0.71	8.3	20,483	3,462	2,471	11,778	15,662	1,887	2,164	2,457
Mauritania	98.84	268.6	0.37	5.0	1,684	647	556	906	1,150	336	222	124
Mauritius	14.68	28.94	0.51	12.4	9,975	1,524	1,768	5,837	7,621	1,158	1,778	889
Mexico	7.127	10.90	0.65	1,173.9	11,387	1,631	798	7,189	8,924	1,658	2,007	910
Moldova	4.434	12.60	0.35	8.5	2,190	305	237	1,854	2,688	374	1,345	364
Mongolia	417.2	1205	0.35	6.7	2,609	714	402	1,159	1,618	353	1,137	421
Montenegro	0.3659	0.8027	0.46	4.5	7,450	980	3,144	4,201	5,739	1,112	885	975
Morocco	4.8782	8.865	0.55	107.1	3,554	851	540	1,801	2,254	494	372	191
Mozambique	10,909	23061	0.47	13.9	677	104	108	455	574	180	117	53
Namibia	4.265	6.359	0.67	9.3	4,599	979	1,233	2,068	2,769	483	1,046	589
Nepal	22.65	72.06	0.31	26.0	960	179	98	706	850	277	183	303
Netherlands	0.8983	0.8041	1.12	562.9	34,492	5,711	3,468	16,477	22,587	1,974	2,515	3,680
New Zealand	1.535	1.420	1.08	101.6	24,566	4,842	2,114	13,620	17,750	1,670	2,180	2,698
Niger	226.7	527.5	0.43	8.0	602	80	164	370	453	103	51	43
Nigeria	60.23	131.3	0.46	214.8	1,520	150	207	937	1,172	269	280	97
Norway	8.840	6.443	1.37	219.8	47,538	8,600	3,358	17,357	24,603	1,885	2,832	4,502
Oman	0.2324	0.3845	0.60	51.0	20,350	4,800	4,385	5,814	7,402	1,515	1,446	723
Pakistan	19.10	59.36	0.32	340.3	2,184	329	266	1,663	2,026	525	491	511
Paraguay	2,007	6178	0.32	22.6	3,824	480	353	2,763	3,350	761	505	348
Peru	1.487	3.296	0.45	176.0	6,452	1,070	536	3,834	4,564	854	799	559
Philippines	21.75	55.09	0.39	250.0	2,956	382	308	1,845	2,218	612	811	175
Poland	1.898	3.235	0.59	516.6	13,535	1,945	1,504	7,421	10,271	1,423	1,985	1,858
Portugal	0.7074	0.8041	0.88	210.5	19,956	4,337	1,940	11,920	15,288	1,851	1,681	2,778
Qatar	2.745	3.64	0.75	56.3	70,716	29,906	7,576	9,476	12,893	2,072	3,756	2,503
Romania	1.421	2.914	0.49	202.7	9,368	1,499	1,483	5,280	7,311	1,165	1,350	1,438



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New purchasing power parity estimates from the 2005 International Comparison Program

	Purchasing power parity (PPP) conversion factor	Market exchange rate	Ratio of PPP conversion factor to market exchange rate	Gross domestic product		Fixed capital formation	Collective government consumption	Consumption expenditure				
				PPP \$ billions	per capita PPP \$			Individual by household Final	Actual individual	per capita PPP \$		
										Food	Education	Health
2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	
Russian Federation	12.736	28.28	0.45	1,697.5	11,858	1,377	1,333	5,545	7,916	1,298	1,723	1,394
Rwanda	186.2	557.8	0.33	6.4	696	109	243	464	592	148	202	59
São Tomé and Príncipe	5,558	10558	0.53	0.2	1,401	199	418	1,167	1,446	388	300	176
Saudi Arabia	2.410	3.747	0.64	490.6	21,220	4,657	3,376	5,037	6,976	1,108	1,924	1,229
Senegal	251.7	527.5	0.48	18.1	1,541	262	250	988	1,239	300	181	144
Serbia	27.21	66.71	0.41	64.3	8,644	1,139	1,050	4,726	6,712	1,015	1,109	1,209
Sierra Leone	1,074	2890	0.37	3.3	584	62	254	523	667	118	240	278
Singapore	1.079	1.665	0.65	180.1	41,479	10,352	5,534	12,636	15,564	929	3,159	3,043
Slovak Republic	17.20	31.02	0.55	85.6	15,881	2,856	2,561	8,181	11,077	1,227	1,916	1,990
Slovenia	147.0	192.7	0.76	45.0	22,506	5,638	2,094	11,305	14,970	1,457	2,075	2,628
South Africa	3.872	6.359	0.61	397.5	8,478	1,214	1,587	4,582	5,886	764	1,228	1,062
Spain	0.7676	0.8041	0.95	1,179.6	27,180	7,020	2,265	14,826	19,232	2,117	2,156	3,280
Sri Lanka	35.17	100.5	0.35	67.3	3,420	658	499	2,126	2,735	568	393	341
Sudan	107.7	243.6	0.44	63.1	1,711	257	234	1,493	1,799	489	77	69
Swaziland	3.293	6.359	0.52	5.0	4,461	678	752	2,537	3,157	746	625	1,057
Sweden	9.243	7.473	1.24	288.9	32,016	4,784	2,752	14,381	21,833	1,631	3,339	3,635
Switzerland	1.741	1.245	1.40	261.7	35,182	7,609	1,779	19,472	23,235	1,871	2,413	4,294
Syrian Arab Republic	19.72	52.86	0.37	75.6	4,002	909	542	2,210	2,881	861	878	664
Tajikistan	0.7444	3.117	0.24	9.7	1,478	67	209	948	1,560	363	1,161	236
Tanzania	395.6	1129	0.35	35.9	933	132	126	618	750	261	..	40
Thailand	15.93	40.22	0.40	444.9	7,061	1,908	747	3,638	4,616	448	1,451	1,072
Togo	240.4	527.5	0.46	4.6	742	75	170	618	767	174	168	41
Tunisia	0.5813	1.297	0.45	64.0	6,382	1,149	894	3,463	4,371	697	553	519
Turkey	0.8683	1.341	0.65	561.1	7,786	1,192	1,057	4,612	5,715	888	913	346
Uganda	619.6	1737	0.36	24.5	848	115	181	583	748	155	..	98
Ukraine	1.678	5.125	0.33	263.0	5,583	732	512	3,138	4,657	953	2,081	922
United Kingdom	0.6489	0.5493	1.18	1,889.4	31,371	4,937	2,841	19,187	25,155	1,586	1,955	3,665
United States	1	1	1.00	12,397.9	41,813	8,018	3,962	29,368	32,045	1,998	2,725	5,853
Uruguay	13.28	24.48	0.54	30.6	9,266	1,111	933	5,886	7,074	1,071	716	1,506
Venezuela, RB	1.153	2090	0.55	262.5	9,877	1,287	985	4,290	5,364	844	1,026	866
Vietnam	4,713	15804	0.30	178.1	2,143	634	367	990	1,310	238	1,009	466
Yemen, Rep.	69.49	191.5	0.36	46.2	2,188	472	386	1,073	1,405	376	454	190
Zambia	2,415	4464	0.54	13.4	1,171	211	275	672	894	59	..	233
Zimbabwe	33,068	22364	1.48	2.3	176	45	169	284	381	90	159	9

a. Original data collected in old manat are converted to new manat at 1 new manat = 5,000 old manat. b. Results for China were based on national average prices extrapolated by the World Bank and Asian Development Bank using price data for 11 cities submitted by the National Bureau of Statistics for China. The data for China do not include Hong Kong, China; Macao, China; and Taiwan, China. c. Per capita figures derived using population from the International Comparison Program. d. Data in U.S. dollars.

About the data

The International Comparison Program (ICP) is a worldwide statistical initiative to collect comparative price data and estimate purchasing power parities (PPPs) of the world's economies. Using PPPs instead of market exchange rates to convert currencies allows the output of economies and the welfare of their inhabitants to be compared in real terms—that is, controlling for differences in price levels. PPPs are the preferred means of converting gross domestic product (GDP) and its components to a common currency. They enable cross-country comparison of the size of economies, average consumption levels, poverty rates, productivity, and use of resources. The ratio of the PPP conversion factor to the market exchange rate (also referred to as the price level index) allows the cost of the goods and services that make up GDP to be compared across countries.

The new estimates of PPP, published for the first time in *World Development Indicators*, are the result of a global program of price surveys carried out using similar methods in 146 countries. New methods of data collection and analysis were used to overcome problems encountered in previous rounds of the ICP. Teams in each region identified characteristic goods and services to be priced. Surveys conducted by each country in 2005 and 2006 yielded prices for more than 1,000 goods and services. Many countries participated for the first time, including China. (Previous estimates of China's PPPs came from a research study using data for 1986.) India participated for the first time since 1985.

The ICP Global Office within the World Bank coordinated the collection of data and calculation of PPPs in more than 100 (mostly developing) economies. The program was organized in five geographic areas: Africa, Asia-Pacific, Commonwealth of Independent States, South America, and Western Asia. Regional agencies coordinated the work in the five regions. In parallel the Statistical Office of the European Communities (Eurostat) and the Organisation for Economic Co-operation and Development (OECD) conducted its 2005 PPP program, which included 46 countries.

Each region and the Eurostat-OECD group differ in the size and structure of their economies and their statistical capacity. To ensure the most consistent comparisons of countries within regions, different methods were used in each region. Three methods were used to compute housing PPPs. Asia and Africa used reference volumes, Eurostat and West Asia used a combination of rentals and quantities, and the CIS and Latin America used the quantity method. In Africa, Asia-Pacific, and Western Asia government expenditures were adjusted to account for productivity differences. There were other differences in

methodology, such as how basic heading PPPs were computed and aggregated. Annex F of the 2005 ICP report (available at www.worldbank.org/data/ICP) provides a review of the methods used.

For the 2005 ICP GDP data were compiled using the expenditure approach, with its components allocated to 155 basic headings for the year 2005. The detailed breakdown of GDP expenditure used by the ICP may differ from other national accounts data presented in *World Development Indicators 2008* because of the timing of data collection and differences in methodology. In table 1.a gross fixed capital formation and consumption data are from the ICP, and GDP data are collected by World Bank staff from national and international sources and in some cases differ from ICP data. All per capita figures are estimated using the World Bank's population data, except where otherwise noted.

Definitions

- **Purchasing power parity (PPP) conversion factor** is the number of units of a country's currency required to buy the same amount of goods and services in the domestic market as a U.S. dollar would buy in the United States.
- **Market exchange rate** is the exchange rate determined by national authorities or the rate determined in the legally sanctioned exchange market. When the official exchange rate diverges by an exceptionally large margin from the rate effectively applied to domestic transactions of foreign currencies and traded products, the market exchange rate is an estimated alternative conversion factor. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar).
- **Ratio of PPP conversion factor to market exchange rate**, also known as the price level index, is obtained by dividing the PPP conversion factor by the market exchange rate.
- **PPP gross domestic product (GDP)** is GDP converted to U.S. dollars using PPP rates. GDP is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output.
- **PPP GDP per capita** is PPP GDP divided by midyear population. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship, except refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin.
- **PPP gross fixed capital formation per capita** is outlays on additions to the fixed assets of an economy converted to U.S. dollars using PPP rates and divided by midyear population.
- **PPP collective government consumption per capita** is all government current expenditures for purchases of goods and services (including

compensation of employees). Data are converted to U.S. dollars using PPP rates and divided by midyear population.

- **PPP individual by household final consumption expenditure per capita** is the market value of all goods and services, including durable products, purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. Data are converted to U.S. dollars using PPP rates and divided by midyear population.
- **PPP actual individual consumption expenditure per capita** is household final consumption expenditure plus the individual component of government consumption expenditure and the final consumption expenditure by nonprofit institutions serving households. The individual component of government consumption expenditure relates to services provided to specific individuals, such as health and education. Data are converted to U.S. dollars using PPP rates and divided by midyear population.
- **PPP individual consumption expenditure on food per capita** is expenditure on food products and nonalcoholic beverages purchased for consumption at home. It excludes food products and beverages sold for immediate consumption away from home, cooked dishes prepared by restaurants and catering contractors, and products sold as pet foods. Data are converted to U.S. dollars using PPP rates and divided by midyear population.
- **PPP individual consumption expenditure on education per capita** is expenditures by households on pre-primary, primary, secondary, post-secondary, and tertiary education. Data are converted to U.S. dollars using PPP rates and divided by midyear population.
- **PPP individual consumption expenditure on health per capita** is expenditures by households on medical products, appliances and equipment, outpatient services, and hospital services. Data are converted to U.S. dollars using PPP rates and divided by midyear population.

Data sources

PPP conversion factors are estimates by World Bank staff based on data collected by the International Comparison Program (www.worldbank.org/data/ICP). Data on GDP are estimated by World Bank staff based on national accounts data collected by World Bank staff during economic missions or reported to other international organizations such as the OECD. Population estimates are prepared by World Bank staff from a variety of sources (see *Data sources* for table 2.1). Data on gross fixed capital formation, government consumption, and household consumption expenditures are based on data collected by the International Comparison Program.

Millennium Development Goals

Goals and targets from the Millennium Declaration Indicators for monitoring progress

Goal 1 Eradicate extreme poverty and hunger

Target 1.A	Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day	1.1	Proportion of population below \$1 purchasing power parity (PPP) a day ¹
		1.2	Poverty gap ratio [incidence × depth of poverty]
		1.3	Share of poorest quintile in national consumption
Target 1.B	Achieve full and productive employment and decent work for all, including women and young people	1.4	Growth rate of GDP per person employed
		1.5	Employment to population ratio
		1.6	Proportion of employed people living below \$1 (PPP) a day
		1.7	Proportion of own-account and contributing family workers in total employment
Target 1.C	Halve, between 1990 and 2015, the proportion of people who suffer from hunger	1.8	Prevalence of underweight children under-five years of age
		1.9	Proportion of population below minimum level of dietary energy consumption

Goal 2 Achieve universal primary education

Target 2.A	Ensure that by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	2.1	Net enrolment ratio in primary education
		2.2	Proportion of pupils starting grade 1 who reach last grade of primary education
		2.3	Literacy rate of 15- to 24-year-olds, women and men

Goal 3 Promote gender equality and empower women

Target 3.A	Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	3.1	Ratios of girls to boys in primary, secondary, and tertiary education
		3.2	Share of women in wage employment in the nonagricultural sector
		3.3	Proportion of seats held by women in national parliament

Goal 4 Reduce child mortality

Target 4.A	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	4.1	Under-five mortality rate
		4.2	Infant mortality rate
		4.3	Proportion of one-year-old children immunized against measles

Goal 5 Improve maternal health

Target 5.A	Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	5.1	Maternal mortality ratio
		5.2	Proportion of births attended by skilled health personnel
Target 5.B	Achieve by 2015 universal access to reproductive health	5.3	Contraceptive prevalence rate
		5.4	Adolescent birth rate
		5.5	Antenatal care coverage (at least one visit and at least four visits)
		5.6	Unmet need for family planning

Goal 6 Combat HIV/AIDS, malaria, and other diseases

Target 6.A	Have halted by 2015 and begun to reverse the spread of HIV/AIDS	6.1	HIV prevalence among population ages 15–24 years
		6.2	Condom use at last high-risk sex
		6.3	Proportion of population ages 15–24 years with comprehensive, correct knowledge of HIV/AIDS
		6.4	Ratio of school attendance of orphans to school attendance of nonorphans ages 10–14 years
Target 6.B	Achieve by 2010 universal access to treatment for HIV/AIDS for all those who need it	6.5	Proportion of population with advanced HIV infection with access to antiretroviral drugs
Target 6.C	Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	6.6	Incidence and death rates associated with malaria
		6.7	Proportion of children under age five sleeping under insecticide-treated bednets
		6.8	Proportion of children under age five with fever who are treated with appropriate antimalarial drugs
		6.9	Incidence, prevalence, and death rates associated with tuberculosis
		6.10	Proportion of tuberculosis cases detected and cured under directly observed treatment short course

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of state and government, in September 2000 (www.un.org/millennium/declaration/ares552e.htm) as updated by the 60th UN General Assembly in September 2005. The revised Millennium Development Goal (MDG) monitoring framework shown here, including new targets and indicators, was presented to the 62nd General Assembly, with new numbering as recommended by the Inter-agency and Expert Group on MDG Indicators at its 12th meeting on 14 November 2007. The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries “to create an environment—at the national and global levels alike—which is conducive to development and the elimination of poverty.” All indicators should be disaggregated by sex and urban-rural location as far as possible.

Goals and targets from the Millennium Declaration Indicators for monitoring progress

Goal 7 Ensure environmental sustainability

Target 7.A	Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources	7.1 Proportion of land area covered by forest 7.2 Carbon dioxide emissions, total, per capita and per \$1 GDP (PPP) 7.3 Consumption of ozone-depleting substances
Target 7.B	Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	7.4 Proportion of fish stocks within safe biological limits 7.5 Proportion of total water resources used 7.6 Proportion of terrestrial and marine areas protected 7.7 Proportion of species threatened with extinction
Target 7.C	Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation	7.8 Proportion of population using an improved drinking water source 7.9 Proportion of population using an improved sanitation facility
Target 7.D	Achieve by 2020 a significant improvement in the lives of at least 100 million slum dwellers	7.10 Proportion of urban population living in slums ²

Goal 8 Develop a global partnership for development

Target 8.A	Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system (Includes a commitment to good governance, development, and poverty reduction—both nationally and internationally.)	Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries, and small island developing states. Official development assistance (ODA) 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water, and sanitation) 8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes 8.5 ODA received in small island developing states as a proportion of their gross national incomes
Target 8.B	Address the special needs of the least developed countries (Includes tariff and quota-free access for the least developed countries' exports; enhanced program of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction.)	8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 8.8 Agricultural support estimate for OECD countries as a percentage of their GDP 8.9 Proportion of ODA provided to help build trade capacity
Target 8.C	Address the special needs of landlocked developing countries and small island developing states (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the 22nd special session of the General Assembly)	Market access 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 8.11 Debt relief committed under HIPC Initiative and Multilateral Debt Relief Initiative (MDRI) 8.12 Debt service as a percentage of exports of goods and services
Target 8.D	Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	Debt sustainability
Target 8.E	In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	8.13 Proportion of population with access to affordable essential drugs on a sustainable basis
Target 8.F	In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	8.14 Telephone lines per 100 population 8.15 Cellular subscribers per 100 population 8.16 Internet users per 100 population

1. Where available, indicators based on national poverty lines should be used for monitoring country poverty trends.

2. The proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of these characteristics: lack of access to improved water supply, lack of access to improved sanitation, overcrowding (3 or more persons per room), and dwellings made of nondurable material.