

## What the World Bank Knows But Won't Tell You: Reading the Spreadsheet

**Purpose of the Spreadsheet:** In the current currency exchange system, what would be the cost/benefit ratios if any citizen of a country above the world average income living at that country's GDP per capita decided to give his or her excess over the average to people in countries below the average so that citizens of those countries could rise to the average, what would the cost/benefit ratio of the transfer be?

All three basic<sup>1</sup> sets of figures are figures for 2005 from the *UNDP Human Development Report 2007-8*; the other six sets are calculated from them.

**A: Nations:** In the full document, 177 nations are compared, the first set of 62 each having a GDP per capita adjusted for purchasing power parity (PPP) above the world average of \$9543 PPP, the second set of 115 each having a GDP per capita PPP below the world average.

**B: GDPpc** is Gross Domestic Product per capita at current currency exchange rates on the international currency market. The GDPpc is the average *income* from *all* sources *before* taxes. It is well above the average *wage* per capita because it includes all income from property ownership, that is, unearned income in the form of profits, interest, and rents, most of which goes to people in the top 10% of income brackets. GDPpc is used, first, because if income were to be equalized, that "unearned income" represents "surplus value" deriving ultimately from labor; hence, if incomes were equalized, it would be included in wages. Second, different nations have different ratios of private to collective (and common) property, so comparisons that include only either private property or wage income mislead one about the quality of life in a country. The GDPpc is also, of course, above the mean or median wage and income because the average is the total amount of money divided by the number of people, whereas the mean or median is the income of the person in the middle of a distribution, who always has an amount closer to the bottom than to the top.

**C: (Pp) GDPpcPPP:** In 1985 the UN and EUROSTAT commissioned a study of 64 nations to compare the cost of living in each and determine the ratio between what one U.S. dollar will buy in the U.S. and what it will buy in each of the other countries for a certain, supposedly representative, range of goods. The first study was completed in 1994; it has been extended and recalculated each year since. The UNDP and the World Bank normally cite figures within 2% of each other. The Purchasing Power Parity adjustment radically changes the basic internationally relevant figures for most poor countries, raising India's, for instance, by 4.69 times, because it is an index of international exploitation.

**D: (ratio) The Purchasing Power Parity Ratio** is GDP divided by GDP adjusted for Purchasing Power Parity, both figures given in Table 14 of the UNDP report. One dollar spent in any country can be multiplied by this figure to estimate how much it would cost to buy the same good or service in the U.S.A. The World Bank and the UNDP usually do not state this figure because they do not want people to pay full attention to it as you are doing now. They don't want you to realize all that it implies, but it is easy to calculate it. Just divide the GDP adjusted for PPP by the GDP: for India, for instance, divide \$3,779 billion by \$805.7 billion to get 4.69.<sup>2</sup> This means that, on the average, if an American importer spends \$1 to purchase an Indian good, what he gets would have cost him \$4.69 in the U.S.A. It also means that if an Indian importer spends 100 rupees to purchase something from the United States, if the item is made in India, the Indian item of the same quality, on the average, costs 21.3 rupees. This is the largest means by which the developed countries drain India of its labor and resources.

Note also the figures for Norway and Iceland: 0.648 and 0.685. While the rupee is undervalued, the currencies of Norway and Iceland are grossly overvalued. If the extreme undervaluation of the rupee gives India a great disadvantage, doesn't the extreme overvaluation of their currencies give Norway and Iceland a great advantage? In relation to poor countries, from which Norway and Iceland want to buy cheap labor and materials, yes. But visa-vie the huge American market for their manufactured goods, the

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<sup>1</sup> The basic figures are in Columns B and C. Figures for Column B, GDP per capita, are calculated from GDP figures in Table 14. Column C, GDP per capita adjusted for Purchasing Power Parity, uses figures included in Tables 1 and 14. Column I, the Gross Domestic Product Index, also contains figures from Table 1, but can also be calculated from Column C by the formula in the Technical Note on p. 356.

<sup>2</sup> Or divide GDP per capita by GDP per capita adjusted for PPP, on page 279 or India, 3452/736 = 4.69.

ratio reduces the competitive advantages of their precision engineering, which threaten American businesses. Note that nearly all of the 19 nations with PPP ratios below 1 threaten U.S. dominance in hi-tech markets. The system is designed to favor all the developed countries, but the U.S. is the chief beneficiary.

**E: WAIN: World Average Income National** is \$9543, the World Average Income, divided by the Purchasing Power ratio from Column D. When purchasing power corrections are made for all countries, that is, when column C instead of B is used, so that the GDPpc for India is raised from \$736 to \$3,452 and the GDPpc Norway is lowered from \$63,918 to \$41,420, it turns out that, on the average, each human has an income of not \$6954, the amount the currency exchange markets say we have, but \$9543, the amount it would cost to reproduce our incomes in the U.S.A. This is because the Purchasing Power ratio for the world is 1.37, which means that the current system pretends that many fewer goods and services are made and exchanged in the world than actually are. The purpose of this underestimation is so that countries like India and China can be exploited through the cheap sale of their currencies by international banks.

\$9543 is the amount that is needed for one person to live in the U.S.A. in the way that every person on earth could afford to live if all of the people with more than the world average income used their excess over the average to raise people now below the average up to the average. But this does not mean that an individual in India, France, or Zambia needs \$9543 to live on the world average income. For each country you have to divide the WAI by the purchasing power ratio of that country's currency to find its current purchasing power parity with the dollar. Since Norway and Iceland are expensive places to live because their currencies are overvalued, to buy their currencies to live for a year at the world average income, you'd need \$14,727 and \$13,931 respectively ( $\$9543/.648=\$14,727$  and  $\$9543/.685=\$13,931$ .) To live for a year at the world average income in India in 2005 you needed \$2,034 ( $\$9543/4.69=\$2,034$ )—per person, not per family—so, for a family of 4, \$8,136. In Zimbabwe you'd need only \$1187 because no country on earth is presently more exploited by the currency market than Zimbabwe, where \$1 buys goods worth \$8.04.

**F: (B/WAIN) GDPpc/WAIN: GDP per capita as a multiple or fraction of the World Average Income National** is Column B, GDP per capita, divided by the World Average Income National. This is the first way of assessing, under present currency exchange practices, the income of the average citizen of a country in terms of the world average income to see how much the average citizen exceeds the world average income or falls short of it. For rich countries, the figure is always one more than the world average income; that is, subtract one (which represents the world average income) and you have the excess over the average. For instance, for the U.S., the figure 4.3896 means that the average American receives 4.3896 times what the average person on earth receives. Consequently if an average American decided to live in the U.S.A. in the way that everyone could afford to live if we shared our wealth equally, he or she would be able to bring more than 3 persons from absolutely nothing up to the world average income in the U.S. ( $4.3896 - 1 = 3.3896$ ) An average American lives on the income of 4.3896 average Earthians.

But that example is simple because the purchasing power of the dollar is used as the basis for calculating purchasing power. With the other rich countries there are two ways of getting the same result. For Luxembourg you can divide the GDP pc, \$79,851, by the WAIN, \$12,656, to get 6.3093, meaning the average citizen of Luxembourg lives in a way that would support more than six Earthians in Luxembourg at a bit over the average. Or you could divide \$60,228, the Luxembourg GDP pc adjusted for purchasing power, by \$9543, the WAI, to almost exactly the same result.

Consider China. 0.7081 means that the average Chinese lives on 7/10ths the world average income. The average Indian lives on 36% of the average, 0.3126; the average Mongolian on 22% of the world average, 0.2208; the average citizen of Haiti on a bit more than 17% of the average; the average citizen of Eritrea on less than an eighth, 0.1162; and the average citizen of Sierra Leone on less than one fourteenth, .06999.

So if all of us improbably decided to share our incomes equally, the Chinese income would have to be increased by 40%, India's by 2.8 times, Mongolia's would increase four and a half times, Haiti's nearly six-fold, Eritrea's eight-fold, and Sierra Leone's would have to be multiplied over 14 times. Luxembourg and Malawi represent the greatest extremes in GDP per capita in Purchasing Power Parity terms—a difference of 90.3 times. In unadjusted GDP per capita, Luxembourg citizens have 753 times the income of Burundi citizens. World Bank figures for 2001 indicated that distribution of wealth *within* countries can be an even more horrible problem: besides being the world's poorest country, Sierra Leone

also has the most extreme differences in wealth—the bottom 10% of its citizens earn \$6.50 a year, about \$20 adjusted for purchasing power. The richest people on earth have over a billion times as much each.

**G: (B-WAIN) GDPpc-WAIN: Gross Domestic Product per capita minus World Average Income National** is column B minus column F. This second way of expressing the difference between the world average and the condition of the average national citizen shows how much the average citizen of a rich country would have to give up if he or she decided to live on the world average income adjusted for that nation. It is the amount of money that would be available under present conditions and rates of exchange for raising poor people toward the world average if there were no transaction costs.

**H: (#R or F): Number of average Indians raised to Indian WAIN if one average citizen of a rich country transfers income above WAIN to India or the Number of average citizens of a poor country raised to that country's WAIN if one average citizen of the USA transfers his/her income over the US WAIN to average citizens of that country.** For the 62 countries above the world average, this is the number of Indians at the Indian GDP per capita (\$736) that one citizen living at the wealthy country's GDP per capita could raise to the world average income adjusted for India (\$2035) if the citizen of the wealthy country were willing to live on the world average income adjusted to the cost of living in his own country (WAIN). Hence it is  $G/(2035-736) = G/\$1299$ . For citizens of the 115 impoverished countries, it is the number of citizens living at that country's GDP per capita who could be raised to the world average income adjusted to their country's standard of living if one U.S. citizen living at the U.S. GDP per capita of \$41890, transferred \$32,347, the excess of his or her income over \$9543, the WAIN of the U.S.A.

**I: GDPI: Gross Domestic Product Index:** The GDPI is the Gross Domestic Product per capita adjusted by Anand and Sen's formula for increasing income's loss of efficiency in producing benefits:

$$W(y) = \frac{\log y}{\log y_{\max} - \log y_{\min}} - \frac{\log y_{\min}}{\log y_{\max} - \log y_{\min}} \quad \text{Example 1: Ireland} = \frac{\log(38,505) - \log(100)}{\log(40,000) - \log(100)} = \frac{4.58552 - 2}{4.60206 - 2} = \frac{2.58552}{2.60206} = .9936.$$

$$\text{Example 2: India} = \frac{\log(3,452) - \log(100)}{\log(40,000) - \log(100)} = \frac{3.53807 - 2}{4.60206 - 2} = \frac{1.53807}{2.60206} = 0.591.$$

The GDPI is one of the three primary components of the Human Development Index, the other two being the life expectancy index and the educational attainment index (a composite of 2/3rds adult literacy and 1/3<sup>rd</sup> combined gross enrolment.) Column I shows the UNDP's two-digit figures, published in Table 1.

**J: (GDPI b/c): GDPI Benefits divided by Costs when Money is Transferred from Rich Countries to Impoverished Ones:** For rich countries, costs are counted as the number of GDPI points lost when one citizen declines from the rich country's GDP per capita to the world average income adjusted to that country. The costs are divided into the benefits in GDPI points of raising column H's number of Indians living at the Indian average income to the world average income adjusted for India. For instance, the World average GDPI is now .761, so an Indian now living on \$736 a year given an additional \$1299 a year would be raised, on the average from .591 on the GDPI to .761, an increase of .17 points. If, say, a citizen of Luxembourg living at the Luxembourg GDP per capita of \$79,851 decided to live on the world average income adjusted or Luxembourg, \$12,656, and gave the remaining \$67,195 to 51.73 average Indians, the Luxembourg citizen would lose .239 GDPI points (1.000 - .761) while the Indians together would gain 8.7941 GDPI points (.17 x 51.73). The cost benefit ratio is 8.7941/.239 = 36.795; that is, the benefit to the Indians is 36.8 times the cost to the citizen of Luxembourg.

For impoverished countries, benefits are counted as 1) the number of GDPI points one citizen of a poor country gains when rising from the GDP per capita of that country to the world average income adjusted to the cost of living in that country 2) multiplied by the number of citizens who could be raised from the GDP per capita to the world average if one American went from the U.S. GDP per capita to the world average. The cost figure is the cost to an American of falling .239 points from 1 to .761 on the GDPI. For example, a citizen of Burundi would need to receive \$1342 per year to rise from the Burundi GDPpc of \$106 to the WAIN in Burundi, \$1448, and would gain .436 GDPI points (.761-.325) by the increase in income. Ignoring transaction costs, if an American living at the US GDP per capita, \$41890, decided to limit him- or herself to the US WAIN, \$9543, he or she could distribute \$32,347 to 24.12 Burundi citizens at a cost of .239 GDPI points.  $(.436 \times 24.12) / .239 = 44$ , the benefit divided by the cost in GDPI points; hence, the Anand/Sen formula indicates that the citizens of Burundi would derive 44 times as much benefit from that \$32,347 as the US citizen does.

**WORKSHEET: Using the Law of Diminishing Returns, Calculate the Cost/Benefit Ratio of transferring the surplus of your income over the world average income to citizens below it:**

**Step 1: Divide your family income before taxes in your currency by the number of members of your family who rely upon it: (A) \_\_\_\_\_**

**Step 2: Convert your income into U.S. dollars by dividing by the current conversion factor: A / conversion factor (47 for rupees to dollars) =(B) \_\_\_\_\_**

**Step 3: Convert your U.S. dollar income into U.S. dollars adjusted for purchasing power parity: B x PPP ratio for your country (5.0123 for India) =(C) \_\_\_\_\_**

**Step 4: If your income is above the World Average Income (WAI) adjusted to purchasing power parity in your country (WAIN), subtract the WAIN from your unadjusted income to find your surplus over the WAI: B – WAIN = (D) \_\_\_\_\_**

**Step 5: Choose the unadjusted average income of any country below the world average. Subtract it from the world average income adjusted for that country to find the average shortfall of income in that country: WAIN – GNPpc (unadjusted) = (E) \_\_\_\_\_**

**Step 6: Divide your surplus by the average shortfall of the poorer country to find how many people in that country your surplus could raise from the average income there to the world average income in that country: D / E = (F) \_\_\_\_\_ . This tells you how many people in that country you could raise to the world average income if you were willing to confine yourself to the world average income.**

**Step 7: Now apply the law of diminishing returns. The UNDP uses Anand and Sen’s formula for discounting the benefit of income to create the Gross Domestic Product Index<sup>3</sup>, which is one of three primary components of the Human Development Index:**

$$W(y) = \frac{\log y - \log y_{\min}}{\log y_{\max} - \log y_{\min}} \quad \text{Example: USA} = \frac{\log (31,872) - \log (100)}{\log (40,000) - \log (100)} = \frac{4.50341 - 2}{4.60206 - 2} = \frac{2.50341}{2.60206} = 0.962.$$

**Find the log of your own income adjusted for purchasing power parity (that is, the log of C) subtract 2 from it, and divide the result by 2.60206 to find your own position on the GDP index: (log (C) – 2) / 2.60206 = (G) \_\_\_\_\_ .**

**Step 8: Find the GDP index of the poorer country in a table or calculate it by repeating step 7 using the GDP per capita adjusted for purchasing power parity of the country whose per capita income is below the world average: (log (GDPpc PPP) – 2) / 2.60206 = (H) \_\_\_\_\_ .**

**Step 9: Subtract the GDP index of the poor country from the world average index of 0.71 to find out how many GDP index points each person you could raise to the world average would gain: 0.71 – H = (I) \_\_\_\_\_**

**Step 10: Multiply the number of points each person would gain by the number of persons you could raise from their country’s average to the world average income in their country: I x F = (J) \_\_\_\_\_ , the net benefit in GDP index points.**

**Step 11: Calculate your net cost by subtracting the world average GDP of 0.71 from your position on the GDP index, G: G - 0.71 = (K) \_\_\_\_\_ , your cost in GDP index points.**

**Step 12: Calculate the cost/benefit ratio of giving your surplus over the world average to F number of people living at the average income of a poorer country by dividing their benefits, J, by your cost, K: J / K = (L) \_\_\_\_\_ , the cost/benefit ratio of the transfer not considering transaction costs. (The inverse of this figure, K/J, is the portion of your income above the world average which is *not* wasted relative to the poorer people’s use of it. If you subtract K/J from 100, you find the percentage of your surplus over the world average that is now relative waste.)**

<sup>3</sup> GDPI includes not just wages but income from all sources before taxes. Countries have different ratios of private to collective property, some comparisons of wages alone or of available income mean much less.