



What Is Prosperity and How Do We Measure It?

By Roger Bate

A year ago, French president Nicolas Sarkozy created the Commission on the Measurement of Economic and Social Progress. Sarkozy believes that economic growth, as measured by the gross domestic product (GDP), is not a sufficient measurement of our well-being. He has a point. While GDP encompasses myriad economic variables—broadly representing a nation's income and, hence, economic progress over time—it fails to capture important ingredients of prosperity, such as health, personal freedom, and security. The Sarkozy commission has issued its first report, but it fails in some crucial respects.

The London-based Legatum Institute's Prosperity Index goes a long way toward addressing the concerns Sarkozy has about broader measures of well-being. The Index, now in its third year, assesses a wide variety of economic and social indicators for most of the world's population and ranks countries according to their performance.

Most economists traditionally use a simple economic measure known as GDP to define prosperity. Whether measured in total for a country or on a per-capita basis, GDP is the most familiar and widely used measure of national progress. It captures the value of all goods in the economy—whether consumed by households, governments, or businesses—and as such, it is an extremely useful single measurement of a country's well-being.

But problems with the GDP measurement exist. Prices may not exist for some goods and services, such as government-provided free health care or family care services, so statisticians have to impute prices to get a more complete GDP measure. Yet imputation is unreliable, given that the necessarily subjective evaluations are done by remote statisticians and not by consumers using the services. Additionally, discrepancies arise when the imputed values of these services vary cross-nationally. For instance, many services are valued more highly in Finland than in the United States because in the former the government sector is larger. Not including

these services would bias Finland's GDP downward in relative terms.

Another shortcoming of the GDP measurement involves accounting for quality improvements where no change in price has occurred: BlackBerries or iPhones can do more and are vastly more useful than similarly priced phones from a decade ago. Failing to account for technological quality improvements, for example, results in the same overall impact as overestimating inflation: it undervalues changes in GDP. Examining these inadequacies, among others, demonstrates that GDP may not even be the most accurate indicator of actual income, let alone prosperity. Continual refinements in statistical

Key points in this *Outlook*:

- The GDP is not a sufficient measurement of prosperity.
- Opinion makers have called for more effective measures of well-being.
- The London-based Legatum Institute's Prosperity Index addresses some of these concerns by measuring a variety of economic and social indicators for people around the world.

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methods reduce these problems, but they do not eliminate them completely.

Even with improvements, however, dry, objective measures such as GDP fail to capture a lot of life. Robert Kennedy articulated this concern in a speech in 1968 when he lamented that GDP “measures everything . . . except that which makes life worthwhile.” GDP positively reports the use of resources, for example, but it fails to account for depletion of those resources, whether due to environmental damage or unhealthy working conditions.

Shortcomings of Sarkozy’s Report

Sarkozy’s commission raised some methodological and substantive issues when it released its report September 14; it suggested that household income may be a better prosperity indicator than business production and that median incomes describe societal inequality better than mean averages. As it points out,

Over the past two decades, the dominant pattern in OECD countries is one of a fairly widespread increase in income inequality with strong rises in Finland, Norway, Sweden (from a low base) and Germany, Italy, New Zealand and the United States (from a high base). In these cases medians and means would give different pictures of what is happening to societal well-being.¹

The report’s authors sagely explain that no one statistical “holy grail” can quantify everything meaningful in a single number. They believe a range of new variables should be included in measuring a nation’s progress, and they want to broaden indicators to include social capital, education, governance, and health. To this end, the report discusses how existing statistics could be used. So far so good.

But the commission also wants to measure sustainability, environmental degradation, and climate change while admitting measurement of these factors is highly subjective, difficult, and possibly impossible. The difficulty of making guesstimates operational is made worse by the report’s implicit assumption that all environmental changes over time will be bad, especially in relation to issues such as energy use and population growth. But things are not that simple. Resource depletion can drive better management of resources, which can then result in an increase of those resources. Iceland’s fisheries are a great example. Overfishing of cod and other fish stocks

in Iceland led to a new policy of Individual Transferable Quotas, a legal property rights transfer system, which led to better management of the resource to the economic advantage of most fishermen and the recovery of some fish stocks.²

The report manages to stay away from endorsing the wackiest evaluation ideas, but it still gives them plenty of oxygen. Take its “threshold” hypothesis that “sustainability is already far behind us, and we have already entered a phase of decline.”³ There is also no criticism or qualification of the apparently “well-known” view that we have “exceeded the Earth’s biocapacity by approximately 25 per cent.”⁴ Such statements are often used as the intellectual support for the dystopian drivel of the worst kind in Hollywood movies.

There are many solid data indicators that are illuminating, publicly available, and standardized across countries. And these data can help us broaden measures of well-being far beyond GDP.

Additionally, despite the claim that “the report is about measurement rather than policies,”⁵ it gives the impression that some of the authors want to use the data to change our behavior. It says at one point: “some members of the Commission believe that the [current financial] crisis provides heightened urgency to these [measurement] reforms.”⁶ It then suggests governments should provide “alternative valuations when market prices for assets are not available or are subject to bubbles and bursts.”⁷ But as with the environmental guesstimates, the worry is how governments will value these assets and when they will say a bubble is over. Even worse, such speculation might not be based on current valuations alone. According to the report, “It is no longer a question of measuring the present, but of predicting the future.”⁸

There are obvious political biases in the report. In many places, it points out how life is really better in France than the United States, and does so by adjusting statistics, such as those on health care. While the statistical manipulations are often justified, the report tends to use examples in which France does well. But in the area of life satisfaction, in which they report that “people who become unemployed report lower life-evaluations,

even after controlling for their lower income,” we do not get a comparison of France with the United States; the former would do less well in this regard than on a health assessment. A note of unintended amusement in the report occurs where it states that many Europeans do not trust official statistics, but the report neglects to explain that this is partly because successive governments across Europe—including in France—have manipulated data, especially unemployment figures.

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In all, the report reminds us that there are many solid data indicators, some collected since the nineteenth century in industrialized nations, that are illuminating, publicly available, and standardized across countries. And these data can help us broaden measures of well-being far beyond GDP—something the Legatum Institute’s Prosperity Index actually does (more on that in a moment).

Unfortunately, the Sarkozy team postulates variables for which no country currently collects data because data are simply not measurable. We should stick with what can be measured robustly and include subjective personal and social evaluations with care. But we should not embrace speculative valuations of our environment because history suggests the “values” generated will be used by elites to drive policies they like at others’ expense.

A Different Approach

As mentioned above, the most useful place to start when considering the nonmonetary aspects of prosperity is with measures that already exist but which have not previously been brought together. The Prosperity Index, generated by the Legatum Institute, has for the past three years attempted to provide a comprehensive measurement of prosperity using a combination of variables based on economic wealth and quality of life.⁹ While it is not as ambitious in its long-term measurement objectives as the Sarkozy commission, the Prosperity Index more usefully encapsulates what can be measured from within the business and social realms.

The Legatum Institute defines prosperity as both wealth and well-being and finds that the most prosperous nations in the world are not necessarily those with a

high GDP, but those with happy, healthy, and free citizens. The Prosperity Index identifies the building blocks of prosperity and assesses how 104 nations around the world are performing in each area (see table 1). A lack of comprehensive data on dozens of countries means they cannot be assessed. Still, the Index does account for countries that contain 90 percent of the world’s population. Its database consists of seventy-nine

Table 1
The Legatum Prosperity Index
(ranked from most to least prosperous)

Rank	Country	Rank	Country	Rank	Country
1	Finland	38	Argentina	72	Nicaragua
2	Switzerland	39	Malaysia	73	Bolivia
3	Sweden	40	Trinidad and Tobago	74	Venezuela
4	Denmark	41	Brazil	75	China
5	Norway	42	Panama	76	Kazakhstan
6	Australia	43	Mexico	77	Vietnam
7	Canada	44	Thailand	78	Moldova
8	Netherlands	45	India	79	Ghana
9	United States	46	Bulgaria	80	Jordan
10	New Zealand	47	United Arab Emirates	81	Saudi Arabia
11	Ireland	48	Romania	82	Mali
12	United Kingdom	49	Jamaica	83	Morocco
13	Belgium	50	Mongolia	84	Senegal
14	Germany	51	South Africa	85	Belarus
15	Austria	52	Belize	86	Lebanon
16	Japan	53	Kuwait	87	Bangladesh
17	France	54	Dominican Republic	88	Egypt
18	Hong Kong	55	Philippines	89	Zambia
19	Spain	56	Botswana	90	Nepal
20	Slovenia	57	Paraguay	91	Mozambique
21	Italy	58	Sri Lanka	92	Uzbekistan
22	Portugal	59	Macedonia	93	Cambodia
23	Singapore	60	El Salvador	94	Iran
24	Taiwan	61	Indonesia	95	Kenya
25	Czech Republic	62	Ukraine	96	Algeria
26	South Korea	63	Namibia	97	Tanzania
27	Israel	64	Peru	98	Nigeria
28	Hungary	65	Colombia	99	Pakistan
29	Poland	66	Honduras	100	Cameroon
30	Greece	67	Guatemala	101	Central African Republic
31	Estonia	68	Tunisia	102	Yemen
32	Costa Rica	69	Russia	103	Sudan
33	Uruguay	70	Turkey	104	Zimbabwe
34	Slovakia	71	Ecuador		
35	Croatia				
36	Chile				
37	Latvia				

SOURCE: Author’s calculations and analysis from the Legatum Institute’s Prosperity Index; Legatum Institute, “The 2009 Legatum Prosperity Index,” available at www.prosperity.com (accessed October 22, 2009).

different variables, each of which fits into one of nine different subindices, identified as the foundations of prosperity. A country's performance on each subindex is assigned a score, and the overall Prosperity Index rankings are produced by averaging the scores of the nine subindices for each country. Those countries that perform well across each subindex score highest in the overall ranking. The first four subindices are made up of variables that contribute to economic growth, measured in per-capita GDP. The last five subindices are calculated by how well their indicators contribute to quality of life, measured in terms of life satisfaction.

The nine subindices of the Prosperity Index are as follows:

- *Economic Fundamentals*—a growing, sound economy that provides opportunities for wealth creation
- *Entrepreneurship and Innovation*—an environment friendly to new enterprises and the commercialization of new ideas
- *Education*—an accessible, high-quality educational system that fosters human development
- *Democratic Institutions*—transparent and accountable governing institutions that promote economic growth
- *Governance*—an honest and effective government that preserves order and encourages productive citizenship
- *Health*—the physical well-being of the populace
- *Personal Freedom*—the degree to which individuals can choose the course of their lives
- *Security*—a safe environment in which people can pursue opportunity
- *Social Capital*—trustworthiness in relationships and strong communities

This combination of factors reflects the view that while prosperity necessarily implies wealth, genuine prosperity is based on more than money alone for individual citizens and for individual countries. It also reflects an understanding that a growing economy is necessary, but not sufficient, for national prosperity and that without additional factors—such as accountable governments,

healthy citizens, strong social capital, and respect for civil and political liberties—a nation cannot achieve sustainable prosperity. See table 2 for the top ten countries by subindex.

The seventy-nine variables used to measure prosperity are not all equally robust. Subjective measurements of trust and charitable support, for instance, can be difficult to compare across countries since definitions of trust and the institutionalization of donations vary across cultures. Additionally, more subjective variables, such as health

Table 2
Top Ten Most Prosperous Countries by Subindex

Rank	Economic Fundamentals	Entrepreneurship and Innovation	Democratic Institutions
1	Hong Kong	United States	Switzerland
2	Switzerland	United Kingdom	United States
3	Netherlands	Sweden	Belgium
4	Belgium	Canada	New Zealand
5	Ireland	Netherlands	Australia
6	Canada	Denmark	Canada
7	Australia	Japan	Sweden
8	Japan	Germany	Norway
9	Singapore	Finland	Finland
10	Finland	Hong Kong, China	Austria

Rank	Education	Health	Security
1	Norway	Austria	Norway
2	Denmark	Ireland	Finland
3	Finland	Switzerland	Singapore
4	Sweden	Singapore	Denmark
5	Greece	Belgium	Ireland
6	Australia	Germany	Switzerland
7	United States	Finland	Sweden
8	Slovenia	Netherlands	Slovenia
9	Taiwan	Japan	Canada
10	New Zealand	Norway	Austria

Rank	Governance	Personal Freedom	Social Capital
1	Denmark	Norway	New Zealand
2	Finland	Denmark	Switzerland
3	Switzerland	Canada	Sweden
4	Singapore	Australia	Australia
5	Sweden	Sweden	India
6	Hong Kong	New Zealand	Finland
7	Norway	Finland	United States
8	Netherlands	United States	Netherlands
9	Canada	Belgium	Canada
10	Australia	Netherlands	Norway

SOURCE: Author's calculations and analysis from the Legatum Institute's Prosperity Index; Legatum Institute, "The 2009 Legatum Prosperity Index," available at www.prosperity.com (accessed October 22, 2009).

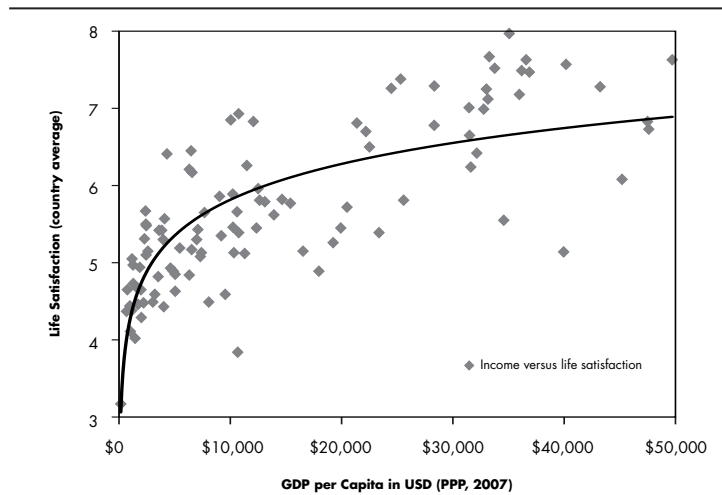
satisfaction, occasionally reveal inconsistencies with the more objective health indicators of a given country. Other potential areas of weakness include variables such as the “new businesses registered” variable, which is limited in its ability to capture real trends in entrepreneurship in low-income countries where the informal sectors are large and many businesses are unaccounted for. Another problematic area involves assessing corruption, as perceptions of corruption (and indeed perceptions of health care) are often driven by media coverage and may reflect a free media more than actual widespread corruption. Still, the Legatum Institute’s pledge for ongoing transparency in the use of these variables and its dedication to exploring new variables, make it possible that, over time, less reliable variables can be replaced and its measures of prosperity can improve. This is especially true when it comes to including measurable environmental indicators over time. Today, too few countries measure too few indicators to make an environmental component possible.

The Findings

One of the most interesting, if unsurprising, findings of the Prosperity Index is that higher-income countries have diminishing returns to life satisfaction (see figure 1). In crude terms, this means that if you live in one of the poorest nations on earth, an increase in income is vitally important to improved prosperity, so driving growth is a critical ambition for those living in such regions. In wealthier parts of the world, however, greater security, better governance, and personal freedom are more important to life satisfaction than are small increases in wealth. In the figure, one can see that a hypothetical increase in income from \$3,000 to \$6,000 would increase life satisfaction much more than an increase in income from \$23,000 to \$26,000 would.

The implications of such a finding are enormous; most commentators say fostering growth is a critical driver of support for developing countries. As the excellent new book by AEI visiting scholar R. Glenn Hubbard and Columbia Business School lecturer William Duggan, *The Aid Trap: Hard Truths About*

Figure 1
Income versus Life Satisfaction



SOURCE: Author's calculations and analysis from the Legatum Institute's Prosperity Index; Legatum Institute, "The 2009 Legatum Prosperity Index," available at www.prosperity.com (accessed October 22, 2009).

NOTE: This figure is included in the Legatum Institute's 2009 Prosperity Index. A discussion of the methodology is included there. The figure is a snapshot of data across countries at a single point in time. Each marker represents the per-capita gross domestic product and life satisfaction score of an individual country. Looking at the slope line, we can see that a small increase in income increases life satisfaction more at the lower end than does a small increase in income at the upper end.

Ending Poverty (Columbia Business School Publishing, 2009), explains, most aid, though well intentioned, actually undermines the local business sectors in the poorest nations and should be refocused to help local businesses. Prosperity Index data broadly support this conclusion.

As the index shows, it is tragic that most of the poorest countries in the world have some of the worst business environments. If the laws and norms of a country do not support entrepreneurial activity, growth will not occur. A broader measure of a business environment includes governance, which is the most important indicator of a prosperous society. Very few countries can be considered prosperous without having at least a reasonable score in the Prosperity Index on this variable.

Given all of this, it is not surprising that some of the lowest performers in the Prosperity Index rankings are from sub-Saharan Africa. These countries not only have poor governance scores in the Prosperity Index, but they also have some of the worst education and health scores. In fact, the only area in which sub-Saharan countries perform well is in social capital, which measures the extent to which community networks support each other. With poor scores in almost all other areas, life would be even worse were it not for these social networks.

As one would expect, Europe does very well in the rankings and has the highest representation at the top of the list with fourteen of the top twenty countries. The highly homogenized populations of Finland, Switzerland, Sweden, Denmark, and Norway are listed

in order as the top five most prosperous countries. The larger and more ethnically diverse populations of the United Kingdom (twelfth), Germany (fourteenth), France (seventeenth), Spain (nineteenth), and Italy (twenty-first) also rank highly.

Outside of Europe, North America, Australia, and New Zealand also performed well. Had they ranked higher in the area of health, countries in these regions would have finished even higher. The United States comes in at ninth place and is the top ranked country of over 50 million people. Japan (sixteenth) and Hong Kong (eighteenth) make up the rest of the top twenty.

Other Results

Consistency across indicators is important to finishing high in the rankings; there is much lower variance on subindices for top performers than for worse performers. In fact, the worst performers often do well in one or two subindices, rather than fail in all of them. The top fourteen countries have consistently high ratings. Only two countries, Yemen and Zimbabwe, have consistently poor indicators.

China outperforms India in both of the main economic subindices because it provides greater economic certainty to investors, receiving far more foreign direct investment than India. Still, the overall index implies that trouble is brewing for China as it loses out to India in all other subindices, especially in its lack of democracy and personal freedom. Consequently, this places India forty-fifth in the rankings, while China is a lowly seventy-fifth. Brazil does a bit better than India (forty-first) and Russia a bit better than China (sixty-ninth). Like China, Russia fails on indices related to freedom.

Hong Kong and Singapore finish far lower in the prosperity rankings than they do in the more economically based indices of the Wall Street Journal/Heritage Foundation or of the Cato Institute/Fraser Institute, which tend to rank them first and second. But in a less severe version of the problem for China above, these countries lack personal freedom and democracy and, as a result, finish eighteenth and twenty-third, respectively, in the Prosperity Index. With due respect to the more economically weighted indices, and given that economic growth is of prime concern to developing nations in particular, weighting the more measurably definitive economic subindices more heavily is a useful experiment and one that is arguably justifiable from a policy

perspective. As an experiment, double weighting the two direct economic indicators in the Prosperity Index does make a difference for some countries' performance. For instance, Singapore, Hong Kong, and the United Kingdom would all rise one place in the rankings, and the United States would move up two, but the biggest movers would be China (up fourteen places) and Russia (up eleven).

Free-market watchers might be surprised to find social-welfare and high-tax states at the top of the Prosperity Index. This indeed raises more questions than it answers.

But what of the explanatory power of the more established Wall Street Journal/Heritage Foundation Index on the more subjective indicators compiled by Legatum? If one strips the two economic subindicators and the subindicator of democratic institutions from Legatum's Index (these three subindices closely match the Wall Street Journal Index), one can compile a ranking from the six remaining, and primarily more subjective, subindices. Regressing the Wall Street Journal Index on this ranking provides some information about how much economic and political freedom statistically "explains" subjective well-being. The R-squared figure is 0.64, and the regression is highly statistically valid. An R-squared of 1 means perfect explanatory power, so 0.64 means that just under two-thirds of the subjective well-being Legatum measures can be explained by economic and political freedom. This is a significant finding, and, while obviously leaving a lot of room for other explanations, it demonstrates the strong association and almost certain vital importance of both freedoms for prosperity.

And in a broader vindication of democracy and capitalism, it is interesting that *chavista* nations in Latin America do very poorly in the Prosperity Index; Venezuela (seventy-fourth), Ecuador (seventy-first), and Bolivia (seventy-third) are ranked far lower than the more open democracies of Chile (thirty-sixth), Argentina (thirty-eighth), and Brazil (forty-first).

Free-market watchers might be surprised to find social-welfare and high-tax states at the top of the Prosperity Index. This indeed raises more questions than it answers. For example, do the homogeneous hard-working populations of Northern Europe overcome the

high tax rates in those countries? Or do these countries, in fact, encourage entrepreneurs? Sweden notably finishes just behind the United States and the United Kingdom in friendliness to entrepreneurs, and all Northern European countries have very good education systems, which may be important, too. And what of social trust among highly homogenous, small populations? Is homogeneity the huge advantage for prosperity the data seem to indicate? It is not just the small countries of Europe that do well—Botswana, which has a small, ethnically homogenous population, is the second top African performer (after South Africa). Hong Kong and Singapore, also with quite homogenous populations, do well, too.

Finally, what of corruption—what role does it play in undermining prosperity? In a very simple regression of Transparency International's Corruption Perception Index on the Legatum Index, we find an R-squared of 0.74. This shows a strong positive association between low corruption and high prosperity.

Conclusion

From Robert Kennedy to Nicholas Sarkozy, opinion makers have called for measurements of prosperity and well-being other than GDP. With increasing concerns about inequality, environmental degradation, and the financial crisis, the pressure for new measurement is growing. The Legatum Prosperity Index provides an important beginning.

The significant subjective components of each of the more socially oriented subindices of the Prosperity Index are bounded by reality. Even if one were to debate how comparable one country's subjective well-being data are with another, at least there is a reference point for debate. Indeed, that is the beauty of the Index: because

it is transparent and provides the reader and researcher alike all the background data, it allows for individual experimentation, and it is a work in progress. It answers many questions, while it raises even more. Like the Sarkozy commission, it may lead to a better understanding of what makes people prosperous.

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Notes

1. Joseph E. Stiglitz, Amartya Sen, and Jean-Paul Fitoussi, *Report by the Commission on the Measurement of Economic Performance and Social Progress*, prepared at the request of President Nicolas Sarkozy (Paris, September 14, 2009), 33, available at http://stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf (accessed October 22, 2009).

2. See Hannes Gissurason, *Overfishing: The Icelandic Solution* (London: Institute of Economic Affairs Press, 2000) available at www.iea.org.uk/record.jsp?type=book&ID=16 (accessed October 22, 2009).

3. Joseph E. Stiglitz, Amartya Sen, and Jean-Paul Fitoussi, *Report by the Commission on the Measurement of Economic Performance and Social Progress*, 66.

4. *Ibid.*, 70.

5. *Ibid.*, 9.

6. *Ibid.*, 8.

7. *Ibid.*, 13.

8. *Ibid.*, 61.

9. For full details and a chance to play with the data, see Legatum Institute, "The 2009 Legatum Prosperity Index," available at www.prosperity.com (accessed October 22, 2009).