CHARLES KENNY

DOES DEVELOPMENT MAKE YOU HAPPY?
SUBJECTIVE WELLBEING AND ECONOMIC GROWTH
IN DEVELOPING COUNTRIES

(Accepted ■)

ABSTRACT. The evidence for any relationship between GDP/capita
growth and growth in subjective wellbeing (SWB) in wealthier countries is
disputed, at best. However, there are a number of reasons commonly
articulated for thinking the relationship should be stronger in less developed
countries (LDCs). This paper looks at both reasons for expecting the relation-
ship to be stronger in developing countries, and those for a weak link
that might still apply in LDCs. Finally, it turns to a limited data set to see
what that might tell us. The results suggest that, at least in middle-income
countries, there is little strong evidence in favor of a connection between
growth and SWB.

KEY WORDS: economic growth, subjective wellbeing, utility

INTRODUCTION

Myers and Diener (1997) note that, between 1967 and 1995,
entries listed in Psychological Abstracts included 86,825 that
mentioned anxiety or depression, but only 4469 mentioning life
satisfaction, happiness or joy.† Some evidence here that eco-
nomics should not be labeled the dismal science, however
many practitioners of economics might try to play the part.
Further, economics has firm ideas about how to make the
world a happier place, and the ideas are eminently practicable
at least in their common popularization. Extrapolated from
the theory of Pareto (amongst others) comes the idea that

† Thanks to commentators including R. Cummins, R. Veenhoven and J. Bern-
heim and A. Kenny as well as participants at a World Bank seminar and an anon-
ymous reviewer for their comments on earlier drafts. The paper reflects the opinions
of the author, not necessarily those of the World Bank or its executive directors.

increasing the income of some (especially if not at the cost of the income of the fewer) will increase utility – which can be translated, at least for an economist, as ‘happiness.’ This is an idea that goes back at least as far as Adam Smith (1982), continued through Pigou (1912), and still provides at least part of the justification for labeling countries with lower incomes per capita ‘developing.’

At the same time, there is a rich literature attacking a focus on income as the sole measurement of ‘development’ or of the quality of life. The UNDP uses a ‘Human Development Index’ that includes measures of life expectancy, literacy and education as well as income, and a ‘Human Poverty Index’ that excludes income completely, using access to safe water, access to health services and underweight children under five as measures of standard of living instead (UNDP, 1999). Sen (1980, 1985, 1992) suggests an even broader approach, using ‘functionings’ – or the ability to do things – as his measure of welfare.

A different approach than revealed preferences as used by Pigou or the Aristotelian idea of happiness present in Sen, is to ask people themselves how happy they are, with the assumption that this will produce a better estimate of how happy they really are than estimates based on measures of income or functionings. Subjective wellbeing (SWB) polls ask questions of the form ‘taking your life as a whole, would you consider yourself very happy, somewhat happy, or not happy at all.’

This paper will concentrate on the relationship between answers to such polls and income growth rates in developing countries. It will discuss the nature of happiness as caught by survey responses, the theoretical relationship between SWB and growth, and the reasons why we might expect this relationship to be stronger in developing countries. It studies Ahuvia and Friedman’s (1998) two arguments for positing a strong link between SWB and economic growth in less developed countries: first, material norms are based on a worldwide standard, so that people in developing countries have material needs far above their present income (a concern over global relative income); second, economic growth is linked to such changes as
improvements in health, democracy and women’s rights which, in turn, are linked to subjective wellbeing.

The paper will use results from recent surveys in India, Tanzania and Russia and global studies of the relationship between income and quality of life to empirically test some of the assumptions underlying Ahuvia and Friedman’s assertion. It will then go on to utilize newly available data from Veenhoven (1999) in an attempt to explore the relationship empirically at the country level using a different (within rather than across country) technique than has been used to study the SWB–growth relationship in developing countries previously.2

The paper concludes that Ahuvia and Friedman’s underlying reasons are perhaps weaker than commonly assumed and that the evidence of an income–SWB link in middle income countries, at least, is also weak.

INCOME AND HAPPINESS RICH AND POOR

The relationship that one might expect between income and happiness depends a great deal on what one means by ‘happiness.’ The usefulness of SWB polls as a measure of happiness depends on two conditions: first, that people ‘know’ how happy they are; second, that they (can and do) answer the poll question truthfully. A long tradition that would include both Aristotle and Sen would argue that the first condition is questionable, at best. While, for Aristotle, pleasure and virtuous activity were inseparably bound up, it was the virtuous activity that made a person happy, not the level of pleasure. And most would accept that individuals are often poor judges of their own virtuousness.

As to the question of whether people answer polls truthfully, it might be that can be no common understanding of the type of question asked, or, more simply, people see some benefit in lying – perhaps self esteem demands answering that life is satisfactory, for example.

These are real concerns, but there is evidence that answers to these polls do correlate with other features that both utilitarians and Aristotelians would recognize as symptoms of ‘happiness.’
Those who declare themselves ‘happy’ smile frequently. They appear happy to friends. They have higher self-esteem and feelings of self-control, they trust others more, are more likely to initiate social contact and have a higher degree of social interaction. Further, they are more likely to respond to requests for help, less likely to be absent from work and less likely to be involved in disputes. Meanwhile, new inmates, alcoholics, those in ill health, psychotherapy patients and students living in oppressive regimes all report lower feelings of happiness than the average. SWB rankings are also fairly consistent over time, suggesting that they do not just capture temporary feelings of bliss or misery (Myers and Diener, 1996; Graham and Pettinato, 1999). Whilst this evidence cannot be seen as overwhelming proof of the superiority of SWB in measuring happiness, it does at least suggest that the polls have some value as an indicator of the state of happiness.

In a recent paper (Kenny, 1999), I found a relationship between economic growth over time within a country and SWB in that country that was not significant in a number of different formulations in a sample of wealthy countries. This confirmed earlier results based on different techniques and samples by (amongst others) Veenhoven (1994) and Easterlin (1995). One reason for this result, frequently articulated, is that the impact of income on SWB in rich countries is largely through relative rather than absolute quantities. The satisfaction of survival needs (food, shelter) having long been met, there is a sharp decline in the marginal benefit of an extra dollar of income, and remaining interest in income in wealthy countries is largely to satisfy concerns that only arise due to the wealth of others. As Veblen (1987) put it: “a satiation of the average or general desire for wealth is out of the question… no general increase of the community’s wealth can make any approach to satiating this need, the ground of which is the desire of every one to excel every one else in the accumulation of goods.” ‘Relative’ income happiness might also be linked to the absolute desire for the possession of goods that only arises because the goods are known to be ‘possessable’ through their possession by others. For example, it is doubtful that before the invention of the

...
internal combustion engine, many people were made signifi-
cantly unhappy by the fact they did not own a car.

Strong support for concerns over relative income domi-
ning any absolute effect in rich countries is that the income consid-
ered ‘necessary to get along’ in the United States rose between
1950 and 1986 in the same proportion as actual per capita
income (Cornish, 1997). US studies also suggest that subjective
evaluations of income have a much closer correlation with
SWB than do absolute measures (Ahuvia and Friedman,
1998), and even that level of correlation might be due to re-
verse causation (SWB to income satisfaction).

A second piece of evidence for the weak impact of economic
growth on SWB in wealthy countries is the simple fact that
variations in income correlate with only a small part of varia-
tions in SWB. Within the US, income differences account for
perhaps 2–5% in variation in SWB (Ahuvia and Friedman,
1998) – and that would account for both the effects of relative
and absolute income. In one longitudinal study in the United
States, a reverse relationship between SWB and income was
found – the group whose income declined were had the lowest
SWB, the group whose income increased the most had the
lowest SWB. Other longitudinal studies the effect of income was
insignificant. It might be that even if there is a link, it is because
SWB increases income growth rather than the other way
around (see Diener and Biswas-Diener, 2002, at the individual
level, and Kenny, 1999, at the cross-country level). Certainly,
other factors, including age health, education, unemployment,
marriage status and religious belief matter as much if not more
in explaining variations in SWB in the US, although the within-
country cross sectional correlation between income and SWB is
argued to be stronger in other countries (Diener and Biswas-
Diener, 2002).

Even if evidence from wealthy countries suggests that there is
a declining marginal utility to increases in both relative and
absolute income, there are strong reasons to think that the
poorest countries would still be the ones where the utility re-
turns to income increases were highest. The evidence for a link
between extreme relative poverty and low SWB is stronger than
the general SWB–income relationship in rich countries (Diener and Biswas-Diener, 2002) – and LDCs have a lower average income than the income of those classed as poor in OECD countries. Poor countries are also those where the impact of wealth on quality of life seems most obvious. Anyone who has spent time a developing city like Manila knows how brutish existence appears for those subsisting at best on pickings from trash heaps in the slums.

And while the relationship tends to weaken at higher levels of GNP per capita, studies find very strong results linking objective quality of life indicators with income when looking across countries (or within countries) at a single time. Richer countries have citizens who live longer, whose children die comparatively infrequently, who die less often in wars (Pritchett and Summers, 1996). Diener and Diener (1995) construct a basic needs index based on factors such as access to drinking water and infant mortality, and find it significantly related to income in a cross-country analysis up to about a GNP per capita of $4000.

This suggests some support for the second of Ahuvia and Friedman’s two reasons for a strong link between SWB and income in LDCs – a correlation between increased income and improvements in the quality of life. However, there are remaining reasons for doubt.

Most of the reasons for a weak link in developed countries apply just as well in developing economies. Negative indicators of life quality such as increased pollution, the social costs of economic transformation, the importance positional goods and the dominance of country- or locally-based relative income concerns (instead of global relative income concerns highlighted by Ahuvia and Friedman) – all are factors that might act against a strong impact of economic growth on SWB even in poor countries. And taking two of these factors in turn – relative income concerns and the weak relationship between income and improvements in the quality of life (especially in a single country over time rather than across countries) – some evidence from poorer countries does in fact suggest that the concerns are reasonably significant.
RELATIVE STANDARDS OF INCOME IN POOR COUNTRIES

The first piece of evidence on the importance of relative wealth in poorer countries comes from the history of the West. The idea of poverty as a social condition more than an absolute lack of goods is an idea that can be traced back at least to Adam Smith. He argued that the Scots were not seriously deprived without shoes whereas the English were. Why? Because Smith defined serious deprivation as that which separated one from society. In England, only the truly destitute did not wear shoes – and so the shoeless were shunned. In Scotland, many more people, including the merely poor, did not wear shoes, and so the stigma attached was less. Poverty as defined by Smith impacted happiness when it took away peoples’ ability to socialize without embarrassment. In mid-Eighteenth Century England, this level was defined by one’s ability to afford footwear. The minimum wage that Smith supported for England was meant to overcome this problem by providing everyone with enough income to buy shoes. But in Scotland, such a minimum wage could be set lower, because an inability to afford shoes was no great sign of poverty.

At the other end of the scale, Smith already felt that there was an absolute maximum of income (a ‘full complement of riches’) beyond which there could not be desire for more money. Indeed, he argued that large landholders of the time had already reached that limit (Smith, 1993). Smith's writings suggest a very low level of income is necessary to move from absolute to relative income concerns – he was writing at a time when the GNP per capita of the United Kingdom was well below $1756.8

More broadly, happiness, pleasure and relative wealth have been a topic of discussion since at least the earliest Western philosophy. Aristotle, for example, praised the importance of wealth in the good life, but mainly as a way to allow one to be generous to the less fortunate – a relative concern. And the idea that that happiness can be limited to only a few – although frequent – has been far from universal. If a high level of national income was required for happiness, this would be surprising.
The extent to which relative income concerns dominate absolute income concerns, and the extent to which income is a concern at all, in today’s poorer countries is an area in need of further study. But recent surveys might shed some light on the issue.

The first survey involved 566 households living in the areas around six cities in Tanzania (World Bank, 1999a). From the survey we have respondents’ answers to their self-reported income grouping, chosen from the following categories: very poor, poor, average, rich, very rich. Not one of the respondents categorized their household as very rich. Figure 1 displays the percentage breakdown of answers amongst the remaining categories for each of the six cities.

The peri-urban areas on the chart are ordered from left to right in terms of average wealth, from that around Lindi, with an average household income of 220,000 Tanzanian Shillings a year (approximately US$330), to the area surrounding Arusha, with an average household income of 1,420,000 Shillings a year (US$2120). It is clear that the relationship between increased average income and increased feelings of wealth are weak. First, despite this sixfold difference in average income between these two areas, the proportion of people from around Arusha who feel rich is almost the same as around Lindi. And second, going from Lindi (220,000 shillings average income – about a dollar a day – to the region around Dar es Salaam (average yearly income of 1.34 million shillings, or about $2000), the percentage of people who feel poor or very poor actually increases.

Figure 2 (see also Table I) shows what the average respondent in each area thought a ‘very poor’ income was up through a ‘very rich’ household income. While there are clearly other factors at work, the average income of the area itself appears to be one determinant of definitions of a healthy income. That a higher average income does not lead to more people classifying themselves as rich, and that a higher average income does increase the amount that people see as necessary for wealthy status are both pieces of evidence in favor of relative income concerns operating even in poor developing countries.
More evidence for a relative (and highly flexible) definition of poverty in poorer countries comes from the collapsing Russian economy, which saw 6 years of economic decline and increasing income inequality 1990–1996.\textsuperscript{10} Between March 1993 and September 1996, real incomes fell somewhere in the region of 14 or 20\%. Yet the number of people who said that they categorized themselves as poor fell from around 80\% to below 60\% over that period (Milanovic and Jovanovic, 1999).

\begin{figure}[h]
\centering
\includegraphics[width=0.8\textwidth]{figure1.png}
\caption{Self-percieved income status in Tanzania.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=0.8\textwidth]{figure2.png}
\caption{Perceptions of wealth in Tanzania.}
\end{figure}
These country studies find echoes in earlier work by both sociologists and anthropologists in LDCs. Cantril (1965) in an early cross-country study found an anecdotal definition of what was required for a decent standard of living that was highly correlated with national income. And anthropologists working in less developed countries (much like Adam Smith thinking about 18th Century Britain) have always seen poverty not as the possession of few goods, or some relationship between means and ends, but about relative concerns and social relationships – poverty as part of a social status (Geremek, 1997).

Again pointing to strong social elements in the misery of poverty, a recent study of local attitudes to poverty in rural Tanzania found that the terms used to describe people at different levels of wealth avoided moral or character judgements except for at the extremes – for the very rich, both respect and envy, while the very poor were despised. Language included ‘those who are lions’ and ‘those who set the prices’ for the very rich, ‘a person who has risen a bit’ for the rich ‘ordinary folks’ for the average category, ‘those who sleep tired’ for the poor and ‘a stupid fool’ for the poorest (Narayan, 1997). A broader World Bank study also supports this. A 50-country survey of 40,000 people entitled ‘Voices of the Poor,’ it asked a range of questions about how those in poverty viewed their needs and problems. While the lack of physical goods, and the lack of basic services such as health and education were seen as central, a repeated theme was that of social exclusion. Exclusion was both part of poverty and perpetuated poverty by denying the poor access to services and opportunities – much the same as the status of being shoeless in Adam Smith’s England.

### TABLE I
Average and standard deviation of average views of income in Tanzania (million shillings)

<table>
<thead>
<tr>
<th></th>
<th>Very poor</th>
<th>Poor</th>
<th>Average</th>
<th>Rich</th>
<th>Very rich</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>0.34</td>
<td>0.73</td>
<td>2.02</td>
<td>7.63</td>
<td>16.86</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.29</td>
<td>0.50</td>
<td>0.97</td>
<td>2.36</td>
<td>6.23</td>
</tr>
</tbody>
</table>
A final study looking at income and life satisfaction in LDCs took perhaps the most extreme case – people living in Calcutta from the three groups of slum-dwellers, sex workers and the homeless. The mean family income for these groups was US$60 per month. The study notes that that the people in this group “appeared to be neutral, or slightly dissatisfied, overall, suggesting that poverty is a condition to which people do not completely adapt. However, scores were not as low as one might expect based on living conditions.” Income was strongly correlated with SWB (although not, interestingly, with income satisfaction), but other factors – in particular the strength of social and family relationships – appear to be important in explaining the relative contentment of slum-dwellers over sex workers and the homeless. The study concluded that “even in the face of adverse circumstances these people find much in their lives that is satisfying.”

There is strong evidence from LDCs, then, that poverty is to some extent a relative concept even in the poorest countries. This stands against Ahuvia and Friedman’s claim that poverty standards in developing countries are set according to global ideas of wealth and poverty – it appears that they are set at least to an extent by the wealth of those closer to home. (Although it should be noted that this evidence is far from strong enough to say that there is no concern with absolute income in poor countries.) There is also evidence from the extreme example of the slums of Calcutta that factors unconnected with income remain very important in determining SWB and that the link between objective income and income satisfaction is weak even in the most poverty-stricken of cases.

QUALITY OF LIFE AND INCOME

What of Ahuvia and Friedman’s second reason for expecting a close relationship – that health and democracy (for example) are causes of happiness, and they themselves are caused by income growth in countries? There is certainly some evidence that factors such as health and living in a democracy do lead to happier lives. Further, as we have seen, a number of studies
have found that, at a particular point in time, rich countries are healthier and more democratic.

However, even in poorer countries at a snapshot in time, GNP per capita is a fairly weak proxy for many of the things commonly associated with the good life. Take the prerequisite of life itself, for example. Looking at Mozambique, China and the US, Mozambique’s GNP per capita in 1992 was about 0.3% of the United States’, while China’s was 1.9%. But in terms of average life expectancy, Mozambique’s was 62% of the United States’, and China’s was 91%. Going 1.6% of the distance between Mozambique and United States in terms of wealth, so reaching China’s income, we move 76% of the distance in terms of life expectancy (Kenny, 1999).

Even these figures do not answer the more important question for our purposes, which is does increasing income improve these quality of life measures within a country over time? The intriguing answer to that question presented in Easterly (1997) is that life does not get better with growth, but with time. Looking at variables commonly associated with the quality of life (infant mortality, life expectancy, war deaths per capita, democracy), their rate of improvement in a country is not correlated with the rate of economic growth in that country, but with improvements over time common to all countries. Rich countries may have a better quality of life, but countries getting richer faster do not get an improved quality of life faster. Providing similar evidence, Ingram (1992) reported a sharp convergence over time in life expectancy, infant mortality, child mortality and primary education rates across countries in a global sample – even as incomes were diverging (see also Kenny, 2004, covering a wider range of indicators).12

To take one specific example, over the long term, life expectancy in Japan increased from below 40 years in 1900 to a little below 80 years in 1990. In India, the same statistics are around 23 years to near 60 years. In percentage terms, then, India’s health performance over that period has been significantly better. Not so, of course, its economic performance – Japan has seen a per capita increase in income of over 1500% growth compared to India’s 110% (from Maddison, 1995).
It appears, then, that Ahuvia and Friedman make an assumption in linking the rate of economic growth with improvements in the quality of life in poor countries (as measured by factors such as life expectancy, infant mortality, calorie intake, measures of political rights and education) that is not as clear-cut as it might first appear. Combined with the apparent strength of relative income concerns even within developing countries, this might suggest that the relationship between economic growth and changes in SWB might be fairly weak in developing countries, much as it is in developed countries.

On the other hand, there already is some within-country cross-sectional evidence from poorer countries suggesting an income–SWB link. Myers and Diener (1997) cite surveys in India and Bangladesh where satisfaction with finances is a reasonable predictor of wellbeing. This, of course, is not the same as changes in actual finances and changes in SWB – and might also be the result of the effects of relative income – but it is some support. The next sections attempt a deeper analysis of the income–SWB link to discover if an absolute relationship is in fact present in poorer countries.

DATA

The World Database of Happiness, overseen by Ruut Veenhoven at the University of Rotterdam (Veenhoven, 1999), is the premier resource for researchers in this area. All of the data from SWB surveys used in this study comes from this source. Mean country results were taken from all of the developing countries in the database that had two or more surveys based on three, four- or five-step verbal SWB ratings (more than one study per country was necessary to allow for the study of the relationship between GNP/capita growth and SWB growth). This left a cross-country SWB database with 62 observations covering 21 countries: Argentina, Belarus, Brazil, Bulgaria, Chile, China, Estonia, Hungary, India, Latvia, Lithuania, Mexico, Nigeria, The Philippines, Poland, Romania, Russia, Slovenia, South Africa, South Korea and Turkey.
Constant dollar purchasing power parity GDP figures come from the World Bank’s database (1999b). These reveal that the country sample is on average a fairly rich set of LDCs (only three are classified as low-income by the World Bank, with a GNP per capita of under US$760). Nonetheless, the data set should provide a better test of the relationship between income growth and SWB growth in poorer countries than the datasets based largely or exclusively on OECD countries that (to the best of my knowledge) have been used exclusively in time series studies up to now.

METHOD

In cross-country studies, it is frequently found that people in poor countries on average are less happy than those in rich countries (Veenhoven, 1994). However, the correlation is weak even then – splitting the sample between rich and poor countries removes the significance of the relationship (Kenny, 1999), and such evidence has many flaws (see Ahuvia and Friedman, 1998; Kenny, 1999; Diener and Oishi, 2000). As we have seen from evidence on measures of quality of life, that income across countries at a single point is correlated with a factor does not necessarily mean that growth in income is correlated with growth in that factor within a country over time. Further, whilst life expectancy has the same meaning worldwide, it is not completely clear that questions such as ‘taking your life as a whole, would you consider it very happy, somewhat happy, or not happy at all’ will be taken in the same way across language and culture barriers. This is why the results presented in this paper will involve within-country comparisons over time.

The first method employed will be simple, given the limited data. It will be to take average SWB and GNP per capita scores for different years within a single country and to calculate the correlation coefficients between changes in one variable and the other within that country.¹⁴ The second method (similar to one employed in Kenny, 1999) will use ordinary least squares regression analysis with SWB as the
dependent variable and growth as the independent variable, with fixed effects for each country but a common coefficient for growth. Using this method, we will also be able to add a time dummy to see if the growth effect can be separated out from the impact of other variables possibly related to SWB that have also improved over time. We know that income is increasing over time, but so are a number of other variables not necessarily ‘caused’ by increasing income – such as life expectancy. It might be that improvements in such a correlated but not causally related variable is what lies behind the income–SWB result, but the data is too weak to directly test such a theory. Using a time dummy is a ‘catch all’ technique to measure this effect.

It should be noted that these methods are in some ways poorly designed as a test of Ahuvia and Friedman’s first proposition – that there is a global standard when it comes to material needs, and this makes those in poor countries less happy. The methods chosen here will miss any ‘fixed effect’ of initial income and initial SWB. On the other hand, if there is such a ‘global standard’ of material needs, those countries that grow fast will move closer to the standard than those countries that grow slowly, and should thereby increase their SWB. The methods should, then, capture at least some of the ‘global standard’ effect.

Further, despite the preferability of time series over purely cross-country methods, this exercise will suffer from the same potential faults as past exercises in this area. Any study that uses cross-country time-series evidence to however limited a degree raises questions about states of happiness being understood in similar ways across time and culture. Added to this, the data for developing countries is likely to be even more fragile than that for developing countries. This is an especially significant problem given that SWB in countries does not change greatly over time (the average standard deviation of SWB across time within our countries is 0.28, compared to a standard deviation of average scores across countries of 0.65). Thus, any result presented here should be taken as the most preliminary of findings.
The results are presented in Tables II and III. Number of observations lists the number of SWB polls available for that country. The correlation is reported as positive (+) if when income increased, SWB increased (or both fell together), zero (0) if either income or SWB did not change and negative (−) if

### TABLE II
The relationship between happiness, economics in developing countries

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of observations</th>
<th>Sign and significance of income–happiness correlation</th>
<th>Period</th>
<th>Income Ave</th>
<th>Income Std. dev.</th>
<th>Happiness Ave</th>
<th>Happiness Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>2</td>
<td>−</td>
<td>5</td>
<td>7610</td>
<td>636</td>
<td>6.97</td>
<td>0.02</td>
</tr>
<tr>
<td>Belarus</td>
<td>2</td>
<td>+</td>
<td>7</td>
<td>2350</td>
<td>368</td>
<td>5.49</td>
<td>0.44</td>
</tr>
<tr>
<td>Brazil</td>
<td>4</td>
<td>−</td>
<td>21</td>
<td>3938</td>
<td>506</td>
<td>7.00</td>
<td>0.20</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>2</td>
<td>+</td>
<td>6</td>
<td>1520</td>
<td>151</td>
<td>4.84</td>
<td>0.01</td>
</tr>
<tr>
<td>Chile</td>
<td>2</td>
<td>+</td>
<td>6</td>
<td>2616</td>
<td>641</td>
<td>6.89</td>
<td>0.08</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
<td>+</td>
<td>6</td>
<td>264</td>
<td>153</td>
<td>6.72</td>
<td>0.11</td>
</tr>
<tr>
<td>Estonia</td>
<td>2</td>
<td>−</td>
<td>6</td>
<td>3871</td>
<td>738</td>
<td>5.78</td>
<td>0.08</td>
</tr>
<tr>
<td>Hungary</td>
<td>4</td>
<td>+</td>
<td>14</td>
<td>4025</td>
<td>582</td>
<td>6.14</td>
<td>0.44</td>
</tr>
<tr>
<td>India</td>
<td>4</td>
<td>+</td>
<td>21</td>
<td>252</td>
<td>54</td>
<td>6.13</td>
<td>0.66</td>
</tr>
<tr>
<td>Latvia</td>
<td>2</td>
<td>−</td>
<td>6</td>
<td>3415</td>
<td>776</td>
<td>5.68</td>
<td>0.25</td>
</tr>
<tr>
<td>Lithuania</td>
<td>2</td>
<td>−</td>
<td>6</td>
<td>2453</td>
<td>534</td>
<td>5.57</td>
<td>0.05</td>
</tr>
<tr>
<td>Mexico</td>
<td>4</td>
<td>+*</td>
<td>21</td>
<td>2925</td>
<td>306</td>
<td>6.78</td>
<td>0.37</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2</td>
<td>+</td>
<td>6</td>
<td>240</td>
<td>32</td>
<td>6.76</td>
<td>0.35</td>
</tr>
<tr>
<td>Philippines</td>
<td>3</td>
<td>+</td>
<td>17</td>
<td>1031</td>
<td>100</td>
<td>6.97</td>
<td>0.71</td>
</tr>
<tr>
<td>Poland</td>
<td>4</td>
<td>+*</td>
<td>7</td>
<td>2790</td>
<td>231</td>
<td>6.61</td>
<td>0.43</td>
</tr>
<tr>
<td>Romania</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1564</td>
<td>209</td>
<td>5.85</td>
<td>0</td>
</tr>
<tr>
<td>Russia</td>
<td>2</td>
<td>+</td>
<td>5</td>
<td>2988</td>
<td>674</td>
<td>5.47</td>
<td>0.05</td>
</tr>
<tr>
<td>Slovenia</td>
<td>2</td>
<td>+</td>
<td>4</td>
<td>9081</td>
<td>619</td>
<td>5.76</td>
<td>0.40</td>
</tr>
<tr>
<td>South Africa</td>
<td>7</td>
<td>−</td>
<td>15</td>
<td>3582</td>
<td>191</td>
<td>6.32</td>
<td>0.52</td>
</tr>
<tr>
<td>South Korea</td>
<td>4</td>
<td>+</td>
<td>17</td>
<td>5112</td>
<td>2655</td>
<td>6.33</td>
<td>0.51</td>
</tr>
<tr>
<td>Turkey</td>
<td>2</td>
<td>+</td>
<td>6</td>
<td>2238</td>
<td>351</td>
<td>7.26</td>
<td>0.22</td>
</tr>
</tbody>
</table>

% positive 67%

Notes: * Significant at 5%.

* Average of available data 1970–1996.
when income increased SWB fell (or vice-versa). For countries with more than two observations, where it is possible to calculate the statistical significance of the correlation, a star denotes significance at 5%. The last four columns give average and standard deviation statistics for the SWB and income variables available for that country. The period column provides information on the number of years between the first and last SWB poll in the sample.

On the positive side, suggesting a relationship, 71% of country correlation coefficients are of the expected sign – increased income went along with increased SWB (or vice versa). If we limit our sample to countries with more than two polls, this rises to 88% of countries. For countries with more than two polls, where we can calculate the chance that the correlation is statistically significant, significant relationships are positive between income and SWB in Poland and Mexico (they are not significant in the remaining six cases). Results in Table III suggest that there is a positive relationship between SWB

### TABLE III
Regression analysis of happiness against growth

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP/capita</td>
<td>0.000122</td>
<td>6.00E-05</td>
<td>2.029676</td>
<td>0.0494</td>
</tr>
<tr>
<td>(R^2)</td>
<td>0.771608</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted (R^2)</td>
<td>0.645392</td>
<td>S.D. dependent var</td>
<td>0.672591</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.400521</td>
<td>Sum squared resid</td>
<td>6.095863</td>
<td></td>
</tr>
<tr>
<td>Durbin–Watson stat</td>
<td>6.571473</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| GDP/capita      | 8.53E-05    | 6.01E-05   | 1.419015    | 0.1643 |
| \(R^2\)         | 0.020108    | 0.009648   | 2.084293    | 0.0441 |
| Adjusted \(R^2\) | 0.795607    | Mean dependent var | 6.316500 |        |
| S.E. of regression | 0.674075   | S.D. dependent var | 0.672591 |        |
| Durbin–Watson stat | 0.383981  | Sum squared resid | 5.455337 |        |

The period column provides information on the number of years between the first and last SWB poll in the sample.
and growth over time across countries significant at 5%. The coefficient suggests that, if there was a causal relationship, increasing income from India’s to Slovenia’s (USD 252–USD 9081 – from lowest to highest in the sample) would increase SWB on a 10-point scale by a little over 1-point.

However, adding a time dummy to the equation, the dummy enters significantly and knocks out the GDP per capita measure (although this remains positive). This suggests that the earlier results may well be capturing the impact of non-income variables that have also improved over time – life expectancy or education are possible candidates.

CONCLUSION

There are reasons to believe that there are flaws in some of the common reasons given for a closer relationship between income growth and SWB in developing economies. The studies of relative income and income-quality of life outcomes in developing countries also suggest the importance of taking a broad view of development outcomes and of social aspects of poverty because a sole concern with GDP per capita will miss this broader agenda. This paper presents some fragile results that suggest at least some relationship between income growth and increases in SWB in poorer countries. The results are fragile, however, and do not survive a test of the theory that some non-income factor might be behind an increase in average life satisfaction in developing countries over time.

We cannot be sure of this conclusion for the poorest countries. All three low income countries in the sample saw a positive income-SWB relationship – although this is very sparse data which does not allow for properly testing the role of non-income factors. A 1975 cross-country poll reported in Kenny (1999) suggested that there was a significant relationship between income and SWB below a $1000 GNP per capita, and the evidence presented here suggests no reason to lower that barrier (even while the data presented on Tanzania and Calcutta suggests relative and non-income concerns are significant even in the poorest countries). Nonetheless, if improvements in SWB are
taken to be a good measure of utility, and increasing utility is the purpose of development, the results suggest that many countries currently considered developing have developed quite enough.

NOTES

1 Apparently, this preoccupation with misery is not shared by the public at large (at least, that part of it which constructs websites). Entering ‘happiness,’ ‘satisfaction,’ and ‘joy’ in turn into the Altavista search engine produces 7,009,462 total hits, compared to 3,970,209 for ‘anxiety,’ ‘depression,’ and ‘misery.’

2 Diener and Oishi (2000) have tried in-country comparisons over time for three LDCs (finding a weakly positive relationship), but their technique did not allow for a broader analysis.

3 Recently, two studies have suggested another result. Using different data and conditioning sets (although broadly similar statistical techniques and country samples) both Tella et al. (1997) and Hagerty and Veenhoven (2003) find a significant relationship from growth to SWB – if one that explained a small part of the total variation in happiness. Tella, MacCulloch and Oswald find this allowing for inflation and unemployment effects, while Hagerty and Veenhoven use a longer-period data set. Despite these findings, the fact that broadly similar techniques and samples come up with different results suggests the fragility of all of our results – and the reason for this is the (at least markedly limited) impact of growth on SWB in rich countries. If there were a strong relationship, it would be simple to replicate strong statistical results (see also inconsistent results presented in Diener and Oishi, 2000).

4 A recent study in the UK shows the underlying process ‘in action.’ Between 1983 and 1999, the number of people who thought that having a friend or family visit for a meal was something that ‘everybody should be able to afford and which they should not have to do without’ increased from 32 to 65%. Having a telephone was judged a necessity by 43% of people in 1983 and 72% in 1999. Other items increasingly seen as necessary included computers, video recorders, dishwashers, cars, and going out for a meal (The Times, 9/11/00).

5 Although several predictions based on the relative income hypothesis have also been found untrue in rich-country surveys – such as that people are happier if surrounded by people poorer than themselves and they are not less happy when poorer than their neighbors (Ahuvia and Friedman, 1998).

6 These are goods that have value in large part because their scarcity limits them to the richest whatever the average level of income. Servants are one example.

7 A similar idea regarding the signals of poverty was propounded by the 19th Century British philanthropist F.F. Urquhart. He argued that the
reason for declining relations between the classes in England over the course
of the century was the increasing propensity of the upper classes to wash
whilst the poor remained bathless. Class differences became far more
apparent when they could be associated with significantly different odors.
As the rich could not be persuaded to desist from bathing, Urquhart's
ingenious solution to stave off class warfare was to go about the country
building Turkish baths in poor neighborhoods (Kenny, 1997).

8 Smith's writings are mid 18th century, this figure is for British GDP per

9 Some of this might be explained by a different distribution of incomes in
the two areas – and sadly, I do not yet have statistics available on that.
Nonetheless, for a region to have more than five times the average income of
Lindi, no more people rich and yet more people poor on some absolute
standard would take interestingly skewed distributions of income in both
Lindi and Dar.

10 From 1990 to 1993, the average GDP growth rate averaged about – 8% in
the Soviet Union. At the same time, the income share of the bottom four
quintiles fell about 5% as the richest quintile's share increased 20% (World
Bank, 1996).

11 One commentator on this paper argued that this refers to low income, not
poverty, and that estimates of poverty defined as income where basic needs
cannot be met would be quite resistant to relativity effects. I would argue
that the definition of 'basic needs' is also relative. In Tanzania, the majority
of people own shoes. According to Smith, they would not be destitute. Yet
few anywhere in the world would argue today that Tanzania's citizens have
access to basic needs. While a resident of Lindi might feel that those living in
Arusha, with an average income six times higher, had likely met 'basic
needs', no American would feel that way living on a little over $2000 a year.

12 The explanation for such a surprising set of results might be that tech-
nological advance is allowing for a better quality of life at the same income
much more rapidly than increasing incomes allow for improvements, but
this is an issue in need of further study. Lag effects might be important, for
example.

13 To make the results from different survey methodologies comparable, the
10-point comparison range from the database was used. While realizing the
significant problems involved in comparing answers to different questions
(see Diener and Oishi, 2000), I had little choice given the limited data.

14 For example, if a country has two happiness observations, a 1970 average
country happiness score of five when GDP per capita was $1000 and a 1980
average country happiness score of four when GDP per capita was $2000,
the correlation coefficient will be –1 (there is a perfectly negative relation-
ship between changes in income and changes in average happiness). With
more than two happiness polls the coefficient can take values other than 1, 0
or –1.
REFERENCES


Kenny: 2004, ■


UNDP: 1999, .


World Bank: 1999b, World Development Indicators (World Bank, Washington, DC).


The World Bank
1818 H St NW
Washington, DC 20413
USA
E-mail: ckenney@worldbank.org