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EMPIRICAL LINKAGES BETWEEN GOOD GOVERNMENT AND NATIONAL WELL-BEING

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ABSTRACT

This paper first reviews existing studies of the links between good governance and subjective well-being. It then brings together the largest available sets of national-level measures of the quality of governance to assess the extent to which they contribute to explaining the levels and changes in life evaluations in 157 countries over the years 2005-2012, using data from the Gallup World Poll.

The results show not just that people are more satisfied with their lives in countries with better governance quality, but also that actual changes in governance quality since 2005 have led to large changes in the quality of life. For example, the ten-most-improved countries, in terms of delivery quality changes between 2005 and 2012, when compared to the ten countries with most worsened delivery quality, are estimated to have thereby increased average life evaluations by as much as would be produced by a 40% increase in per capita incomes.

The results also confirm earlier findings that the delivery quality of government services generally dominates democratic quality in supporting better lives. The situation changes as development proceeds, with democratic quality having a positive influence among countries that have already achieved higher quality of service delivery.

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Part I: Setting the Stage

In this first part we start by setting out what we shall cover by way of measures of well-being, then describe our selected measures of the quality of government, and finally consider different ways of measuring the theoretical and empirical linkages between good government and well-being. We then review and expand the available evidence at the national level.

Measures of well-being

Our primary interest is in measures of subjective well-being, and especially in how people value their own lives. Within the general term 'subjective well-being' there are three main categories: life evaluations, measures of positive affect (or emotion) and measures of negative affect (or emotion). The most widely available comparison of these three types of subjective well-being is provided by the Gallup World Poll, and summarized in the *World Happiness Report* and the *World Happiness Report 2013*. The Gallup World Poll life evaluation asks respondents to think of their lives as a ladder, with the worst possible life for them as 0, and the best possible life as 10. They are then asked to use this scale to evaluate their current lives. The other major life evaluation questions also use scales with 10 as the highest score, and ask about each respondent's life satisfaction, or, alternatively, about how happy they are with their life as a whole. It was at one time thought, on the basis of comparing data drawn from different samples of respondents, that these alternative forms of life evaluation gave significantly different results, with income (and possibly other life circumstances) being most closely linked to the Gallup ladder, less so with life satisfaction, and least with general happiness[1]. However, it has since been found that all three types of life evaluation give structurally comparable answers when asked of the same respondents. This has been shown by comparing Cantril ladder and life satisfaction responses in the Gallup World Poll, and by comparing life satisfaction and happiness responses in the European Social Survey. Although these different questions give rise to unequal means and different distribution shapes for within-country responses, they tell the same structural story, both within and across countries, so much so that more precise estimates can be obtained by using the averages of two different measures[2].

Although different life evaluations are similar to one another, as a group they differ markedly from measures of positive and negative affect[3]. There is also a difference between positive and negative affect, with the former having a much stronger link to life evaluations than is true for negative affect[4]. In the health sciences, measures of affect, and especially of depression and other measures of negative affect, have been used much more widely than life evaluations. This is partly because only in recent decades has research accumulated showing that future health and life circumstances are more closely linked to positive than to negative emotions[5]. Life evaluations are now being considered, along with positive emotions, and the more usually monitored negative emotions, as part of baseline patient monitoring by family doctors.

Measures of affect are more widely used than are life evaluations in the context of studies of time-use,

[1] See Diener et al (2010) Table 1.2.
[2] This is reported in Helliwell et al (2010) Table 10.1 for the ladder and life satisfaction in the Gallup World Poll, and in Helliwell & Wang (2012, p. 16) for life satisfaction and overall happiness in the ESS.
[3] See Helliwell & Wang (2012).
[4] See Helliwell & Wang (2013) Table 2.1.
[5] See De Neve et al (2013).

since moods are more sensitive to changes in the hourly and daily patterns of life[6].

The OECD has recently issued guidelines for the collection of subjective well-being data by national statistical offices. The guidelines advise collecting all three types of subjective well-being data, along with a range of variables important for their understanding, within each country's established systems of population-based individual and household surveys[7]. If there can only be a single measure, preference is given for a life evaluation, in the form of a life satisfaction question on a 0 to 10 scale. The reasons for concentrating on a life evaluation are the same as those presented in the first *World Happiness Report*, where a whole range of national-level life evaluations and affect measures were assembled and compared. The first reason is that while emotions vary a lot among individuals, variations are relatively smaller at the national level[8]. Second, and even more importantly, a much higher proportion of the international variation in life evaluations, compared to either positive or negative affect, is explained by differences in established measures of the quality of life[9].

Although the collection and use of subjective well-being data as central measures of the quality of life have become increasingly accepted over the past two decades, there remains some uncertainty, and occasionally controversy, about how these data should augment, complement or even supplant other national-level outcomes often taken to capture how well a nation is doing. The two main alternative types of well-being measure are GDP per capita and some weighted combination of a broader range of measures of human development. Per capita incomes have been held to be insufficient because they fail to account for important aspects of the economy, fail to cover a variety of non-economic features of life, and neglect sustainability[10].

The UNDP has championed a broader human development approach, under the intellectual leadership of Amartya Sen, with the UNDP's Human Development Index (HDI) as the primary measure. Jon Hall has argued that the human development approach and the HDI are complementary with subjective life evaluations, since the latter are influenced by the key underlying supports for the human development approach, while also providing an umbrella measure that avoids the need for experts to choose weights on the components of the HDI or any alternative well-being index[11]. The HDI and subjective well-being measures share the benefit of broadening government and private discussions of national objectives and the policies best able to support better lives. A side benefit of these broader discussions may be the development of cross-government discussions and increasing trust and collaboration among departments.[12]

Subjective well-being, and especially the notion of happiness as a sufficient measure of well-being, has been criticized as being too subject to adaptation, peer effects, survey context[13], and to lack due

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[6] See Krueger (2009) and Helliwell & Wang (2014).

[7] See OECD (2013) and Durand & Smith (2013).

[8] Thus of all the global variation among individuals in their responses to the Cantril ladder life evaluation, 22% was among countries (and hence 78% among individuals in the same country), compared to 7% among countries for positive affect and 4% for negative affect. See Table 2.1 in the first *World Happiness Report*.

[9] For a sample of 732 national observations, comprising several annual average observations from each of 149 countries, three-quarters of the pooled variance of the Cantril ladder is explained by six key variables. This is to be compared with less than one-half for positive affect and less than one-quarter for negative affect. See Table 2.1 of *World Happiness Report 2013*. Table 3.1 of the first *World Happiness Report* shows a similar result for cross-sections of national averages.

[10] All three of these points are made in Stiglitz, Sen & Fitoussi (2009).

[11] In Hall (2013).

[12] This point is made more fully in Hall & Rickard (2013, p.16).

[13] Deaton (2012) emphasizes the potentially swamping effect of these effects by reference to whether life evaluations in the Gallup Daily Poll were asked after a set of political questions that sharply reduced life evaluations. Similarly, Bonikowska

attention to the basics of a good life. These are all important points, but recent research tends to suggest that none of these problems are fundamental[14].

Amartya Sen has argued that happiness as an emotion is likely to be too narrow and short-term to be an adequate reflection of a good life. For that, he argues, a broader notion of happiness is needed- as a judgment about life as a whole. There are now sufficiently broad samples of both sorts of happiness measure to support the linguistic distinction made by Sen[15]. When people are asked about happiness yesterday, or right now, they take it as a question about emotions, and answer accordingly[16]. Conversely, when they are asked how happy they are with their lives as a whole, they make a cognitive judgment and answer appropriately[17]. Thus, as we have already noted, life evaluations, whether expressed in terms of happiness or satisfaction with life, do reflect the broader aspect of human development, while reports about happiness yesterday are emotional reports that are less reflective of longer-term life circumstances.

Thus for the purposes of assessing the links between good governance and well-being, we rely, as has most earlier research, on life evaluations as the preferred measure of well-being. However, since much previous research has looked at links between good governance and some other variables that might be presumed to improve well-being, we shall do the same where it rounds out the available evidence in a helpful way. We shall not attempt to survey the vast literature linking various types of institutions, including especially government ones, to either the levels or rates of change of GDP per capita[18]. We shall, however, when explaining the correlations between governance and subjective well-being, try to assess the extent to which economic growth is a mediating factor.

Measures of government quality

For the national-level statistical analysis we need government quality measures that have been collected in comparable ways for many years and covering the largest number of countries. The most important of these are the six composite measures proposed and reported as part of the World Bank Worldwide Governance Indicators (WGI) Project[19]. There are six measures, which we divide into two groups[20]. The first group contains four measures primarily concerned with the quality of the delivery of

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et al (2013) show a variety of contextual effects on answers to the life satisfaction question in several large Canadian surveys. However, the paper also shows how it is relatively easy to measure and adjust for these contextual effect, and thus to effectively combine data from different surveys and survey contexts.

[14] For a summary of the evidence on each of these issues, see Helliwell & Wang (2012). See also Diener et al (2009), especially Chapter 5.

[15] In his keynote address (http://www.auditorium.com/eventi/5495077) to the January 2013 Rome Science Congress. His primary reference was to the later Wittgenstein (1953), with roots attributed to Gramsci via Sraffa, as described in Sen (2003).

[16] The UK Office for National Statistics happiness question is of this form.

[17] Thus, as already noted, the life satisfaction and overall happiness answers in the European Social Survey are both determined, in consistent patterns, by the same life circumstances.

[18] For a wide-ranging review of that literature, see Acemoglu & Robinson (2012).

[19] The Worldwide Governance Indicators (WGI) are a research dataset summarizing views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms. See Kaufmann, Kraay & Mastruzzi (2009). http://info.worldbank.org/governance/wgi/index.aspx#home

[20] Langbein & Knack (2010) argue that these six measures of government quality draw heavily from overlapping and connected sources of data, and are hence hard to distinguish as six separate factors. They present principal components analysis (2010, Table 2) showing that the first principal component has equal weights on the four variables we have used to

government services: government effectiveness, regulatory quality, rule of law, and the control of corruption. The second group of two indicators measures the state of democracy: the first covering voice and accountability, and the second political stability and absence of violence. As we shall see, this aggregation of the six indicators into two gives us one variable capturing the quality of the delivery of government services, and the other more closely capturing aspects of the electoral process. Previous studies have found the former to be more closely linked to subjective well-being than the latter, to an extent that differs for countries at different stages of development. We shall in the following sections summarize these and other past results, and see to what extent they are supported by the larger samples of global data now available[21].

We shall pay special attention to various measures of trust, including measures of social and domain-specific trust, which have been shown to be strong supporters of well-being, as well as selected measures of trust in government, which is in its own right an important measure of the quality of governance.

What connects good government to well-being?

Does good government improve well-being directly, or does it act mainly or entirely indirectly, because of what it can achieve by way of other outcomes? Or, more plausibly, does it work in both ways? Examples of both possibilities may be found. Consider education, as a particular example of a service typically delivered or assured to children, and often to adults, by local or national governments. Across countries there is a strong positive correlation between average education levels and subjective evaluations of life. Yet when allowance is made for each respondent's income, health and social trust, the remaining positive link between education and subjective well-being usually disappears, and sometimes turns negative. The theoretical interpretation of this sort of result is that education plays primarily an instrumental role in improving happiness.

For an alternative example, consider the control of corruption, which has been shown to affect well-being both directly and indirectly. Absence of corruption has often been shown to increase the efficiency of public and private enterprise, but there is also lots of evidence that the higher levels of general and specific trust make people happier above and beyond the higher incomes and better health that may be achieved in a high-trust environment[22].

To help to distinguish direct from indirect linkages between good governance and well-being at the national level, we shall consider two main types of correlational evidence, first the simple relations and then models that attempt to sort out the likely channels of influence. Both types of comparison are sometimes difficult because measures of governance and of national well-being are often relatively slow-moving, and governance and well-being are both likely to be influenced by some of the same factors. Thus the global evidence may show a whole range of good and bad things tending to go together, with plausible reasons why that should be so. In these circumstances, it is difficult to establish

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comprise delivery, while the second and third components give weight instead to the two measures we combine to represent democratic quality. Hence their analysis supports our division.

[21] In Helliwell et al (2014, Table 12) we also test the Freedom House measures of democratic quality, press freedom and economic freedom, and find that they do not add to or alter the main findings reported here.

[22] See Helliwell & Putnam (2004) Table 1 for results showing that several types of trust have positive impacts on life evaluations even after allowing for their possible instrumental roles acting through education, health, social connections and income. The evidence includes multicountry modeling based on the World Values Survey, and national modeling based on U.S. and Canadian surveys.

clearly the direction and size of causal forces. From time to time, of course, extraneous events or structural changes can be treated as natural experiments, thus increasing confidence about the direction and scale of influence.

In our attempts to disentangle the links between good governance and well-being, we shall pay special attention to models that use changes in the quality of governance to explain changes in well-being. Analysis of changes enables us to abstract from a whole range of country-specific histories that may have led some countries to have high quality governance and high levels of well-being. It also provides a greater degree of policy relevance, as it can potentially reveal where improvements of governance have been made, and perhaps to establish the extent to which they provide useful lessons for others.

Earlier studies often used economic outcomes to link good governance and well-being

Before broader measures of well-being were sufficiently widely measured and understood, the effects of good governance were usually assessed by searching for linkages between governance and economic outcomes, and treating these economic outcomes as proxies for well-being more generally. Traditionally, there have been two models used to describe how good governance could improve economic well-being. The first is a market-enhancing governance approach viewing governance as effective if it helps to foster strong property and contract rights and a stable rule of law. This is presumed to keep transaction costs low to permit private individuals and entities to increase their own utility and economic potential, and hence to improve general well-being. The second traditional model is a growth-enhancing governance approach. It viewed good government as that which fostered economic growth by managing incentives to enhance productivity and help shift activity to more economically productive endeavors with the underlying assumption that such productivity would lead to increased well-being.

However, both of these approaches assume economic outcomes to be the sole intermediate links between good governance and improved well-being. This assumption has increasingly been argued to be unduly restrictive. The existence of some connection between income and well-being is well established. It would therefore seem intuitive that economic growth would improve well-being. This has been questioned in two quite different ways, one emphasizing the uncertainty of the links between income and well-being, and the second arguing that other factors than income cannot be ignored, since together they might be more important than income. Especially relevant to our study of governance and well-being, governance may affect income and these other factors in quite different ways.

First, there is the proposition most famously presented by Richard Easterlin and known as part of the Easterlin Paradox[23], that as countries become richer, they might not become happier, because increased incomes cause associated increased material norms. Other scholars have found little strong evidence of a direct connection between growth and SWB in middle-income countries and theorized that this could be because increased income also is associated with "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."[24] While the Easterlin Paradox has been qualified by a variety of studies showing that when income differences are represented in proportionate terms they are frequently found to have quite comparable effects in and among countries

[23] See Easterlin (1974).
[24] See Kenny (2005).

at all stages of development[25], whether national-level average incomes and happiness move in the same or different directions depends a great deal on the countries and time periods chosen for comparison[26].

Second, the evidence and arguments supporting the use of subjective well-being do not rest on the size or constancy of the link between income and happiness, even if much literature has been directed to that issue. The primary reason for looking beyond economic outcomes is not that the linkage between incomes and happiness is insecure and variable, but that it excludes too many other things that are fundamentally important for better lives.

Another way of putting this second point is that the most fundamental explanation for the Easterlin paradox - if this paradox is represented by cases where income has risen a great deal yet average happiness has declined - is not that the effects of income on happiness are absent, or even differ among countries, but because other things critical to happiness have changed in the opposite direction. Thus it has been argued that Easterlin's widely quoted example showing much post-1970 economic growth in the United States without any increases in average happiness can be well explained by a model in which income has significant positive impacts of happiness that have been offset by declines in other key supports for well-being, including especially the declines in social trust and the quality of social connections[27]. In the same vein, when average changes in life evaluations from 2005-07 to 2010-12 are examined for 130 countries, three-quarters of the explained changes in average life evaluations were due to factors other than income, with one-quarter due to income[28]. And this period spans the largest (and unevenly distributed) economic recession in the past seventy-five years. Income changes were indeed a significant part of the story, as would be expected in such circumstances, but nonetheless other factors together played a much larger part.

Additionally, as will be discussed later in this paper, better governance improves well-being beyond any impacts it has on income or transaction costs. For example, lives are happier in communities where people feel that they can trust others, including police, neighbours, work colleagues and strangers, above and beyond the happiness that may flow from higher incomes that may be facilitated by high trust[29]. Furthermore there is substantial evidence that international differences in the quality of governance play directly into these well-being consequences, as suggested by the fact that when people are asked about the chances of a lost wallet being returned intact if found by a police officer, there is a much bigger difference in answers across nations for this variable than there is about the likelihood of a lost wallet being returned if found by a stranger or a neighbor[30]. Furthermore, differences of social trust have been found to also play a significant role in explaining other outcomes that affect well-being through a variety of non-income channels. For example, differences across countries in social trust are

[25] The Gallup World Poll data for more than 150 countries have been found to show income effects that are quite similar for countries at different levels of development (Deaton 2010, Sacks, Stevenson & Wolfers 2012, and Helliwell, Barrington-Leigh et al 2010). This stands in contrast to earlier findings based on the World Values Survey that suggested income effects to be smaller in OECD than in non-OECD countries (Helliwell 2003).

[26] See for example, Easterlin & Sawangfa (2010) and Sacks, Stevenson & Wolfers (2012).

[27] See Bartolini et al (2013). Their analysis divides the negative influences equally between declines in trust and social connections, on the one hand, and relative income effects of the sort emphasized by Easterlin.

[28] The changes from 2005-07 to 2010-12 in national average life evaluations are shown in Figures 2.5 and 2.6 of Helliwell & Wang (2013). When these changes are explained by changes in the six factors used in Table 2.1 of the same chapter, 25% of the variance is predicted by the model, with one-quarter of that coming from changes in income and the other three-quarters coming from the combined effects of changes in the other five factors. A similar model is used later in this paper to provide an updated assessment of the linkages between governance and well-being.

[29] See Helliwell & Wang (2011) and Helliwell, Huang & Wang (2014).

[30] Table 1 of Helliwell & Wang (2011) shows the international share of the variance to be about twice as high for answers about the police as it is for the parallel question relating to neighbours and strangers.

significantly correlated with differences in both traffic fatalities and suicide rates[31].

Models for the relationship between good governance and well-being

There are several types of theory that have been used to underlie linkages between good governance and well-being. In this section, and for most of the rest of this paper, we shall use life satisfaction or equivalent self-assessments of the quality of life as our primary overarching measures of well-being. Good governance may improve life evaluations either directly, because people are happier living in a context of good government, or indirectly, because good governance permits people to achieve higher levels of something else that is directly important to their well-being. Mixed cases are likely, as the implicit definition of good government is likely to include the capacity to provide instrumental support should the need arises. Hence an identified direct effect may reflect the respondent's expectation that help would be there if and when it was needed- that the fire department would turn up and douse the flames if there were to be a fire.

One complication needs to be addressed at the outset. While much of the literature argues or assumes that causal forces run from the quality of governance to levels or changes in subjective well-being, there is the possibility of causal arrows running also in the other direction. For example, there is a large literature showing that those who are happier tend thereafter to have longer, healthier, better-connected and generally more successful lives[32]. If these feedbacks are always positive, then the total effects of a policy improvement may exceed the initial direct effects, although there is a related risk of over-estimating these direct effects while underestimating the combined direct and indirect effects.

Another theoretical complication is posed by the variety of individual tastes about what constitutes good government. Citizens and voters may differ a lot amongst themselves about the purposes of government, and about how well any given government is doing its job. It has been shown that people in OECD countries are happier when and if the government in power is one that matches their own political preferences[33], presumably because the views of those voters and their governments are more likely to be closely aligned. Theory would suggest that average happiness is likely to be higher where different groups of citizens have fairly consistent views about what sort of government they want. There will likely also be differences across nations and cultures in what constitutes good government, and hence some ambiguity in measures of government quality that are internationally comparable, and that have similar effects on well-being in all countries. This increases the value of finding links between changes in governance and changes in well-being, but it will remain true that we are measuring the average size of the effect. It will be therefore useful to see how these linkages differ among groups of countries at different stages of development, and among different income groupings within nations. Some assurance of cross-cultural comparability of life evaluations and their determinants has been provided by individual-level estimation of well-being relationships in each of more than 150 countries showing a high degree of consistency on what determines subjective well-being across the world[34].

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[31] See Helliwell & Wang (2011, p. 50-51). Traffic fatalities and suicide are roughly tied as the tenth leading cause of deaths around the world, and effects of international trust differences are substantial. For both suicide and traffic fatalities, a change in social trust of 0.1 on a scale running from 0 to 1.0 is associated with a 10% change in both death rates.

[32] See the recent survey by De Neve et al (2013).

[33] See Di Tella & MacCullough (2005).

[34] Helliwell et al (2010) Figure 10.3 shows the cross-country distributions of the estimates of the life-evaluation effects of key variables.

Part II: Theories, Models and Evidence

In this section we turn to consider the well-being effects of governance in more specific and quantitative terms. We start by reviewing and updating the evidence relating to aggregate measures of governance quality and levels of subjective well-being. We shall use two ways to get evidence on the key relationships between changes in governance and changes in well-being. The first is to allow for two-way fixed effects using our full panel of countries and years. Allowing for country fixed effects means that our estimates are based on the within-country relations between changes in governance and changes in life evaluations. The second way, similar to that adopted in *World Happiness Report 2013*, is to measure the difference in average life evaluations in each country from before the global financial crisis (based on average evaluations in the years 2005-07) until the most recent period (based on averages from the years 2010-12), and then do a cross-country analysis to see to what extent improvements and losses in the quality of governance were matched by changes in average life evaluations. Both types of evidence suggest that governance changes are correlated with changes in well-being, above and beyond any effects flowing through economic channels. We shall then consider more detailed theories and evidence about a range of specific governance issues.

What are the key empirical linkages between the quality of governance and subjective well-being?

At the aggregate level, several studies have compared the well-being links between two major sets of government characteristics and average life evaluations. The first set of characteristics relates to the reliability and responsiveness of governments in their design and delivery of services, referred to here as the quality of delivery. The second set of characteristics relate to the presence and pervasiveness of key features of democratic electoral elections and representation. This we refer to as democratic quality.

The first multi-country evidence was from three waves of the World Values Survey, based on 46 countries with a heavy representation from OECD industrial countries. The key results, using a model that included both individual-level and national-level variables were that cross-country differences in life satisfaction were very strongly linked to international differences in an average of the six World Bank governance quality measures[35]. In these fully specified models, this significant effect of government quality suggested an importance beyond that channeled through other outcomes. By contrast, per capita GDP and education levels, although significantly correlated to life satisfaction in simple terms, dropped out of the more complete models, suggesting that their impact was mostly instrumental. These initial results were, however, based on relatively few countries, and the model also included significant regional effects that were possibly also indirectly picking up some of the effects of differences in income and other factors[36].

Subsequent work extended the number of countries and years being considered, and split the six World Bank governance measures into two separate quality measures. The quality of delivery was measured as the average of four measures[37]: government effectiveness, regulatory quality, rule of law, and the

[35] These include the four measures now included in our variable called delivery quality (government effectiveness, regulatory quality, rule of law, and the control of corruption) and the two that comprise the democratic quality variable (voice and accountability, and political stability and absence of violence).
[36] See Helliwell (2003) Table 6.
[37] From Kaufmann, Kraay & Mastruzzi (2009) and Helliwell & Huang (2008).

control of corruption. The quality of a country's democratic processes was based on the average of the remaining two World Bank measures: voice and accountability, and political stability and absence of violence. The results showed that for all countries taken together the quality of delivery mattered more for well-being than did the presence or absence of democracy. The quality of delivery was strongly important for all groups of countries, while the democracy variable had a zero effect for all countries as a group, with a positive effect among richer countries offset by a negative effect among the poorer countries.

Subsequent studies using ever-larger country samples, and a variety of survey sources and life evaluations, have generally supported this ranking of the relative effects of the delivery and democratic aspects of government quality[38]. One thing that has changed over the past decade, as country samples have embraced more countries and more years, is that GDP per capita has become a stronger element of the full model than it was in the results based on the first three rounds of the World Values Survey. Since the more recent work has been based on the Gallup World Poll, which uses the Cantril ladder form of life evaluation, it was first thought that this difference was because the ladder form of life evaluation was responsible for the higher weight found for per capita incomes, when compared to the life satisfaction responses in the World Values Survey[39]. However, inclusion of both forms of evaluation in the same Gallup surveys has revealed that both attach the same weight to income[40]. Thus the larger role given to income differences in more recent studies must instead be attributed to the greater number of countries involved, which has correspondingly broadened the range of national income differences under review.

To confirm and extend these earlier results, we make use of a larger set of years and countries than has previously been available. This involves data from 157 countries, with each country represented by as many observations as there were Gallup World Poll surveys conducted in that country between 2005 and 2012. By combining time series and cross-country evidence for a large number of countries and a reasonable number of years, we have a real chance of identifying linkages between changes in the quality of governance and changes in subjective well-being. We present results from four different types of model, each of which is estimated in three versions. These versions go from simpler to more complicated structures. The first explains differences in well-being, whether across countries or over time, in terms of the corresponding values for our two key variables, one for the quality of delivery and the second for the extent of democratic processes. The second version adds GDP per capita for each country-year, while the third version adds the remaining variables used in the *World Happiness Report 2013* to explain differences across countries and over time in the same life evaluations used here[41].

The four different models include a pooled OLS model with fixed effects for years and regions, a panel model with fixed effects for both years and countries, a pure cross-section explaining an all-year average of life evaluations in each country, and finally a cross-section comprising changes in national-average life evaluations from their 2005-07 values to their averages for 2010-12. We pay most attention to the second and fourth models, since they are entirely based on changes in governance and well-being

[38] See, for example, Ott (2010, 2011) and Bjørnskov et al (2010).
[39] See Diener et al (2010).
[40] See Helliwell et al (2010), Tables 10.1 and 10.3 for the matched analysis. Indeed, even though the means and distribution shapes of the answers to the two forms of question (the life ladder and life satisfaction) differ significantly (Helliwell et al 2010, Figures 10.1 and 10.2), the determinants are so similar that stronger models are obtained by averaging the answers to the two questions (as shown in Tables 10.1 and 10.3).
[41] The key difference is that here we do not use the corruption perceptions variable employed in the WHR 2013, since control of corruption is already a key component of the delivery quality variable. An additional advantage of this procedure is that it permits a slightly larger sample of countries to be used.

within each country, and are therefore more likely to illustrate what can be achieved by feasible changes in the quality of government. The underlying data and models, along with a full range of results, are reported in our estimation appendix. We shall outline here only the main features of our results, and then turn to a more detailed set of questions about specific types of linkage between governance and well-being.

Our key results are to be found in Table 3, which contains three blocks of three equations each. The first block shows pooled OLS regressions including fixed effects for each year. The second is same as the first but adding regional effects, while the third block shows regressions with fixed effects for years and countries. Since the third block is both empirically stronger and more theoretically convincing, we shall concentrate here on those results. The results in the third block are theoretically preferable because the use of country fixed effects means that the estimated effects are driven by changes over time in governance, life evaluations, income, and other variables.

The first equation in the third block (column 7 of Table 3) shows that changes in delivery quality, but not democratic quality, are significantly correlated with changes in well-being for the Gallup World Poll sample of 157 countries over the 2005 to 2012 period. This confirms, in a larger and more current sample, and with full allowance for country fixed effects, the same pattern of results found using smaller samples of earlier data from the World Values Survey. The estimated effects of delivery quality are very substantial. The governance variables are in standardized form, with a mean of zero and a standard deviation of 1.0. So the coefficient on delivery quality of 0.84 in column 7 of Table 3 suggests that an improvement in delivery quality equal to one standard deviation would lead to an increase in average life evaluations of 0.84, which corresponds to a change of about three-quarters of a standard deviation of the distribution of national averages of life evaluations[42]. This estimate is from a regression with two-way fixed effects (country-fixed effects and year-fixed effects), so the sources of variations behind the estimate are within-country changes in governance and life evaluations relative to changes in other countries. As shown in Table 14 of Helliwell et al (2014), the ten countries with the largest increases in delivery quality are Peru, Brazil, Macedonia, Taiwan, Paraguay, Poland, Myanmar, Georgia, Rwanda and Palestinian Territories; the average increase is 0.3. Life evaluations rose in eight of the ten countries (except Myanmar and Rwanda), the average increase for the entire group of ten is 0.15. On the opposite end, the countries with the largest declines in delivery quality are Madagascar, Greece, Venezuela, Yemen, Austria, Kuwait, Tanzania, Nepal, South Africa and Hungary. All except for Venezuela, Austria and Kuwait saw declines in life evaluations. The average changes are -0.26 for delivery and -0.18 for life evaluation. When we compare the ten-most-improved countries with the ten most worsened, in terms of delivery quality, the associated well-being difference is equivalent to that from a 40% change in per capita incomes[43].

Column 8 of Table 3 adds GDP per capita to the equation, permitting us to estimate the extent to which the quality of government is influencing happiness by improving the material efficiency and productivity of the economy. The coefficient on delivery quality drops from 0.84 to 0.74, suggesting that some, but only a fraction, of the life-improving effects of better governance are flowing through its effects on GDP per capita. Of course, better governance will affect the structure as well as the size of the economy, and thus enable increases in the amount of well-being provided by a given level of GDP. For example, if levels of corruption are lower, streets and communities safer, and trust levels higher, people are more likely to get the goods and services they want, and the required levels of defensive

[42] The distributions of the variables are shown in Table 1 of the Statistical Appendix.

[43] The calculation is based on the average of the high and low estimates of the relative effects of per capita incomes and delivery quality from Table 3, as described and shown for each country in Table 14 of Helliwell et al (2014).

expenditures will be lower[44]. The equation shows changes in GDP per capita and governance to have contributed significantly to changes in national-average life evaluations over the 2005-2012 period, with delivery quality being slightly the more important contributor, since changes in delivery quality have slightly greater variance than changes in GDP (0.14 to 0.12 in terms of standard deviations of changes from 2005-07 to 2010-12, as shown in Table 2) and the former have a larger estimated coefficient (0.74 to 0.65). Furthermore, the delivery effect is, in principle, net of the effects flowing to well-being indirectly through changes in GDP per capita.

The last column of Table 3 extends the list of explanatory variables, and therefore adds to the number of channels through which good governance might be influencing life evaluations. The variables added are those that were used to explain a similar set of Gallup World Poll life evaluations in *World Happiness Report 2013*[45]. The most significant changes appear to have been in perceived freedom to make life choices, and in the proportion of respondents who report having someone they can count on in times of trouble. When these variables are added, there is a decrease in the direct governance effect, and an increase in that for GDP, suggesting that changes in perceived freedom and social support were more likely to be positively correlated with changes in delivery quality than with changes in GDP per capita[46].

In Table 4, we divide the sample into two parts: those with higher and lower than average quality of service delivery. Within each subsample, we repeat Table 3's panel regressions with country and year fixed effects. The first two columns show the results based only on the two quality of government measures, and show that the effects of delivery quality are highly significant, and to an equal extent, for both groups of countries, while democratic quality has a positive impact for those countries that have achieved sufficiently high delivery quality, but none for countries with low delivery quality. These results remain when GDP per capita is added, in columns (3) and (4). Table 4's last two columns report the split-sample estimates for the most fully specified model. A stark but expected contrast emerges. For the countries that have already achieved better-than-average delivery quality, , it is democratic quality that has a positive and significant effect on life evaluations; the effect of delivery quality is essentially zero and statistically insignificant. The exact opposite is true for the countries with low delivery quality: the effect of delivery is positive and significant, while the effect of democratic quality is zero. This is consistent with earlier findings reported in Helliwell and Huang (2008), but we now have many more countries, use a different survey source, test alternative ways of splitting the sample, and cover a more recent time period[47]. This difference in source, scope and years covered makes the

[44] The utility-wasting effects of defensive expenditures have been central to many influential complaints about using GDP to represent levels of welfare. See especially Stiglitz et al (2009). If the quality of government has a large and systematic effect on the amount of life satisfaction provided by any given level of GDP per capita, then we might expect to find an interaction term between GDP per capita and delivery quality. To test for this, we added a second GDP variable for observations where delivery quality was above average. The estimated coefficient was small and negative, suggesting no significant interaction effect between the quality of delivery and the life satisfaction benefits of measured GDP.

[45] We exclude the perceived corruption variable because control of corruption is already one of the key components of the delivery quality variable.

[46] It is also worth noting that the variables measuring freedom and having someone to count on are drawn from the same survey respondents as the life evaluations, while GDP per capita and delivery quality are drawn from different sources. Thus any changes from year to year in the representativeness of the population samples may lead to an upward bias in the size of the effects estimated for freedom and social support, although not for GDP per capita and delivery quality.

[47] In Helliwell and Huang (2008), we split the sample by GDP per capita, with the split between richer and poorer countries was set at a value of real GDP per capita equal to half of that in the United States. In the parallel work reported in Helliwell et al (2014, Table 11), our usual split is at a GDP per capita equal to one-quarter of that in the United States. In both cases the splits were done so as to give reasonably equal sample sizes to the two groups of countries. In each case the results are close to what we report here using delivery quality as our preferred splitting variable.

new results strongly confirming of the pattern that had been appearing in earlier studies based on the World Values Survey.

In Table 5 we extend the analysis by adding a measure of confidence in government, derived from survey responses in the Gallup World Poll, to see to what extent it supplements or substitutes for the independent estimates of the actual quality of delivery. Once again, our analysis uses the specification including both country and year fixed effects, so that we are estimating the extent to which the variables are affecting the with-country changes. The confidence measure is the percentage of respondents who answered positively to the question "Do you have confidence in each of the following, or not? How about the national government?" Although the samples are slightly different, the two effects contribute independently to life evaluations[48]. For both groups, confidence in government has a positive effect on life evaluations and does so with comparable effect sizes[49]. Presumably the implicit coverage of the confidence measure embraces some elements of both delivery and democratic quality, perhaps with weights that shift as one goal is achieved and attentions turns to the other. The confidence in government measure must cover more than what is in the delivery and democracy variables, as it has an importance above and beyond their effects[50]. We shall return later to consider these results in the context of specific analysis of trust in government.

Table 6 presents findings from two additional statistical specifications, and demonstrates that the positive effect of good governance on life evaluations exists both across countries and over time, thus greatly increasing the likelihood that changes in governance quality are leading to changes in well-being. The table's first two columns are from "pure" cross-sectional regressions, in which each country appears once; the observations are average levels by country covering all surveys during the 2005-2012 period. From this it is seen that delivery quality has a significant effect after allowing for regional fixed effects. Column (3) is from a regression based on changes from 2005-07 to 2010-12. Again a country appears only once; but the observations are changes instead of levels. So the regression utilizes an entirely different source of variation compared to column (2). But again, delivery quality is found to have a positive and significant effect on life evaluations, with an estimated magnitude that is greater than the one found in the level regression. It thus appears that, while both levels and changes contribute to the estimated effect, the contribution from the longitudinal variation is greater.

Relationships between some features of governance and well-being

In this section we consider a number of specific aspects of governance that theory and evidence have suggested to be important parts of the general linkage between good government and well-being. We deal with seven aspects, while realizing that even such a long list must be incomplete, and that there are many alternative ways of digging into the details. Here we summarize only some of the main strands of evidence[51].

[48] In principle we would expect that the two measures would be correlated, and hence that the coefficient on the delivery variable would fall when the confidence variable was added. However, over the 886 cases where both variables are measured, the correlation is essentially zero (-0.02).

[49] For example, in equation 3, the most fully specified model in Table 4, the coefficients are 0.45 on confidence in government and 0.59 on delivery quality. As shown in Table 2, the standard deviations of the changes in the two variables are also very similar, 0.13 for confidence in government and 0.14 for delivery quality.

[50] See columns 3 and 4 of Table 5, showing the impact of confidence in government to be strong even when the other two variables are included.

[51] The literature review table in Helliwell et al (2014) is divided according to these same seven features of governance to provide easy access to a broader range of results.

Inclusive institutions and inclusive law-making and policy-making processes

Providing the public with a voice in policy-making and the governance of institutions could impact well-being in several ways. Assuming that people are the best judges of their needs and preferences, allowing the public to have a bigger say in the direction of government should create a government that better suits their needs.

However, the SWB benefits of inclusive institutions and policy-making could extend beyond just improved government policies. In addition to better outcomes, well-being can be improved if people feel that the procedures[52] that led to the policy were fair and inclusive. Such procedures could deliver enhanced well-being through an improved feeling of self-determination. In contrast, policies made through procedures that exclude the public could alienate the public and reduce well-being, even if the outcomes are fair and desirable.

As discussed in greater depth below, there is a strong negative connection between corruption and well-being and a strong positive connection between trust and well-being. It is possible that improving the inclusiveness of government decreases corruption if citizens who are directly involved are better able to discover and stop improper behavior. Beyond that, it has been shown that people are inclined, in the absence of their own direct experience, to underestimate the goodwill of others and overestimate the likelihood of criminal activity[53]. In the same vein, it has been shown that face-to-face meetings sharply increase the likelihood that the best solutions will be found to the sorts of common-property problems that governments are often asked to solve[54].

Voting and political participation

Voting and political participation also provide routes to inclusive law-making, so long as voters feel that the processes are trustworthy, and they are being offered meaningful choices at the ballot-box. Most of the theoretical and empirical work on this issue has made use of measures of the extent and quality of voting procedures, as well as on the availability of the information required for informed voting. One of the general results reported above is that the empirical linkages between political participation and life evaluations are generally weak, and sometime perverse. For example, one early study based on the World Values Survey found that for the global sample as a whole, there was no positive effect from the existence of democratic processes, once account was taken of the responsiveness and reliability of government. Yet when the sample was split into two, either by average income levels or some other measures of the stage of development, the right to vote was found to have a positive well-being effect in countries with established and effective institutions, but to have a negative effect in the rest of the sample[55]. One theory used to explain the negative effect is that unless the overall institutions of government are of sufficiently high quality, the voting process may well involve a choice of kleptocracies, and to be considered inferior to some possibly more efficient autocratic alternatives. That democracy should have greater positive effects for more developed countries follows from the fact that as the provision of health, education and other public services

[52] Frey & Stutzer (2000).
[53] Helliwell & Wang (2011) combine survey and experimental evidence to show that people underestimate the chances of their lost wallets being returned, and survey evidence showing that they over-estimate the likelihood of being subject to criminal activity.
[54] For a meta-analysis of fifty years of such studies, see Balliet (2010).
[55] See Helliwell & Huang (2008).

becomes a larger part of what governments do, there will arise a parallel citizen interest in having more say in how these services are provided, and by whom[56].

But even in the largest global samples, and especially at earlier stages of economic development, the estimated effects of democracy are often absent or small, when compared to delivery quality. This general pattern of findings is generally supported by our own results shown in Tables 3. However, in Table 4, where we split our sample between the countries with higher and lower than average delivery quality, we find a significant effect, within the group of countries with better delivery quality, linking democratic quality improvements to higher subjective well-being[57].

Fair playing field

Philosophers over millennia, with Aristotle and Buddha as notable examples, have argued that true happiness involves a middle path where the needs and desires of the self are meshed with the interests of others for the benefit of all[58]. If these philosophers are accurate in their perceptions of human nature, then we should expect to find that people often act against their own selfish interests to achieve fairness, and that they are happier when they can live within a fair system. Thus it is no surprise that experimental evidence consistently shows systematic departures from narrow self-interest, even where the experiments are set up to remove any prospects of reciprocity[59]. Likewise, experimental evidence shows that people are prepared to pay to punish others who do not behave fairly. Experimental and survey evidence have both been used to show that those who are generous to others are happier than those who are not, and are happier living where generosity is the norm[60], and where they and others do not attempt to cheat the tax system[61].

Corruption is another aspect of fairness, since it is inherently unfair in its application, and more likely to affect those less able to protect themselves[62].

There is also cross-country evidence showing that people are happier living in countries with more complete social insurance and income-support systems[63]. This may in part be based on the increased assurance this gives to individual citizens, but is likely to be linked also to other findings that average life evaluations are higher in countries where there is less inequality in the distribution of well-being[64]. There is also evidence that inequality in the distribution of well-being is less where the delivery quality of governance is higher[65]. Our new results support earlier findings that subjective well-being is significantly lower where there is more corruption. Beyond its negative direct effects of well-being corruption also lowers the likelihood that foreign aid will improve subjective well-being in the recipient countries[66].

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[56] This is the core of the argument made by Ott (2010) for the finding that democratic quality adds to the positive effects of technical quality once technical quality has reached some minimal level.
[57] The same is true if we split the sample of countries by level of income, as shown in Table 11 of Helliwell et al (2014).
[58] For reviews and references, see Bok (2010) and Sachs (2013).
[59] See, for example, Fehr & Schmidt (1999) and Clark & D'Ambrosio (2013).
[60] See Aknin et al (2013) for both experimental and survey evidence that givers are happier than non-givers, and note the effects of generosity in Table 3 of this paper.
[61] See Verme (2009) and Helliwell (2003) for results, based on the World Values Survey, showing that people who think that it is wrong for people to cheat on taxes are happier than those who do not mind.
[62] See Kaufmann et al (2008).
[63] See Radcliff (2013) Chapter 5, Boarini et al (2013), and Pacek & Radcliff (2008).
[64] See Bolle et al (2009).
[65] See Ott (2011).
[66] See Arvin & Lew (2012).

Trust and the rule of law

As shown by the previous examples relating to corruption and the tax system, fairness and the rule of law are closely related. Does living under the rule of law generally make people happier? Presumably this depends both on the nature of the law and on people's general views on the extent to which good behavior should be internally motivated or externally governed. Some studies have suggested that trust and the rule of law are substitutes, with the rule of law, and the expenditures required to enforce it, being increasingly relied upon as the scope of business and other dealings extends beyond the network size governed by personal trust networks, or where the norms of social trust have become frayed. Thus Robert Putnam has argued for a causal link between the post-1970 declines in social trust in the United States and the corresponding increase in the number of lawyers, judges and police as shares of the employed civilian population[67].

With respect to trust, there is less ambiguity: people are happier living where trust levels are high. There is an important distinction to be made between trust, which is the belief that others will behave appropriately, and trustworthy behavior, which is behavior that justifies the trust of others. Across communities and countries, trust and trustworthiness go hand in hand, as shown by the finding that international differences in the likelihood of dropped wallets being returned is correlated with differences in the extent to which people think that others can be trusted[68].

Most early studies of the effects of trust on well-being made use of the general question on social trust. Its importance naturally led to attempts to measure and assess the consequences of trust in many specific domains, as well as survey questions of a more behavioural sort, asking people about the likelihood of their lost wallets being returned if found, alternatively, by neighbours, police, and strangers[69]. Across domains, people were asked general questions about their trust, or sometimes confidence, in neighbours, police, employers, work colleagues, and various parts of the political system, ranging from municipal administration to the courts, legislature, and national governments. In general, as we have already noted, the estimated well-being effects of having trust in nearby networks-the workplace and neighbourhood especially – are stronger than those based on trust or confidence in higher-level institutions. Presumably this is because the more local forms of trust are more likely to be based on direct experience rather than hearsay. Probably of even greater importance is that life is built on local contacts and experiences, and life evaluations are based on the happiness given, shared, and remembered on those occasions. If these experiences are positive, they lead to a sense of belonging. Research has shown that such a sense of belonging, or social identity, is a strong support for well-being. The preponderance of the immediate and local over the abstract and distant shows up in the relative importance of different senses of belonging. The effects of trust on happiness appear to be mediated in good part through a sense of belonging to the relevant community, and belonging to one's local community has a stronger effect than belonging to one's province or to the nation as a whole, although all are important and none appears to exclude the others[70].

Decentralization

If it is generally true, as the foregoing seems to suggest, that local circumstances matter most, then it

[67] See Putnam (2000, p. 141)
[68] See Knack (2001).
[69] For evidence that these measures are different, and that they are each important to well-being, see Helliwell & Wang (2011) and Helliwell & Putnam (2004).
[70] See Helliwell & Wang (2011) for Canadian evidence on both these issues.

might be expected that decentralization would be associated with higher levels of happiness. This assumes that equivalent or better levels of delivery effectiveness could be achieved, and that the services delivered would, by dint of their decentralized administration, be equally or better adapted to local tastes and needs, by providing voters closer access to and influence on decision-makers. Neither of the elements of this reasoning are sure bets, so that empirical evidence is needed to confirm or deny the possibility. Most of the related evidence is derived from the range of different degrees of decentralization among or within OECD countries. The general tenor of the evidence supports the idea that people are on average happier living in jurisdictions with more decentralization[71].

Reliability, responsiveness and effectiveness

The bulk of the old and new evidence assembled in this paper shows clearly that people are happier when they have governments that efficiently and reliably deliver what is needed, when it is needed. Is there any evidence about which aspects of reliability and responsiveness are most important, and if there are trade-offs among different aspects? One interesting UK study found that when unpacking complaints about the long time taken for police to answer complaints, what mattered most was whether police would come when they said they would come (reliability) rather than how soon they came (responsiveness)[72]. The purpose of unpacking the different aspects of delivery quality was, and should be, to permit services to be reconfigured so as to respond to what people feel to be important, in ways that match their priorities.

It is useful to consider whether all groups in the population attach the same values to governmental qualities. Earlier research using the World Values Survey found that delivery quality was on average more important for poor countries than in richer countries[73], and also that within countries low governmental quality was more damaging for the poor than for the rich[74]. Using our new and much larger country sample of data from the Gallup World Poll, we have seen that improvements in delivery quality matter much more for poorer than for richer countries[75]. It is also useful to test if there is a similar pattern among income classes within countries. As shown in Table 16 of Helliwell et al (2014), there is no evidence that delivery quality matters differently for rich and poor respondents. Only when we look more specifically at corruption, and especially when we account for the fact that the poor are likely to face corruption[76], do we find larger impacts of government quality among poorer respondents.

Freedom

We have already seen that people are happier when they feel that they are free to make key life decisions, and that this impact is above and beyond the effects of the better health and higher incomes that greater freedom may enable them to achieve. Earlier research has found, in the context of the World Values Survey, where the freedom question combines freedom and control, that this combined

[71] See Tomaney et al (2011), Frey & Stutzer (2005), Diaz-Serrano & Rodríguez-Pose (2011), and Rodríguez-Pose & Maslauskaite (2012).
[72] See Halpern (2010, p. 209).
[73] See Helliwell & Huang (2008), Table 2.
[74] See Helliwell & Huang (2008, p. 612).
[75] See Table 11 of Helliwell et al (2014). Note that this Table includes fixed effects for countries and years, and hence shows the within-country effects of changes in governance quality.
[76] 78.4% (se=0.6%) of those expressing opinions in the bottom income quintile see corruption as a problem in government and business, compared to 75.0% (se=0.8%) in the top quintile. While not very large, this difference is significant, and is buttressed by a comparable trend across all income quintiles. This is consistent with earlier micro evidence from Peru (Kaufmann et al 2008).

variable is a stronger and more consistent predictor of life satisfaction than any other variable[77]. How are the various aspects of perceived freedom influenced by governments? Although there are positive correlations across countries in the prevalence of different aspects of freedom- freedom to vote, freedom of the press, economic freedom, and civil liberties, there are enough differences to permit some judgments to be made about what counts most. It would appear that the core freedom relates to the freedom to make key life choices, especially coupled with a sense of control. Beyond that, there appears to be only slight further contributions from the institutional freedom measures listed above. Equations shown in Table 12 of Helliwell et al (2014) add various institutional freedom measures in turn to the equation already including perceived individual freedom to make life choices, delivery quality, income, healthy life expectancy, generosity and social support. The results show that life evaluations are slightly higher where civil rights are greater, where press freedom is greater, and where economic freedoms are more constrained[78].

Freedom of choice needs to be sufficient, but there can be too much of a good thing, when choices and brands multiply, making decisions harder and post-decision regret more likely[79]. Other experiments with more direct relevance to governance have shown that some range of trusted choices plus a guided path including sensible default options can help individuals to choose and be satisfied with pension[80] or health plans.

Conclusions

This paper first sets the stage by making an evidence-based case that people's own evaluations of the quality of their lives provide reliable and inexpensive new ways to show how, and how much, good governance matters. These well-being measures complement and encompass more established indicators of economic and social progress. Their encompassing capacity is based on their focus on life as a whole, thereby permitting economics, health, trust, freedom and social relations to be consistently taken into account, using survey-based life evaluations as the research base to establish what matters most.

The paper then brings together the largest available sets of national-level measures of the quality of governance, and assesses the extent to which they contribute to explaining the levels and changes in life evaluations in 157 countries over the years 2005-2012, using data from the Gallup World Poll already analyzed in some detail in the *World Happiness Report 2013*. The results confirm earlier findings, that the delivery quality of government services dominates democratic quality in supporting better lives. The situation changes as development proceeds, with democratic quality having a positive influence among countries that have already achieved a reasonable level of delivery quality.

The new results show not just that people are more satisfied with their lives in countries with better

[77] See Verme (2009).
[78] As can be seen in Table 12 of Helliwell et al (2014), the significance of these additional effects is modest. The positive impacts from civil liberties and press freedom are at the 10% significance levels, while the negative effects of greater economic freedoms are significant at the 5% level. It is important to note that the economic freedom variable is as defined by the Heritage Foundation rather than by the perceptions of the survey respondents. Some of its components are already reflected in the delivery quality variable. It differs by adding large government and more regulation of business as constraints on economic freedom. The civil liberties index is from Freedom House, and the press freedom measure from Reporters Without Borders. The index of political rights from Freedom House showed a positive but insignificant effect.
[79] See Iyengar & Lepper (2000) for experiments showing both of these outcomes in an experimental shopping context.
[80] See Sethi-Iyengar et al (2004).

governance quality, but also that actual changes in governance quality since 2005 have led to large changes in the quality of life. For example, the ten-most-improved countries, in terms of delivery quality changes between 2005 and 2012, when compared to the ten countries with most worsened delivery quality, are estimated to have thereby increased average life evaluations by as much as would be produced by a 40% increase in per capita incomes.

This provides much stronger evidence that governance quality can be changed, and that these changes have much larger effects than those flowing simply through a more productive economy. When we explain changes in average life evaluations over the 2005 to 2012 period, just as much was explained by changes in governance quality as by changes in GDP, even though some of the well-being benefits of better governance are delivered through increases in economic efficiency and hence GDP per capita. Our new results thus confirm that quality of governance affects lives via many channels beyond those captured by GDP per capita, and also that important improvements can be achieved within policy-relevant time horizons.

Additional well-being benefits can arise where nations have stronger social fabrics that enable them to better weather economic or other crises. These benefits lie above and beyond those already found to flow from more traditional measures of governance quality. Thus while four Eurozone countries had drops of life evaluations much larger than could be explained by their large income losses and increases in unemployment (see Table 2.2 in *World Happiness Report 2013*), there were other countries severely damaged by the global financial crisis – Ireland and Iceland- where despite severe damage to their banking systems and economic performance, average life evaluations fell only slightly. In the Gallup World Poll data, Ireland and Iceland rank right at the top in terms of social support, as measured by the proportion of respondents who feel they have someone to count on in times of trouble. The well-being benefits of these social connections become more obvious, and they are probably appreciated more, when crises arise to give them a chance to show their value.

Trust in others has been repeatedly found to be a vital support for happier lives. This trust takes many forms, ranging from the comforting thought that friends and relatives are ready to help in times of need, to belief in the generosity of strangers willing to pick up and return a lost wallet, and the belief that the word of a colleague or business associate can be relied upon, to broader trust in public institutions and governments. While the evidence shows that all these forms of trust are important, trust in one's local environment of friends, neighbours and workmates matters most of all. This is important information for policy-makers, who can help to design policies that both build and make use of the constructive capacities of community-level connections and engagement.

Trust in the quality, completeness and fairness of broader public institutions is also an important part of the overall support for better lives. Thus our new results show that changes in public confidence in national institutions are important sources of changes in life evaluations even after account has been taken of the effects of changes in delivery quality, GDP per capita and social support. That confidence in public institutions has importance even beyond the conventional measures of the delivery quality of their services suggests that some important ingredients are missed by the conventional measures.

Finally, we note that although the quantity and quality of information about the links between good governance and well-being are much greater than even a few years ago, there is still much to learn. The existing sources of comparable data are still quite limited, both in terms of geographic and demographic detail, and in the frequency of measurement. Even more important, it will be necessary to spend more time and effort learning how the processes of governance, and the operation of all public

and private institutions, affect the quality of peoples' lives, as seen by them[81]. This knowledge will be accumulated most efficiently by a collaborative combination of broader official collection of well-being data, much local experimentation with alternative ways of doing things, broader sharing of information about what works best, and field trials of the most promising options.

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Data Sources, Summary Statistics and Regression Tables

October 2014

1 Data Sources

- Subjective well-being (SWB): A country-year panel of average survey measures of SWB derived from the October-2013 release of the Gallup World Poll (GWP) for the survey years from 2005 to 2012. The SWB measure, unless stated otherwise, is the national average response to the question of life evaluations. The English wording of the question is "Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?" This measure is referred to as *Cantril life ladder*, or just *life ladder* in our analysis. The Oct-2013 GWP release also has observations from the on-going 2013 survey. But those observations from the incomplete surveys are not used in the analysis.

- Quality of governance – Source 1: A country-year panel of governance indicators from the Worldwide Governance Indicators (WGI) project (Kaufmann, Kraay and Mastruzzi). According to the source, the WGI "are a research dataset summarizing the views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms." The WGI project provides data for 215 economies over the period 1996 - 2012. For our analysis we use observations that overlap with our panel of subjective well-being. There are six dimensions of governance in the WGI: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption. The indicators are on a scale roughly with mean zero and a standard deviation of 1. In places where we need to further reduce the number of dimensions, we use the simple average of the first two measures as an indicator of democratic quality, and the simple average of the other four measures as an indicator of delivery quality, following Helliwell and Huang (2008).

- Quality of governance – Source 2: Gallup's National institutions Index and its components from the 2005-2012 Gallup World Poll (October 2013 release). We use primarily WP139, confidence in the national government. According to Gallup's Worldwide Research Methodology and Codebook (June 2013), "[t]he national institutions index reflects citizens' confidence in key institutions prominent in a country's leadership: the military, the judicial system, the national government, and the honesty of elections." The index questions are "Do you have confidence in each of the following, or not? How about the military? (WP137)", "Do you have confidence in each of the following, or not? How about the judicial system and courts? (WP138)", "Do you have confidence in each of the following, or not? How about the national government? (WP139)" and "Do you have confidence in each of the following, or not? How about honesty of elections? (WP144)". Our analysis uses primarily WP139, confidence in the national government.

- GDP per capita in purchasing power parity (PPP) and constant 2005 dollars from the September 2013 release of the World Development Indicators (WDI). The GDP figures for Taiwan and Zimbabwe are from the Penn World Table 7.1. A small number of observations are missing in the September-2013 WDI release but were present in the April-2013 release. In such cases, we use the numbers from the earlier release.

- Life Expectancy and Healthy Life Expectancy. We took the data used in the World Happiness Report (WHR) 2013. The statistics of healthy life expectancy at birth are from the World Health Organization (WHO), and are available for most countries in the year of 2007. But the data are not available for other years, and are missing for some countries. To impute the missing values, we obtain the data of non-health adjusted life expectancy at birth from the WDI that has very good availability in terms of time and country coverage. We compute the ratio of healthy life expectancy to life expectancy in 2007 for countries with both data, and assign countries with missing data the world average of the ratio. We then use the ratio, together with the non-health adjusted life expectancy, to generate the healthy life expectancy data.

2 Sample Coverage and Summary Statistics

First the sample coverage. We use country-year observations for which:

- a) the average life ladder is available, and

- b) no missing information in any of the six dimensions of governance indicators, and

- c) GDP data is available.

Sample coverage:

- A total of 836 country-year observations between 2005 and 2012.
- 157 countries over the 2005-2012 period.

Regions: Some of the analysis includes dummy indicator for regions, namely Western Europe, Central and Eastern Europe, Commonwealth of Independent States, South-east Asia, South Asia, East Asia, Latin America and Caribbean, North America and ANZ, Middle East and North Africa, and Sub-Saharan Africa.

Table 1: Summary Statistics for Key Variables - 2005-2012 Pooled Sample

Variable	Mean	Std. Dev.	Min.	Max.	N
Life Ladder	5.46	1.11	2.81	8.02	836
Per-capita GDP	12978	13526.97	275.84	72650.87	836
Democratic quality	-0.14	0.86	-2.24	1.53	836
Delivery quality	0.01	0.96	-1.69	2.2	836
Confidence in the national government	0.48	0.19	0.07	0.98	734
Healthy life expectancy	58.95	10.94	28.05	75.39	834
Freedom to make life choices	0.71	0.15	0.26	0.97	821
Generosity - adjusted for GDP	0	0.16	-0.33	0.54	792
Social support	0.82	0.12	0.29	0.98	829
Control of Corruption	-0.05	1.02	-1.64	2.55	836
Government Effectiveness	0.04	0.98	-1.77	2.43	836
Regulatory Quality	0.1	0.94	-2.16	1.98	836
Rule of Law	-0.07	1	-1.96	2	836
Voice and Accountability	-0.06	0.95	-2.21	1.77	836
Political Stability, Absence of Violence/Terrorism	-0.22	0.93	-2.81	1.5	836

Table 2: Summary Statistics: Changes from 2005-07 to 2010-2012 period

Variable	Mean	Std. Dev.	Min.	Max.	N
delta Life Ladder	0.07	0.43	-1.07	1.27	130
delta Log Per-capita GDP	0.09	0.12	-0.53	0.41	126
delta Democratic quality	-0.01	0.21	-0.85	0.70	129
delta Delivery quality	0.02	0.14	-0.43	0.66	130
delta Confidence in the national government	-0.01	0.13	-0.39	0.25	117
delta Healthy life expectancy	1.13	0.67	-2.86	4.04	130
delta Freedom to make life choices	0	0.08	-0.2	0.24	126
delta Generosity	-0.02	0.09	-0.3	0.2	124
delta Social support	-0.01	0.06	-0.27	0.23	129

3 Regression Tables

Table 3: Focusing on the Governance-Quality Measures based on Data from the Worldwide Governance Indicators (WGI) Project

	c1	c2	c3	c4	c5	c6	c7	c8	c9
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Democratic quality	0.007	0.01	-.02	-.02	-.04	-.09	0.13	0.1	0.06
	(0.14)	(0.12)	(0.11)	(0.13)	(0.11)	(0.1)	(0.18)	(0.18)	(0.15)
Delivery quality	0.81	0.25	0.06	0.62	0.31	0.24	0.84	0.74	0.57
	(0.13)***	(0.14)*	(0.12)	(0.14)***	(0.14)**	(0.11)**	(0.23)***	(0.23)***	(0.23)**
Logged GDP		0.52	0.33		0.41	0.32		0.65	0.84
		(0.06)***	(0.07)***		(0.08)***	(0.07)***		(0.27)**	(0.26)***
Healthy life expectancy			0.02			0.005			-.06
			(0.007)**			(0.01)			(0.05)
Freedom to make life choices			1.16			0.66			0.95
			(0.34)***			(0.29)**			(0.23)***
Generosity			0.96			0.55			0.25
			(0.26)***			(0.29)*			(0.19)
Social support			2.12			1.97			1.46
			(0.44)***			(0.39)***			(0.33)***
Central and Eastern Europe				-.95	-.96	-.67			
				(0.19)***	(0.18)***	(0.18)***			
Commonwealth of Independent States				-.50	-.48	-.33			
				(0.33)	(0.29)*	(0.24)			
Southeast Asia				-.55	-.35	-.43			
				(0.22)**	(0.22)	(0.17)***			
South Asia				-.91	-.49	-.24			
				(0.29)***	(0.31)	(0.45)			
East Asia				-.91	-.92	-.79			
				(0.2)***	(0.19)***	(0.23)***			
Latin America and Caribbean				0.23	0.25	0.24			
				(0.23)	(0.22)	(0.19)			
North America and ANZ				0.29	0.34	0.2			
				(0.1)***	(0.12)***	(0.11)*			
Middle East and North Africa				-.41	-.49	-.30			
				(0.25)	(0.23)**	(0.22)			
Sub-Saharan Africa				-1.27	-.70	-.48			
				(0.23)***	(0.25)***	(0.3)			
Obs.	836	836	776	836	836	776	836	836	776
No. of countries (clusters)	157	157	154	157	157	154	157	157	154
R^2	0.51	0.63	0.74	0.72	0.76	0.8	0.1	0.11	0.2

Notes: 1). Columns (1) to (3) show estimates from pooled regressions with year fixed effects but without regional or country fixed effects. Columns (4) to (6) are from the same pooled regressions but with the addition of regional fixed effects. Columns (7) to (9) are from panel regressions with country fixed effects, in addition to the year fixed effects that are present in all the 9 regressions. For the last three columns, within country r-squared are reported. 2). Standard errors in parentheses. *, **, and *** indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level.

Table 4: Comparing Countries With High Delivery Quality and Countries With Low Delivery Quality

	HighDelivery	LowDelivery	HighDelivery	LowDelivery	HighDelivery	LowDelivery
	(1)	(2)	(3)	(4)	(5)	(6)
Democratic quality	0.52	0.05	0.52	0.02	0.68	-.06
	(0.28)*	(0.2)	(0.27)*	(0.22)	(0.28)**	(0.17)
Delivery quality	0.84	0.81	0.6	0.79	0.33	0.61
	(0.34)**	(0.32)**	(0.34)*	(0.32)**	(0.37)	(0.3)**
Logged GDP			0.94	0.31	0.89	0.88
			(0.53)*	(0.39)	(0.48)*	(0.36)**
Healthy life expectancy					-.09	-.03
					(0.05)*	(0.09)
Freedom to make life choices					0.79	0.96
					(0.4)**	(0.3)***
Generosity					0.74	0.04
					(0.27)***	(0.25)
Social support					1.52	1.45
					(0.53)***	(0.38)***
Obs.	336	500	336	500	303	473
No. of countries (clusters)	62	95	62	95	61	93
R^2	0.15	0.1	0.17	0.11	0.23	0.21

Notes: 1) The sample is split by whether the measure of delivery quality for a country, averaged across all years in the full sample, is greater or lower than zero. 2). All estimates are from panel regressions with country fixed effects and year fixed effects. Within country r-squared are reported. 3). Standard errors in parentheses. *, **, and *** indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level.

Table 5: Focusing on Gallup World Poll's Measure of Confidence in National Government

	c1	c2	c3	c4	c5	c6
	(1)	(2)	(3)	(4)	(5)	(6)
Confidence in the national government	0.74	0.68	0.58	0.45	0.44	0.51
	(0.16)***	(0.15)***	(0.15)***	(0.17)***	(0.18)**	(0.17)***
Logged GDP		1.46	1.36	1.25	1.17	1.31
		(0.29)***	(0.27)***	(0.24)***	(0.25)***	(0.27)***
Democratic quality			-.32	-.22		
			(0.1)***	(0.1)**		
Delivery quality			0.78	0.59	0.5	
			(0.22)***	(0.25)**	(0.23)**	
Healthy life expectancy				-.07	-.07	-.08
				(0.05)	(0.05)	(0.05)
Freedom to make life choices				0.52	0.56	0.54
				(0.26)**	(0.25)**	(0.26)**
Generosity				0.22	0.23	0.26
				(0.2)	(0.21)	(0.22)
Social support				1.67	1.69	1.73
				(0.35)***	(0.36)***	(0.37)***
Obs.	734	734	734	696	696	696
No. of countries (clusters)	147	147	147	146	146	146
R^2	0.11	0.16	0.19	0.24	0.24	0.23

Notes: 1). All estimates are from panel regressions with country fixed effects and year fixed effects. Within country r-squared are reported. 2). Standard errors in parentheses. *, **, and *** indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level.

Table 6: Alternative Specifications: Cross-sectional Regressions of Levels (Columns 1 and 2) and Cross-sectional Regression of Changes (Column 3)

	c1	c2	c3
	(1)	(2)	(3)
Democratic quality	-.02	-.11	-.03
	(0.1)	(0.11)	(0.18)
Delivery quality	0.06	0.26	0.79
	(0.12)	(0.12)**	(0.32)**
Logged GDP	0.29	0.29	0.25
	(0.08)***	(0.07)***	(0.3)
Healthy life expectancy	0.02	0.003	-.04
	(0.007)***	(0.009)	(0.05)
Freedom to make life choices	1.15	0.6	1.46
	(0.4)***	(0.39)	(0.46)***
Generosity	1.13	0.67	0.51
	(0.33)***	(0.33)**	(0.38)
Social support	2.49	2.25	2.07
	(0.51)***	(0.46)***	(0.65)***
Central and Eastern Europe		-.69	
		(0.19)***	
Commonwealth of Independent States		-.36	
		(0.23)	
Southeast Asia		-.55	
		(0.23)**	
South Asia		-.31	
		(0.28)	
East Asia		-.77	
		(0.21)***	
Latin America and Caribbean		0.2	
		(0.18)	
North America and ANZ		0.18	
		(0.24)	
Middle East and North Africa		-.36	
		(0.2)*	
Sub-Saharan Africa		-.59	
		(0.26)**	
Obs.	154	154	122
R^2	0.8	0.86	0.27

Notes: 1). Columns (1) and (2) show estimates from cross-sectional regressions that use observations that are the 2005-2012 averages at the country level. Column (3), on the other hand, is cross-sectional regression of changes, specifically changes from the 2005-07 period to the 2010-12 period. 2). Standard errors in parentheses. *, **, and *** indicate statistical significance at 10 percent, 5 percent and 1 percent levels.