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HOW'S YOUR GOVERNMENT? INTERNATIONAL EVIDENCE LINKING GOOD GOVERNMENT AND WELL-BEING

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ABSTRACT

In this paper we employ World Values Survey measures of life satisfaction as though they were direct measures of utility, and use them to evaluate alternative features and forms of government in large international samples. We find that life satisfaction is more closely linked to several World Bank measures of the quality of government than to real per capita incomes, in simple correlations and more fully specified models explaining international differences in life satisfaction. We test for differences in the relative importance of different aspects of good government, and find a hierarchy of preferences that depends on the level of development. The ability of governments to provide a trustworthy environment, and to deliver services honestly and efficiently, appears to be of paramount importance for countries with worse governance and lower incomes. The balance changes once acceptable levels of efficiency, trust and incomes are achieved, when more value is attached to building and maintaining the institutions of electoral democracy.

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1. Introduction

Defining and evaluating 'good government' requires some heroic assumptions. Which features of the operation of a government are valuable and to whom? If a government's goodness is to be defined by the nature and consequences of its policies, which policies and which results should be used as litmus tests? While most analysts would agree that the quality of a government depends on the extent to which it improves the welfare of its citizens (with due regard for the interests of and relations with others), the lack of readily available measures of welfare has led to a wide range of techniques being used for evaluation. Political scientists have tended to give pride of place to governmental systems that embody democratic principles and practices supported by the rule of law. Economists have tended to evaluate systems of government, and institutions in general, in terms of their perceived ability to foster economic growth (sometimes with regard also for the distribution of the resulting goods and services).

In this paper we adopt a much broader perspective. We employ survey measures of life satisfaction as though they were direct measures of utility, and use them to evaluate alternative features and forms of government. Since measures of life satisfaction are now available for many countries, they offer a potential new tool for comparative political economy. If these data are to provide valuable new insights, they must be seen to tell at least a slightly different story from other evaluation methods, and to do so in a convincing way. This is an ambitious research agenda, in which the results we report here are neither the first nor the last words. In this paper we first show that several different measures of governmental quality are highly correlated with cross-national differences in life satisfaction. Although many of the same measures of governmental quality have been shown to affect prospects for economic growth, our evidence suggests that the income channel is a relatively minor part of the story, since the partial effects of government quality on life satisfaction are largely unaffected by the inclusion of average per capita incomes. This demonstration will occupy the next section of the paper. Then there are two sections of more detailed results, the first testing the robustness and likely channels of the links between governmental quality and life satisfaction, and the second using our data and methods to cast a slightly different light on some recently studied issues in

comparative political economy. For example, it has been found that proportional and majoritarian democratic systems appear to have different implications for the size of government spending. But is this higher spending a good thing, as would be suggested by the argument that it reflects the design and implementation of broadly-based welfare systems, or a bad thing, as surmised by those (e.g. Barro 1991) who have reported that high ratios of government spending are associated with lower economic growth? Our direct measures of life satisfaction provide a possible method for evaluating the net welfare effects of alternative political institutions. We conclude with a summary of our results and proposals for further research.

Before launching into a presentation of results using subjective assessments of life satisfaction as a measure of utility, it is perhaps necessary to answer, at least in a provisional way, some of the sceptical questions that might be raised about our proposed research agenda. Many social scientists have viewed subjective data with suspicion, regarding such evidence as much inferior to more explicitly behavioural data. Second, many users of life satisfaction or happiness data have encountered difficulties posed by excluded variables and reverse causation. For example, cross-sectional studies based on individual data have shown an apparently large effect linking marriage to higher life satisfaction. Thinking in excluded variable terms, sceptics have argued that since inherent genetic personality differences have been shown to be strong determinants of life satisfaction, these excluded traits are likely to affect both happiness and marriage status because those with optimistic and extroverted personalities are likely to be both happier and married. Seen as an issue in reverse causation, any random factor that made someone happier would also make them more attractive to others. Such correlation with unmeasured personality differences is likely to be more important at the individual than at the national aggregate level, since personality types are likely to average out in large samples. But it has also been argued that even at the national level there may be differences in personality or mood that would affect responses to life satisfaction questions in ways not connected with 'real' differences in the quality of life (Kahneman and Riis 2005).

Perhaps the strongest defence against contamination by personality differences is to take such traits directly into account. Entering measured personality differences at the individual level (Helliwell and Huang 2005) and at the aggregate level (Helliwell 2005, using personality data collected by Eysenck and Eysenck (1975) and collaborators, and assembled into an internationally comparable data set by Steels and Ones (2002)) does indeed show them to have substantial importance in explaining life satisfaction, especially at the individual level. But in neither case does explicit allowance for these differences change the main results that were previously apparent.

The strongest support for the 'reality' of the subjective assessments of life satisfaction is that they tell a remarkably consistent story to that provided by suicide data (Helliwell 2004). The ability of the same variables to explain both life satisfaction and suicide in a consistent manner is especially remarkable because suicides tend to be drawn from those at the extreme lower tail of the distribution of life satisfaction (Koivumaa-Honkanen et al 2001), and there is no guarantee that the determinants should be so similar. The fact that these two such different types of data tell the same story provides strong support for subjective assessments of life satisfaction. To counter the objection against the use of subjective data (an objection that is in any event seldom supported by research findings), the suicide data are based on ultimate and irrevocable decisions. The suicide data are also free of suspicions of reverse causation. Thus the fact that the suicide and life satisfaction data are well explained by the same model suggests that the life satisfaction results cannot be dismissed out of hand, whether by rejection of subjective data, by suggestions that the questions might be interpreted so differently in different countries as to make comparisons useless, or by the possible existence of reverse causation. Thus we are convinced that the life satisfaction data have strong claims to be used as direct measures of utility. Since they have been widely collected in the past, and are very easy and cheap to collect in the context of almost any survey, we think that they provide a promising tool for comparative assessments of the quality of governance.

2. Government, Income and Well-Being

Our next task is to show that using measures of subjective well-being to analyze the nature and consequences of government makes a difference. For starters, we show that the linkages between the quality of government and subjective well-being are stronger and have different functional forms than those between average per capita real incomes and subjective well-being. Compare the two panels of Figure 1 showing scatter plots of life satisfaction against average per capita incomes and the quality of government, as measured by an equally-weighted average of the six component indices in Kaufmann, Kraay and Mastruzzi (2005). We shall show later that a useful distinction can be made between, on the one hand, the sub-components dealing with the electoral process and, on the other hand, the remaining four relating to the efficiency and trustworthiness of government operations, but the patterns shown in Figure 1 are replicated when any combination of components is used. Per capita real incomes are measured at purchasing power parities and are shown as ratios of US per capita GDP in 1995. The governmental quality measure used is from the closest available year in the Governance Matters IV database (Kaufmann, Kraay and Mastruzzi 2005), and is an equally weighted average of the six component indexes, each of which is scaled to have, across the global sample, a mean of zero and a standard deviation of 1.0. For the 161 observations in Figure 1, the income variable has a mean of .44 (SD=.28), governmental quality a mean of .69 (SD=.93, range -1.27 to +1.95), and life satisfaction, measured as each wave's average national response (with n averaging 1,000 in each country wave) on a ten point scale, has a global mean of 6.72 (SD=1.1).

What do the data show? In this tattered panel of 161 observations, the largest we could construct from the four waves (1981-84, 1990-93, 1995-97 and 1999-2000) of the World Values survey (Inglehart et al 2003 and Inglehart et al 2005), there are one or more observations on life satisfaction and governmental quality from 75 different countries (or sub-national regions). Figure 2 replicates the same relationships, but for a sub-sample comprising the 66 observations from the most recent wave of the WVS.

Figures 1 and 2 suggest, as confirmed by the regressions shown in Table 1, that the relation between life satisfaction and the aggregate governmental quality measure is

tighter and more linear than that between life satisfaction and per capita incomes. For per capita incomes, a quadratic term is significantly negative, with diminishing life satisfaction returns to higher average real incomes. As can been inferred from Figures 1 and 2, and as shown by the split-sample regressions in Table 1, the quadratic nature of the relation between average incomes and life satisfaction shows up only among countries with average annual incomes more than half as large as 1995 per capita GDP in the United States.

As is well established by many studies, per capita incomes and measures of governmental quality are highly correlated (.83 for the panel of 161 observations, and .86 for the latest cross-section of 66 observations), so that it is not always easy to disentangle their separate relations with other variables. In earlier work using the first three waves of WVS data (Helliwell 2003), income was completely dominated by governmental quality whenever both were introduced in the same equation. Adding the full fourth wave, which includes a larger number of poorer countries, permits income to have some positive partial effect on life satisfaction, but it has little statistical significance, and is always dominated by governmental quality. To develop more precise estimates of the relative importance of income and governmental quality, we shall need to make use of the full disaggregated data set, which we shall do in the next section. We shall also test the size and robustness of the government quality variables by means of more fully specified models, alternative measures of governmental quality, and the impact of outlying observations.

3. What Matters, How Much, to Whom, and When?

In our first studies of the linkages between quality of government and life satisfaction, based on the first three waves of WVS data, we found that putting equal weight on all of the six Kaufmann et al dimensions was optimal (Helliwell 2003). The fourth wave has 66 countries covering a larger spectrum of the developing world. With this broader range of incomes and stages of development, there is increasing evidence that different aspects of the quality of government matter at different stages of development. More specifically, there is a split between one sub-aggregate including two dimensions focussed on the

operation of the democratic process (voice and political stability) and another of four components relating more to the delivery of government services and providing the institutional framework within which individuals, enterprises and communities connect (governmental effectiveness, regulatory quality, rule of law, and control of corruption). We refer to a simple average of the first two dimensions as GOVDEM, and the average of the latter four as GOVDO.

As shown in Table 2, if we use the full four-wave sample of 161 observations for 75 countries to test the relative importance of the democratic and delivery dimensions of governance, we find that the effectiveness dimensions (GOVDO) have a strong positive weight, with the political dimensions (GOVDEM) having a slight negative weight. However, this overall result masks a large discrepancy between what matters at different levels of income and development.

If we divide the full sample of 161 observations into those with per capita incomes less than half (n=96) and more than half (n=65) as large as in the United States in 1995, the results are strikingly but plausibly different. For the poorer countries, all of the emphasis is on the effectiveness dimensions, with the political dimensions having a negative partial effect on well-being. For the richer countries, this relative emphasis is reversed. Subsequent equations in Table 2 show that this pattern is replicated in the context of a more fully specified model embodying the key variables found to be important in earlier modelling of international differences in life satisfaction (Helliwell 2003, 2004, 2005)[1]. The same pattern appears also in Appendix Table 1, which shows parallel equations fitted using the full sample of 163,000 individual observations, and the component samples

[1] We include only those variables available for the full sample of 161 observations. One indicates the level of social trust and the other the average strength of belief in God. Three other variables, being the national divorce rate, the national unemp loyment rate, and the average number of memberships are not available for the full sample of 161 observations. The fullest version of the model, with a correspondingly smaller sample, is shown in Table 3. Adding the level of social trust in the basic model, as we do, leads to a reduction in the coefficient on governmental quality. This may lead us to a downward-biased estimate of the life satisfaction effects of governmental quality, for the reasons suggested by Rothstein and Stolle (2004). They argue convincingly that high quality government institutions have a positive influence on the level of social trust. By including social trust as a separate independent variable, our estimates of the effects of good government are independent of those flowing through higher levels of social trust. This helps to ensure that our estimates of the well-being effects of good government do not err on the high side.

drawn from the poorer (n=101,000) and richer (n=62,000) countries. Finally, Table 3 shows, for the slightly smaller group of countries for which suicide and national unemployment and divorce rate data are also available, comparable equations estimated for life satisfaction and suicide.

All of the samples and equations support the finding that honest and efficient government are of especial salience for poorer countries, while voice, accountability and political stability are of greater relative importance for the richer countries. This provides a preference-based rationale for the long-standing finding (e.g. Lipset 1959) that countries with higher levels of per capita incomes are far more likely to be become and remain democracies, with the bi-directional causality being strong from the level of income to choice of the democratic form and close to zero from the democratic form to subsequent economic growth (Helliwell 1994). By showing that different aspects of governance have relatively more salience to life satisfaction at different stages of development, our results also suggest that preferences among institutions, and by inference the pressures for their implementation, are importantly endogenous. Even if at some more fundamental level all individuals have the same basic preference structures, the relative costs and benefits of different sorts of institutional structure vary with circumstances. To illustrate, consider a specific example suggested by our finding that the relative importance attached to the electoral features of governance rise with income, and with the trustworthiness and efficacy of government. It is quite understandable that the ability of voters to have voice, and to get accountability from their elected representatives, should matter more when and where it is reasonable to expect that services voted for will in fact be efficiently provided, and where there is a good chance that a vote will not simply replace one corrupt administration by another.

How much does the quality of government matter? The simplest way of answering this is to note that either of the two measures of overall governmental quality tested thus far, (GOVTOT and GOVDO), is stronger than any other national-level explanatory variable for life satisfaction, whether assessed in terms of simple correlations or in the context of a more fully specified model. This is true whether or not per capita incomes are included in

the equations, so the result cannot be due to governmental quality being important only because it contributes to well-being by producing higher per capita incomes. There is such an instrumental role for good government as a support for economic growth, however. It shows up as a decline, generally by ten to twenty percent, in the coefficient on governmental quality when per capita income is added to life satisfaction equations. This is a natural consequence of the high simple correlation between national per capita incomes and governmental quality (+.83 between income and either GOVTOT or GOVDO in our full sample of 161 observations, and +.86 for the 66 observations from the 4th wave), and provides indirect confirmation of the many studies finding a link between governmental quality and the level income. It does not provide much new information to help settle the debate about how to disentangle the two-way causality between the level of income and the quality of government. However, if we base our estimates of the well-being effects of governmental quality on coefficients drawn from equations that include the level of per capita incomes, this provides a conservative estimate of the well-being effects of government by ignoring the indirect effects flowing through the level of income.

By using the individual-level results in Appendix Table 1, it can be seen that increasing the overall quality of government by 1.0, (slightly more than one SD in our global sample) would have almost as large an effect on life satisfaction, for a typical respondent in a poorer country, as moving halfway up the relative income distribution, as measured by deciles. The halfway move can be either from the bottom to the middle or from the middle to the top, as the SWB coefficients by income decile follow a roughly linear path for these respondents. For respondents in countries with per capita incomes more than half as large as those in the United States in 1995, high quality government matters even more, and income matters less, than in the poorer countries. Furthermore, the SWB effects of relative income show diminishing returns in the top half of the income distribution in the richer countries. Thus for the average resident of the richer countries an increase equal to 1 SD in the government quality index has double the SWB effect of moving from the bottom to the middle decile, and four times as large an effect as to move from the middle to the top decile of the income distribution. Of course, large increases in

governmental quality are harder to find among the richer countries, as the major elements of good government are already in place, and there is less variation among countries (for the 24 richer countries in the 4th wave, the mean of GOVTOT is 1.49 and the SD is 0.39). These calculations show the large size of the estimated life satisfaction effects of good government. The ratios naturally do not reflect anything akin to the compensating differentials relating incomes and job characteristics (e.g. Helliwell and Huang 2005), since there is no obvious trade-off between good government and higher incomes. Most components of good government have positive partial impacts on economic growth, while the level of income has a partial positive effect on well-being, albeit often insignificantly so.

There is another more fundamental reason why we cannot treat the income equivalents reported to compare the value of good government relative to changes in average per capita incomes. This is because the income effects reported in the appendix table are all in relative terms, so that equal proportionate increases in all incomes would change no relative incomes. As shown in Appendix Table 1, adding the aggregate level of GDP per capita, once the quality of government is separately accounted for, does not attract a significant coefficient. Another way of putting the point is that there are strong negative well-being externalities from increases in income. Ever since the pioneering studies of Easterlin (1973), it has been frequently found that the subjective well-being effects of income have been primarily based on relative rather than absolute income levels. More recently, studies using large samples of Canadian data show that while personal or family income has a highly significant positive effect, there is an equally significant negative effect, of almost equal size, from average family income in the respondent's census tract (Helliwell and Huang 2005, Table 1). In contrast to the negative contextual effects of income, most other sources of individual well-being, and especially trust, community and neighbourhood engagement, and dense networks of family and friends, have neutral or positive externalities (Helliwell and Putnam 2004). As for the consequences of good government, the individual-level and contextual effects are largely combined, since most measures are available only at the national level. However, the individual-level variables in Appendix Table 1 do include trust in police, something that is highly correlated with

several components of government quality, especially those relating to corruption (r=0.67 with Kaufmann, Kraay and Mastruzzi's control of corruption index; r=-0.81 with the corruption perception index 1995~2000 taken from the dataset of Persson and Tabellini), rule of law, and the effectiveness of government services and regulation. The strong positive contextual effects shown in Appendix Table 1 are unaffected by the inclusion or not of the individual-level evaluations of trust in police, which themselves have very large effects even after allowing for general social trust and trust in neighbours.

In Table 4 we test the robustness of our basic model by adding a number of alternative measures of the quality of government to see if they either change the base results or suggest better measures. We test in particular the age of a country's democracy, the Gastil measure of democracy, its political liberties and civil rights components, a measure of corruption, and two alternative measures of economic freedom. None of these variables either attracts a significant coefficient or changes the size and significance of the coefficients in the basic model. Since the Governance IV variables we use can broadly be seen as measures of institutional quality, it is also appropriate to consider the possible inclusion of key variables representing competing models of the determination of economic development. To represent the claims of trade openness, we use an updated version of the Sachs and Warner (1995) measure, and to represent geography, we use the key variable proposed by Sachs (2003), which is an index of a country's exposure to malaria, weighted by the virulence of different malarial types. Neither variable attracts a significant coefficient.

Since our equation already includes per capita income as a right-hand side variable, our results are not directly relevant to the debate about the relative importance of institutions, geography and openness as determinants of comparative levels of real incomes (e.g. Rodrik et al 2002, Acemoglu et al 2004, Sachs 2003). However, the fact that the governmental quality measures have significant positive effects on life satisfaction above and beyond any effects flowing through the level of economic development, while openness and malarial risk do not, provides independent alternative evidence of the value of good institutions. The fact that the malarial index does not enter our basic model does

not mean that health is not an important determinant of life satisfaction. Indeed, as we show in the next section, objective measures of health status have significant effects on life satisfaction, and also represent important channels whereby good government affects well-being.

Another common form of robustness test involves ensuring that the results are not due to the individual or joint effects of extreme observations. We have found that removing any or all of the largest outlying observations leaves the results unchanged, and in Appendix Table 2 we show the equation with specific dummy variables for each of the countries for which the life satisfaction errors exceed 1.0 (slightly more than one SD on the 10-point scale). It is also possible that the results might depend excessively on a specific group of countries. The most likely candidates for this are the nations of the former Soviet Union, since their levels of life satisfaction and governmental quality are both very low. We present an equation including dummy variables for each of the post-FSU countries in our sample. As expected, this lowers significantly the coefficient on governmental quality. However, the reduction is fairly modest in size, about one-quarter of the full-sample size of the coefficient, and the variable remains the largest and most significant variable explaining international differences in life satisfaction even when those countries are removed.

Finally, there is the possibility, as emphasized by King et al (2003) that there may be cross-cultural differences in the shape of the distribution of numerical responses, independent of some more fundamental differences in actual life satisfaction. To guard against this possibility, we estimated our basic model on five different dependent variables, each being the average of a different quintile of the life satisfaction distribution in each country. A further test was provided by using the share of respondents above or below particular cut-off points in the numerical distribution of responses. All of the results supported the basic model, and in particular the importance of governmental quality[2].

[2] Torsten Persson suggested that we might also want to check that the declining marginal utility of income might make average income per capita a biased measure of the utility of income, and thereby might

4. Using Life Satisfaction Data in Comparative Political Economy

If we have succeeded in making our case that the quality of government should be a large part of any attempt to explain international differences in life satisfaction, and that the life satisfaction data themselves are plausible proxies for utility, then it might be useful to use our data and models to provide a fresh light on some issues in comparative political economy. We shall mention a few, in order to illustrate what might be some promising lines for further investigation.

We start with an issue relating to the channels whereby good government affects life satisfaction, aside from those flowing through levels of income per capita. We have already shown that the income channel is the smaller part of the story, especially for the richer countries, so it is useful to consider other channels. One obvious candidate is health, since it has long been established that self-perceived health status is perhaps the strongest determinant of life satisfaction (Helliwell and Putnam 2004), and the quality of health care (especially public health, including water quality) is dependent on the quality of government. However, some researchers have been sceptical of the link between self-assessed health and SWB, since both may be contaminated by issues relating to question framing, personality differences, and mood (Kahneman and Riis 2005). To avoid such risks we shall here make use of two objective measures of health status, life expectancy (LE) and health adjusted life expectancy (HALE), where the latter variable is equal to the former reduced by a measure of morbidity, converted to life-equivalent years, based on the frequency, duration and severity of a number of illnesses, afflictions and disabilities (World Health Organization 2005). In our equations in Table 5, we first re-estimate our life satisfaction equation for the 136 observations for which the World Health

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accidentally lower the correlation between income and life satisfaction, possible even being responsible for our finding of higher simple correlations for governmental quality than for income (with respect to life satisfaction, in both cases). We tested for this by going back to the full sample of individual observations and splitting them into ten groups by income decile. We then compared the income and government correlations separately for each income class, and found those for government to be higher than for income for each and every income decile, by roughly equal amounts. Thus we conclude that curvilinearity of the income effect (which we also find for governmental quality, as we later find) is not the source of the relatively tighter link between life satisfaction and governmental quality.

Organization data are available. We include both component measures, GOVDO and GOVDEM, since GOVDEM becomes important when we divide the sample by income level. We add first the simple measure of life expectancy (LE) and then the health-adjusted life expectancy (HALE). Either measure of life expectancy adds significantly to the explanation of life satisfaction, with health-adjusted life expectancy being the more important of the two. This is followed by an equation that contains the two components of HALE separately, one being simple life expectancy and the other a measure of morbidity (morbid=le-hale). For the full sample of 136, the coefficient on morbidity is slightly, but insignificantly, higher than on life expectancy, so the adjusted fit of the equation is slightly inferior to that when HALE is treated as a single variable.

Next we consider the likelihood that the importance of the two components of health, and of the role of good government, differs by income level, as was true for the larger sample of countries. We thus re-estimate the equation without health separately by income class, and then add the two components of health. The samples are now getting rather small, at least in terms of number of countries represented[3], and the correlations between the two health measures are rather high[4], as are those between GOVDO and GOVDEM[5]. These equations show that the link between government quality and health that is so clear in the global sample is largely determined by differences between the rich and poor countries in both health and governmental quality, and by differences among the poor countries. More specifically, for the poor countries GOVDO is very important for life satisfaction with or without the health variables. Life expectancy has the major impact on life satisfaction, and when it is added to the equation the coefficient on GOVDO drops by one-quarter, just as was the case in the global sample.

[3] There are 72 observations from 37 poorer countries and 64 observations from 27 richer countries in the 136-observation sample for which health data are available. Given that errors are clustered by country (this clustering is duly accounted for in the calculation of robust standard errors), the number of countries is more important than the number of observations.

[4] -.56 for the 136 observations, but less than half as great for the sub-samples at -.16 for the richer countries and -.27 for the poorer countries.

[5] These are +.96 for the 136 observations, +.81 for the rich country sub-sample and +.93 for the poor country sample.

Among the rich countries, it is variations in GOVDEM that are related to differences in life satisfaction, and neither government coefficient is significantly altered by the addition of the health variables. As for the coefficients on the health variables, higher morbidity does lead to significantly lower life satisfaction, while differences in life expectancy do not. This pattern of differences is theoretically plausible: for the rich countries, the major gains in life expectancy are already achieved to roughly comparable degrees, while for the poorer countries there is a significantly lower average life expectancy, and much greater variation among countries[6]. This suggests that public health measures responsible for big increases in life expectancy have largely been put in place among the richer countries, while among the poorer countries there remains much more to be done and much greater variability in the capacity of governments to do what is required. This is revealed by levels of GOVDO that are on average much lower and more variable in the poor country sample than among the richer countries[7].

In summary, good health appears to be a fundamental determinant of life satisfaction, with relative importance shifting from life expectancy to morbidity as per capita income increases. A significant fraction of the estimated effects of governmental effectiveness (as measured by GOVDO) on life satisfaction may be due to the ability of well-governed countries to design and deliver conditions conducive to longer and healthier lives. This result should be treated as suggestive rather than definitive, as it has not been tested systematically against possible competing hypotheses. If the results hold, they offer another reason for thinking that preferences over alternative government structures are endogenous to the stage of development, since voters will naturally pay most attention to the ability of different types of government to deal with the problems that most imperil their current and future levels of life satisfaction[8].

[6] Life expectancy averages 78.4 years, with a standard deviation of 1.37, for the rich-country sample, while it is 72.2, with a standard deviation of 3.5, for the observations from poorer countries.
[7] For the poor-country observations, the mean of GOVDO is 0.25, with a standard deviation of 0.80, compared to a mean of 1.65 and a standard deviation of 0.40 for the rich-country observations.
[8] There is a parallel here with the distinction emphasized by Acemoglu (2005) between "strongly-institutionalized polities" and "weakly institutionalized polities". Our results suggest that the value attached to specific types of institution vary systematically, and plausibly, between these two types of society.

Recent World Bank survey work in Peru (Kaufmann, Montorial-Garriga and Recanatini 2005) shows that the poor suffer more than the rich from corruption in government, in terms of both price and accessibility. If this result is also applicable in other countries, then we should expect to find that the well-being gains from higher quality government should be greater for the poor than for the rich, not just between countries but within countries. We tested this by splitting the govdo variable into two, with one applicable to individuals in the top half of the income distribution and another to those in the bottom half. We find that the effect of govdo is more than one-third greater for those in the bottom half of the income distribution[9]. In addition to this differential effect of governmental quality on the rich and the poor within each nation, Table A1 shows that the effects of governmental quality are also higher in poorer than in richer countries.

We turn now to consider some ideas about the consequences of alternative constitutional forms of government. Taking a recent important example, we shall see if our data can shed any further light on the theory and evidence suggesting that presidential and majoritarian constitutional forms generally have smaller governments than do parliamentary and proportional systems, and that majoritarian systems are likely to lead to lower levels of welfare state spending (Persson and Tabellini 2003, 2004; Persson 2003, 2004, 2005). It is tempting to ask then if one or the other type of constitutional form is associated with higher life satisfaction, with or without accounting separately for the channels through which these welfare effects might be expected to flow.

The equations in Table 6 first repeat our basic equation for the 137 observations for which the Persson and Tabellini data for presidential and majoritarian systems are available. The results suggest that constitutions with some form of proportional voting (maj=0) and presidential systems are associated with higher life satisfaction, holding constant the levels of governmental effectiveness. Where the sample is split by income level, the apparent preference for the proportional voting system applies in both cases,

[9] This result uses the sample of 163,000 individual observations, and the equation specification from Table A1. The coefficients are .256 (t=3.9) for those individuals in the top half of the income distribution, and .348 for those in the bottom half. The difference is statistically significant (p=.035). The coefficients may be compared with a govdo coefficient of .317 (t=5.8) if the interaction term is nor used.

while the preference for a presidential system applies only among the poorer countries. These results all hold constant the level of governmental effectiveness. When we remove this variable, in the next set of equations, to estimate something more akin to a reduced-form, the preference for proportional voting remains, while that for a presidential system does not. This reflects the fact that levels of corruption are higher and governmental effectives lower (both at r=.44 with maj) in presidential systems.

What is there about majoritarian systems that leads them to be associated with lower average levels of life satisfaction? Persson and Tabellini (2003) have argued that proportional voting encourages the establishment of more broadly based social coalitions, and hence larger and presumably better targeted social spending. Persson and Tabellini have found that majoritarian governments do have lower social spending. Is this lower social spending the channel for the negative life satisfaction effects that appear in our sample? We provide a simple test of this in our next four equations, where social spending as a share of GDP is added to the equation. Since the sample is smaller, we repeat the basic equation, and the equation including the two constitutional variables, and then add social spending (the sum of health, education and social services as a share of GDP). The equations show no effect of the social spending share on life satisfaction, or on the coefficient attached to the majoritarian variable.

Finally, we consider whether the apparently higher levels of life satisfaction in proportional representation systems might be due not solely to an exogenous choice of a proportional voting system, but instead to some other excluded variable that gives other reasons for expecting higher contemporary levels of life satisfaction. This would not exclude the possibility that the result might simply mean what it says, as would be advocated by proponents of proportional voting systems, that proportional systems translate votes more directly into political representation, and hence give voters a greater sense of engagement and efficacy. Since engagement and efficacy have been linked to life satisfaction in studies at the individual level, this interpretation is plausible. It has been at least indirectly supported by the results of Frey and Stutzer (2000) showing

higher levels of life satisfaction in those Swiss cantons which provide or require greater degrees of voter engagement.

Candidates for excluded variables that might be correlated with the existence of proportional representation, and which might also represent other influences on life satisfaction, naturally include (as suggested by Acemoglu 2005) variables that have been suggested or used as instruments for the adoption of a majoritarian system instead of a proportional, or partly proportional, alternative. We do this in two ways. First we do our own first stage regression using the Persson and Tabellini set of instruments, and use this instead of maj. This makes maj insignificant in our life satisfaction equation. Then we simply add the full set of instruments to our equation, finding that the coefficient on maj actually increases, a result that is due to the separate positive life-satisfaction effect of one of the variables (eurfrac) that has a significant negative effect in the first stage regression for maj. This implies that at least from the viewpoint of life satisfaction, a large part of the relevant cross-country variance of the majoritarian voting variable is not captured by the instruments used by Persson and Tabellini. This suggests that together the set of variables provide a weak instrument for second-stage estimation, and the separate positive significance of eurfrac suggests, as argued by Acemoglu (2005), that it has effects beyond those flowing through the choice of a voting system. As a final easy check within our current framework, we add the general measure of democratic governance. It is insignificant, and does not alter the coefficient on the maj variable.

Thus it would seem that the positive life satisfaction effect of the proportional voting constitutional form is not simply part of the baggage unintentionally attributed to the choice of voting systems. That leaves open, of course, whether the life satisfaction effect is due to the particular form of voting, for the reasons that its advocates have suggested, or to the effects of some other as yet excluded variable.

That is about all we have space to do by way of example use of the life satisfaction data. There is however one set of issues on which we should at least provide a preliminary view of the data, with more thorough analysis to follow. In Table 7 we add to our basic

equation several different measures of inequality, including a gini coefficient (still a very incomplete series), a measure of ethno-linguistic fractionalization, and a measure of the standard deviation of life satisfaction within each country. On their own, all three take significant coefficients, the gini with a positive sign and the other two with a negative sign. The next equation re-estimates the basic equation for the smaller sample in which all three inequality measures are available, followed by an equation including all three measures simultaneously. The gini retains a significant positive coefficient and the ethno-linguistic fractionalization a negative coefficient. The sample is then split in two alternative ways, first by the quality of government, and then by income level. The negative effects of the fractionalization variable disappear in the richer and better-governed countries. The positive effect of the gini is found only among the poorer or worse governed countries. Among the better-governed countries, the gini has no effect, while among the richer countries it has a negative effect, although not significant at the 5% level. Further experiments show that the positive coefficient on inequality is eliminated if the Latin American countries are removed from the sample. The simple correlation between life satisfaction and inequality is positive among the Latin American countries, and between the Latin American group and non-Latin countries, while being negative among the non-Latin countries[10].

5. So What? And What Next?

In this paper we have advocated, and experimented with, the use of life satisfaction data to study long-standing questions in political economy. We first proposed that life satisfaction data provide a measure of utility broad enough to embrace most or all of the intermediate objectives that have previously been used by social scientists to evaluate the quality of government. We showed that life satisfaction data give different verdicts about the importance of different aspects of government. In particular, our results suggest that the Governance IV measures of the quality of government (Kaufmann, Kraay and Mastruzzi 2005) strongly dominate per capita incomes as determinants of life satisfaction. There is ample evidence that better government does improve the prospects

[10] The simple correlation between lsatis and gini is +.02 for the whole sample (138 observations), +.37 for the 18 Latin American observations, and -.19 for the remaining 120 observations. Allowing for sample size and error-clustering by country, none of these simple correlations is significant at the 5% level.

for higher per capita incomes, and this is revealed in our equations by reductions, generally in the 10% to 25% range (and sometimes significant, depending on the sample and specification) in the government effect when per capita incomes are included.

Nonetheless, the effects of good government remain as the single most important variable explaining international differences in life satisfaction, while international differences in per capita incomes are frequently insignificant. The main life satisfaction effects of incomes, once basic needs are met, appear to flow from relative rather than absolute incomes, with the reference groups being national or sub-national in scope. This explains why relative incomes within national economies continue to show strongly significant effects. The basic needs element explains why the role of relative incomes is larger and more sustained within and among the poorer countries (although small relative to other factors, as shown in Appendix Table 1).

Once the general importance of government was established, we turned to consider possible differences among countries in which aspects of good government are most supportive of life satisfaction. We found, for the global sample as well as for sub-samples defined by splitting countries by per capita income level, that the six dimensions of governance quality measures fall easily into two groups, the first group of four dealing with the efficiency and trustworthiness of the design and delivery of government, and a second group of two dealing primarily with the electoral process (voice and accountability, and political stability). For the global sample, and especially for the sub-group of poorer countries, the first variable is of primary importance, while the second is of little or no importance. For the richer countries considered as a sub-sample, however, the situation is rather different, with the political dimensions coming to play a much greater role. For these countries, which already tend to have higher and fairly uniform levels of governmental efficiency, there is greater focus on the mechanisms whereby governments are elected and made accountable. In Table 8 we test further disaggregation of the six component measures, with interesting results. First, we find that two of the measures of the quality of service provision (effectiveness and freedom from corruption) have well-being effects that are large and significant, and of roughly the same size and

significance for rich and poor countries alike. By contrast, the partial effects of the rule of law and quality of regulation are negative (although not significantly so) for the rich countries. For the poorer countries, the quality of regulation has a strong positive effect and the rule of law a strong negative effect. We also split the GOVDEM variable into its two components, to test the hypothesis that the variable's lack of positive influence in poor countries might be due to the possibility that political stability might be a mixed blessing, with stable autocracies reflecting the dark side of stability. The results show that political stability and voice have coefficients that do not differ significantly from each other in either group of countries, but do differ between the countries. The only significant effect is the positive effect of voice in the sample of richer countries. Of course, as we have already seen, there are high simple correlations among the six measures of governmental quality, so that it is not surprising that they often do not show significantly differing effects, especially within sub-samples of restricted size.

Nonetheless, there appears to be a hierarchy of preferences for different aspects of government, with the ability of governments to provide a trustworthy environment, and to deliver services honestly and efficiently, being of paramount importance for countries with worse governance and lower incomes. The balance changes once acceptable levels of efficiency, trust and incomes are established, with more attention paid to building and maintaining voter engagement. These are our preliminary but suggestive findings on the evolution of preferences across dimensions of good government.

After a series to robustness tests, we turned to consider health as a determinant of life satisfaction, and as a channel whereby good government aids life satisfaction. Once again there appeared to be some change of relative importance as development proceeds, with life expectancy more important among those countries where it is low and variable, and good health more important among the richer countries, where life expectancy is generally high and fairly uniform.

We then illustrated in a preliminary way how life satisfaction data could be used to shed a different light on various issues in comparative political economy. First we made some

attempt to test in utility terms the Persson and Tabellini findings about the consequences of presidential and majoritarian constitutional forms. One robust result appeared to be that countries with some element of proportional voting do have higher levels of life satisfaction. This did not appear to flow through the specific channel of higher social spending identified by Persson and Tabellini. Finally we presented some preliminary data showing the effects of adding different measures of inequality and diversity.

What next? We have made our case, but is it widely acceptable? It is possible that social scientists will be sceptical of the use of subjective measures of life satisfaction as proxy measures for utility, despite their support from psychological and neurological research[11] and from confirming results based on more hard-edged data on comparative suicide rates. If significant scepticism remains, then more work will have to be done making the case, and looking for different types of tests showing the possibilities and limitations of subjective data.

If our case is accepted, at least in a provisional way, then life satisfaction data should be collected much more broadly and routinely. Since the relevant questions can be added at little or no cost to surveys being used for other purposes, there is ample scope for rapid increases in the relevant pool of data. Perhaps the biggest limitation on the use of life satisfaction data in comparative political economy is that there is very little in the way of panel or even repeated-sample data in many countries. Within countries, large samples of location-specific data are needed if life satisfaction data are to be used to assess the nature and consequences of sub-national differences in governance.

Even within the confines of the available data, there are many hypotheses that can be usefully assessed or re-assessed, using life satisfaction data. In our view, these data provide the broadest and least assumption-driven way to evaluate the quality of government.

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[11] See Layard (2005) for a helpful survey of this evidence.

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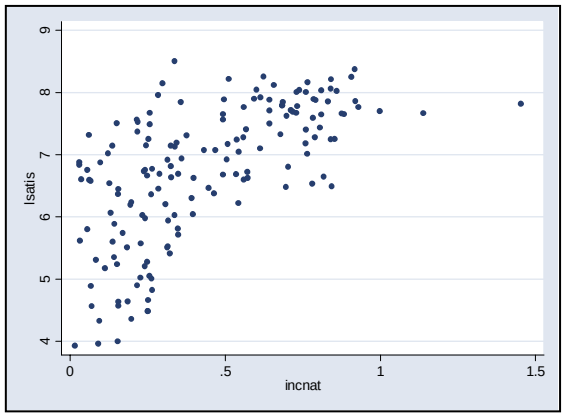
Figure-1. Scatter Plots, whole sample

a: Life satisfaction against per capita incomes



b: Life satisfaction against the quality of government

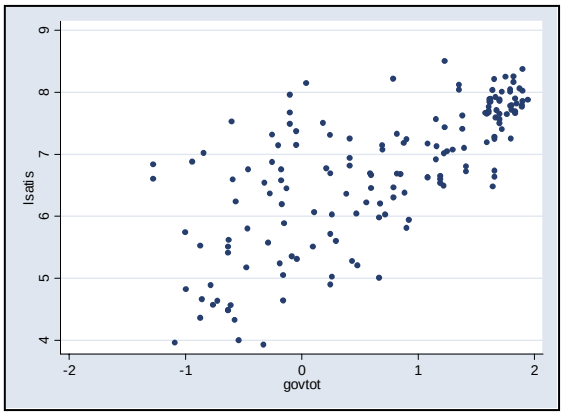
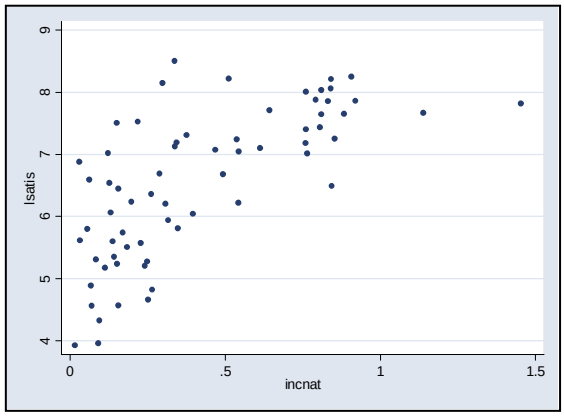


Figure-2. Scatter Plots, wave 4 only

a: Life satisfaction against per capita income, wave 4



b: Life satisfaction against the quality of government, wave 4

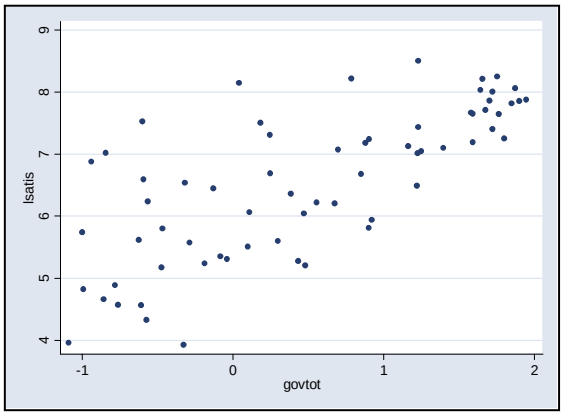


Table 1: Compare aggregate governmental quality measures and per capita income's relations with life satisfaction

Survey Linear Regression; See Appendix Table 3 for data summaries

Dependent Variable: Life Satisfaction, scaled 1~10. In our whole sample it has a mean of 6.73 with SD of 1.103018

	Whole Sample					Wave 1~3	Wave 4 only						Incnat< 0.5	Incnat> 0.5
govtot	0.846**			0.699**	0.705**	0.716**	0.672**	0.530*		0.926**				
(see footnote 1)	[0.109]			[0.170]	[0.198]	[0.211]	[0.209]	[0.261]		[0.103]				
incnat: Per Capita Income		2.509**	4.309**	0.583	0.487	0.259	0.859	2.509	2.543**			4.999**	-0.663	3.454
(see footnote 2)		[0.332]	[0.933]	[0.418]	[1.343]	[0.592]	[0.532]	[1.466]	[0.337]			[0.839]	[4.386]	[1.714]
incnatsq			-1.739*		0.076			-1.172				-2.223**	7.807	-1.47
(square of incnat)			[0.700]		[0.874]			[0.791]				[0.605]	[7.649]	[0.861]
govdo											0.870**			
(see footnote 3)											[0.092]			
Constant	6.144**	5.624**	5.305**	5.989**	6.006**	6.157**	5.835**	5.544**	5.468**	6.068**	6.063**	5.062**	5.788**	5.812**
	[0.152]	[0.212]	[0.290]	[0.176]	[0.302]	[0.249]	[0.195]	[0.327]	[0.202]	[0.138]	[0.134]	[0.250]	[0.507]	[0.765]
Observations	161	161	161	161	161	95	66	66	66	66	66	66	96	65
R-squared	0.51	0.41	0.43	0.52	0.52	0.47	0.56	0.57	0.48	0.54	0.55	0.53	0.15	0.11

*Standard errors in brackets, * significant at 5%; ** significant at 1%*

Note 1: govtot is the unweighted average of the six component indexes of Kaufmann, Kraay and Mastruzzi 2005, each of which is scaled to have, across the global sample, a mean of zero and a standard deviation of 1.0. In our sample, it's mean is .69 (SD=.93, range -1.27 to +1.95)

Note 2: incnat is per capita real incomes measured at purchasing power parities and shown as ratios of US per capita GDP in 1995. In our sample it has a mean of .44 (SD=.28),

Note 3: govdo is the average of the following four governance indices in Kaufmann, Kraay and Mastruzzi (2005): governmental effectiveness, regulatory quality, rule of law, and control of corruption

Table 2: Test the relative importance of the democratic and delivery dimensions of governance

Survey Linear Regression; See Appendix Table 3 for data summaries

Dependent Variable: Life Satisfaction, scaled 1~10. In our whole sample it has a mean of 6.73 with SD of 1.103018									
	Whole Sample	Incnat< 0.5	Incnat> 0.5	Whole Sample	Incnat< 0.5	Incnat> 0.5	Whole Sample	Incnat< 0.5	Incnat> 0.5
govdo	1.149**	1.293**	0.282	1.057**	1.250**	0.235	0.720**	0.850**	0.158
(see footnote 3 of Table 1)	[0.190]	[0.219]	[0.254]	[0.202]	[0.221]	[0.266]	[0.182]	[0.218]	[0.156]
govdem	-0.435	-0.667*	1.061**	-0.461	-0.808**	1.075**	-0.026	-0.367	1.095**
(see footnote 1)	[0.252]	[0.254]	[0.315]	[0.253]	[0.299]	[0.311]	[0.249]	[0.280]	[0.291]
incnat: Per Capita Income				0.481	1.561	0.24	0.673	2.726*	0.069
(see footnote 2 of Table 1)				[0.388]	[1.342]	[0.253]	[0.370]	[1.301]	[0.305]
trustnat: General Trust							1.555**	1.825*	0.891
(see footnote 2)							[0.471]	[0.820]	[0.497]
godn: Importance of god							1.267**	1.386**	1.267**
(see footnote 3)							[0.369]	[0.455]	[0.414]
Constant	6.147**	6.124**	5.670**	6.019**	5.773**	5.552**	4.900**	4.305**	5.076**
	[0.133]	[0.134]	[0.298]	[0.155]	[0.293]	[0.252]	[0.266]	[0.455]	[0.308]
Observations	161	96	65	161	96	65	161	96	65
R-squared	0.56	0.35	0.45	0.56	0.37	0.46	0.64	0.48	0.6

*Standard errors in brackets, * significant at 5%; ** significant at 1%*

Note 1: govdem is the average of the following two governance indices of Kaufmann et al (2005): Voice and Accountability; Political Stability

Note 2: trustnat is the national average response to "Generally speaking, would you say that most people can be trusted or that you cant be too careful in dealing wnh people?" in WVS, scaled 0~1

Note 3: godn is the national average response to "How important is God in your life?" in WVS, scaled 0~1

Table 3. Comparable equations estimated for life satisfaction and suicide, expanded to include WHO life expectancy measures

To the right of survey linear regression's coefficients are beta coefficients; See Appendix Table 3 for data summaries

	Basic Model				With Morbidity				With Healthy Life Expectancy				With Life Expectancy and Morbidity			
D.V.	Life Satisfaction		Suicide Rate		Life Satisfaction		Suicide Rate		Life Satisfaction		Suicide Rate		Life Satisfaction		Suicide Rate	
		Beta		Beta		Beta		Beta		Beta		Beta		Beta		Beta
memntotc	0.364*	0.108	-4.604*	-0.145	0.321*	0.095	-4.734**	-0.149	0.330*	0.098	-5.094**		0.325*	0.096	-4.767**	-0.15
	[0.139]		[1.858]		[0.134]		[1.556]		[0.140]		[1.568]	-0.16	[0.138]		[1.516]	
trustnat	1.949**	0.258	-13.994*	-0.197	1.701**	0.225	-11.419	-0.161	1.720**	0.228	-13.453*		1.689**	0.224	-11.317	-0.16
	[0.529]		[6.343]		[0.510]		[6.461]		[0.533]		[6.240]	-0.19	[0.518]		[6.405]	
godn	1.771**	0.388	-20.415*	-0.477	1.881**	0.412	-24.754*	-0.578	1.923**	0.421	-24.191**		1.938**	0.425	-25.215*	-0.59
	[0.313]		[3.410]		[0.302]		[3.676]		[0.300]		[3.427]	-0.57	[0.296]		[3.534]	
divorce	-0.180**	-0.201	4.255**	0.506	-0.149**	-0.167	3.754**	0.447	-0.120*	-0.134	3.523**		-0.119*	-0.13	3.508**	0.418
	[0.047]		[0.800]		[0.053]		[0.789]		[0.055]		[0.655]	0.419	[0.056]		[0.706]	
ur	-0.031*	-0.133	0.016	0.007	-0.031*	-0.131	0.068	0.031	-0.030*	-0.127	0.05		-0.030*	-0.13	0.063	0.029
	[0.012]		[0.164]		[0.012]		[0.150]		[0.012]		[0.150]	0.023	[0.011]		[0.147]	
govdo	0.701**	0.614	-4.671*	-0.436	0.738**	0.646	-0.414	-0.039	0.565**	0.495	1.925		0.581**	0.508	0.872	0.081
	[0.186]		[2.244]		[0.082]		[0.828]		[0.130]		[1.219]	0.18	[0.142]		[1.242]	
govdem	0.111	0.071	4.504	0.308												
	[0.246]		[2.996]													
morbid					-0.079*	-0.113	1.954**	0.298					-0.068*	-0.1	1.864**	0.285
					[0.034]		[0.573]						[0.033]		[0.619]	
hale									0.053*	0.249	-0.832**	-0.42				
									[0.026]		[0.257]					
le													0.046	0.174	-0.378	-0.15
													[0.034]		[0.328]	
Constant	5.327**		21.717**		6.108**		4.81		1.959		76.688**		2.594		33.481	
	[0.287]		[3.879]		[0.403]		[6.254]		[1.614]		[16.719]		[2.439]		[26.944]	
Observatio	136		136		136		136		136		136		136		136	
R-squared	0.78		0.62		0.79		0.66		0.79		0.65		0.79		0.67	

*Standard errors in brackets, * significant at 5%; ** significant at 1%*

memntotc: National average of number of membership, response from WVS

trustnat: National Average of reponse to the general trust question in WVS, scaled 0~1

godn: National average response to "How important is God in your life?" in WVS, scaled 0~1

divorce: Divorce rate, per 1,000 population

ur Unemployment rate

le: Life expectancy at birth;

hale: Healthy-life expectancy at birth

morbid : le-hle

govdo and govdem: see footnotes of table 1 and 2

Table 4: Robustness tests by adding alternative measures of governmental quality to fully specified model

Survey Linear Regression; See Appendix Table 3 for data summaries

Dependent Variable: Life Satisfaction, scaled 1~10. In our whole sample it has a mean of 6.73 with SD of 1.103018										
Sample: All available										
govdo	0.702**	0.754**	0.744**	0.735**	0.748**	0.704**	0.749**	0.641**	0.724**	0.715**
	[0.101]	[0.112]	[0.150]	[0.139]	[0.153]	[0.138]	[0.229]	[0.208]	[0.147]	[0.102]
incnat	0.67	0.65	0.694	0.685	0.708*	0.51	0.397	0.949*	0.862*	0.637
	[0.377]	[0.328]	[0.354]	[0.360]	[0.346]	[0.402]	[0.348]	[0.471]	[0.407]	[0.360]
trustnat	1.572**	1.950**	1.757**	1.745**	1.797**	1.616**	1.702*	1.500*	1.506**	1.574**
	[0.541]	[0.693]	[0.513]	[0.493]	[0.552]	[0.544]	[0.710]	[0.654]	[0.558]	[0.530]
godn	1.282**	1.549**	1.381**	1.375**	1.399**	1.441**	1.342**	1.330**	1.256**	1.067**
	[0.328]	[0.404]	[0.366]	[0.366]	[0.359]	[0.349]	[0.391]	[0.365]	[0.376]	[0.343]
age_dem		-0.434								
		[0.370]								
gastil			0.037							
			[0.091]							
polit_rt				0.027						
				[0.073]						
civil_lb					0.043					
					[0.100]					
open						-0.317				
						[0.203]				
cpi9500							0.004			
							[0.102]			
score_h								-0.085		
								[0.255]		
fraser									-0.089	
									[0.072]	
ME										0.035
										[0.025]
Constant	4.887**	4.777**	4.649**	4.694**	4.596**	5.201**	4.910**	4.930**	5.372**	4.936**
	[0.238]	[0.281]	[0.378]	[0.312]	[0.431]	[0.305]	[0.792]	[0.791]	[0.463]	[0.231]
Observatio	161	137	149	150	150	128	135	99	145	157
R-squared	0.64	0.67	0.65	0.65	0.65	0.62	0.68	0.62	0.59	0.65

age_dem *age of democracy, varying between 0 and 1, with US being the oldest democracy (value of 1)*

polit_rt *Political rights, from Freedom House, measured on one-to-seven scale with one representing the high-est degree of freedom and seven the lowest*

civil_lb	*Civil liberties, from Freedom House, measured on one-to-seven scale with one representing the high-est degree of freedom and seven the lowest*
gastil	*Average of indexes for civil liberties and political rights, from freedom house*
fraser	*Fraser Institute's Economic Freedom, chain link index*
ME	*Malaria Ecology is an ecologically-based spatial index of the stability of malaria transmission based on the interaction of climate with the dominant properties of anopheline vectors of malaria that determine vectorial capacity, from dataset of Jeffrey Sachs;*
open	*Sachs, Jeffrey D. and Andrew M. Warner trade openness indicator, updated by Easterly, Levine and Roodman*
cpi9500	*corruption perception index 1995-2000*
score_h	*General Score, Low scores are more desirable, Heritage/Wall Street Econ. Freedom Index*

other variables: see footnotes of Table 1 and 2

Table 5: Health as a channel of influence

Survey Linear Regression; See Appendix Table 3 for data summaries

Dependent Variable: Life Satisfaction, scaled 1~10. In our whole sample it has a mean of 6.73 with SD of 1.103018

Sample	All Available				Poorer countries, if incnat<.5		Richer Countries, if incnat>.5		if life expectancy<75		if life expectancy>75	
govdo	0.823**	0.686**	0.622**	0.622**	1.002**	0.804**	0.152	0.178	1.245**	1.212**	0.078	0.078
(see footnote 3 of Table 1)	[0.233]	[0.218]	[0.212]	[0.217]	[0.248]	[0.261]	[0.154]	[0.151]	[0.237]	[0.245]	[0.140]	[0.149]
govdem	-0.15	-0.33	-0.212	-0.211	-0.575	-0.784*	1.152**	1.101**	-0.910**	-0.748*	0.825*	0.905**
(see footnote 1 of Table 2)	[0.355]	[0.335]	[0.298]	[0.361]	[0.382]	[0.350]	[0.310]	[0.299]	[0.310]	[0.294]	[0.304]	[0.324]
incnat: Per Capita Income	0.415	0.123	0.062	0.062	2.253	1.556	0.089	0.164	1.457	1.531	0.522*	0.434
(see footnote 2 of Table 1)	[0.390]	[0.380]	[0.370]	[0.371]	[1.284]	[1.013]	[0.292]	[0.251]	[0.984]	[1.023]	[0.254]	[0.257]
trustnat: General Trust	2.042**	1.961**	1.881**	1.880**	2.670*	2.053	0.842	0.886	3.069*	3.374*	1.483**	1.444**
(see footnote 2 of Table 2)	[0.610]	[0.581]	[0.558]	[0.559]	[1.221]	[1.050]	[0.512]	[0.433]	[1.347]	[1.293]	[0.407]	[0.448]
godn: Importance of god	2.051**	2.055**	2.172**	2.173**	2.462**	2.225**	1.287**	1.384**	2.650**	2.806**	1.215**	1.194**
(see footnote 3 of Table 2)	[0.395]	[0.344]	[0.332]	[0.333]	[0.386]	[0.360]	[0.419]	[0.321]	[0.502]	[0.451]	[0.333]	[0.367]
le: Life Expectancy at birth		0.090*		0.076		0.122**		-0.048	0.118**		-0.071	
(see note)		[0.039]		[0.042]		[0.043]		[0.048]	[0.037]		[0.044]	
hale: Healthy-life expect-			0.076**							0.092**		-0.03
-ancy at birth			[0.026]							[0.031]		[0.036]
morbid : le-hle				-0.077		0.006		-0.129*	-0.044		-0.05	
				[0.043]		[0.047]		[0.062]	[0.047]		[0.041]	
Constant	4.656**	-1.677	0.05	0.072	3.917**	-4.418	5.006**	9.795*	-3.919	-1.775	10.954**	7.035**
	[0.312]	[2.674]	[1.566]	[3.100]	[0.408]	[3.160]	[0.328]	[3.713]	[2.457]	[1.902]	[3.377]	[2.406]
Observations	136	136	136	136	72	72	64	64	56	56	80	80
R-squared	0.73	0.75	0.76	0.76	0.69	0.73	0.6	0.64	0.77	0.77	0.64	0.62

Standard errors in brackets

** significant at 5%; ** significant at 1%*

Note: le, hle come from Core Health Indicators from the World Health Report, value taken from the year of 2000; Morbid is defined as the difference between Le and hle

Table 6: majority vs proportional, presidential vs parliamentary, and government social spending

Survey Linear Regression

Dependent Variable: Life Satisfaction, scaled 1~10. In our whole sample it has a mean of 6.73 with SD of 1.103018														
											Adoption of a majoritarian system			
sample	if data available	if incnat >0.5	if incnat <0.5	if data available	if incnat >0.5	if incnat <0.5	if data available	if data available	if data available	if data available	Compa--rator	Instru--mented	Reduc--ed	Check govdem
govdo	0.803**	0.590**	0.842**				0.777**	0.878**	0.763**	0.869**	0.705**	0.534**	0.498**	0.761**
	[0.101]	[0.181]	[0.135]				[0.133]	[0.122]	[0.126]	[0.116]	[0.110]	[0.170]	[0.162]	[0.186]
incnat	0.401	0.265	0.291	2.328**	0.849**	4.053**	0.341	0.241	0.356	0.241	0.592	0.646*	0.654	0.611*
	[0.316]	[0.210]	[1.068]	[0.351]	[0.247]	[0.966]	[0.508]	[0.453]	[0.491]	[0.452]	[0.307]	[0.287]	[0.367]	[0.299]
trustnat	1.974**	1.449**	3.524**	3.025**	2.296**	4.664**	1.509**	1.939**	1.548**	1.972**	1.990**	1.659**	2.553**	1.954**
	[0.625]	[0.479]	[1.000]	[0.563]	[0.395]	[1.060]	[0.525]	[0.544]	[0.539]	[0.502]	[0.619]	[0.590]	[0.547]	[0.555]
godn	1.422**	1.596**	1.644**	1.761**	1.629**	2.277**	1.744**	1.791**	1.822**	1.827**	1.658**	1.173*	0.967*	1.628**
	[0.321]	[0.420]	[0.370]	[0.426]	[0.510]	[0.468]	[0.385]	[0.407]	[0.403]	[0.413]	[0.354]	[0.466]	[0.391]	[0.359]
maj	-0.518**	-0.356**	-0.801**	-0.559**	-0.308	-0.812*		-0.451**		-0.443**	-0.513**		-0.723**	-0.525**
	[0.133]	[0.115]	[0.227]	[0.201]	[0.173]	[0.328]		[0.141]		[0.150]	[0.137]		[0.182]	[0.152]
majhat												-0.291		
												[0.173]		
pres	0.364*	-0.19	0.661**	-0.044	-0.273	0.187		0.385		0.396				
	[0.168]	[0.194]	[0.181]	[0.261]	[0.283]	[0.318]		[0.211]		[0.206]				
gsoc									0.005	0.003				
									[0.014]	[0.011]				
govdem														-0.081
														[0.284]
eurfrac													0.552**	
													[0.164]	
engfrac													-0.011	
													[0.229]	
lat01													-1.142	
													[0.593]	
age_dem													0.207	
													[0.408]	
con2150													-0.05	
													[0.212]	
con5180													-0.056	
													[0.228]	
con81													0.02	

													[0.232]	
Constant	4.815**	5.473**	4.249**	4.251**	5.657**	3.074**	4.850**	4.628**	4.730**	4.555**	4.817**	5.262**	5.406**	4.844**
	[0.267]	[0.280]	[0.404]	[0.350]	[0.364]	[0.443]	[0.287]	[0.288]	[0.424]	[0.356]	[0.258]	[0.332]	[0.537]	[0.268]
Observatio	137	63	74	137	63	74	94	90	94	90	137	118	118	137
R-squared	0.73	0.6	0.66	0.59	0.48	0.47	0.7	0.77	0.7	0.77	0.72	0.55	0.7	0.72

*Standard errors in brackets, * significant at 5%; ** significant at 1%*

gsoc: *sum of government expenditure on education, health, social security and welfare as share of GDP, from William Easterly and Mirvat Sewadeh government finance data*

maj: *Dummy variable for electoral systems. Equals 1 if all the lower house is elected under plurality rule, 0 otherwise, from Persson and Tabellini 2003*

pres: *Dummy variable for forms of government, equal to 1 in presiden-tial regimes, 0 otherwise, from Persson and Tabellini 2003*

majhat: Predicted maj from the first stage regression using the Persson and Tabellini set of instruments

The following data and the associated labels are mostly taken from Persson, Torsten, and Guido Tabellini (2003)

eurfrac the fraction of the population speaking one of the major languages of Western Europe: English, French, German, Portoguese, or Spanish.

engfrac the fraction of the population speaking English as a native language. Taken from

lat01 rescaled variable for latitude, defined as the absolute value of LATITUDE divided by 90 and taking values between 0 and 1.

age_dem age of democracy, defined as:AGE = (2000 - DEM AGE)/200 and varying between 0 and 1, with US being the oldest democracy.

con2150 dummy variable: current constitu-tional features originated between 1921 and 1950.

con5180 dummy variable: current constitu-tional features originated between 1951 to 1980

con81 dummy variable: current constitu-tional features originated after 1981.

other variables: see footnotes of Table 1

Table 7: Add to the basic equation measures of inequality and fractionalization

Survey Linear Regression

Dependent Variable: Life Satisfaction, scaled 1~10. In our whole sample it has a mean of 6.73 with SD of 1.103018										
sample	gini available	avelf available	whole sample	gini & avelf available			gini & avelf available,			
							if govdo <.73	if govdo >.73	if incnat <0.5	if incnat >0.5
govdo	0.697**	0.681**	0.600**	0.774**	0.691**	0.728**	1.155**	0.811**	0.687**	0.818**
	[0.142]	[0.110]	[0.115]	[0.120]	[0.158]	[0.138]	[0.256]	[0.244]	[0.197]	[0.281]
incnat	0.68	0.352	0.439	0.307	0.291	0.338	0.187	0.358	0.37	0.069
	[0.416]	[0.350]	[0.375]	[0.367]	[0.397]	[0.396]	[1.372]	[0.270]	[1.271]	[0.307]
trustnat	1.821**	1.759**	1.049	1.661*	1.665**	1.827**	3.042**	1.381**	2.563**	1.007*
	[0.535]	[0.591]	[0.561]	[0.659]	[0.568]	[0.525]	[0.807]	[0.479]	[0.718]	[0.468]
godn	0.801*	1.504**	1.349**	1.384**	0.882*	0.894**	0.973*	1.096*	0.984*	1.026*
	[0.367]	[0.344]	[0.328]	[0.408]	[0.342]	[0.331]	[0.431]	[0.410]	[0.368]	[0.457]
gini	0.032*				0.030*	0.029*	0.044**	-0.006	0.036**	-0.018
	[0.013]				[0.012]	[0.012]	[0.010]	[0.009]	[0.013]	[0.010]
avelf		-0.973**			-0.965*	-0.953**	-1.487**	-0.113	-1.206**	0.028
		[0.311]			[0.363]	[0.351]	[0.402]	[0.485]	[0.383]	[0.527]
sdlsatis			-0.832*		-0.251					
			[0.333]		[0.407]					
Constant	3.825**	5.131**	6.996**	4.937**	4.855**	4.241**	3.621**	5.198**	3.786**	5.962**
	[0.496]	[0.244]	[0.812]	[0.287]	[0.982]	[0.462]	[0.702]	[0.459]	[0.632]	[0.438]
Observatio	138	137	161	120	120	120	53	67	66	54
R-squared	0.69	0.7	0.67	0.68	0.75	0.74	0.66	0.71	0.64	0.63

Standard errors in brackets

* significant at 5%; ** significant at 1%

For interpretation of govdo, incnat, trustnat and godn, see footnotes of Table 1 and Table 2

gini: Gini Coefficients, from Deininger and Squire dataset, human development report 2004, and various other sources

avelf: Index of ethnolinguistic fractionalization, approximating the level of lack of ethnic and linguistic cohesion within a country, ranging from 0 (homogeneous) to 1 (strongly fractionalized) and averaging 5 di ? erent in-dexes. Adopted from Persson and Tabellini.

sdlsatis: Standard deviation of the responses to life satisfaction question within each country-wave

Table 8: Exploring dimensions of governance qualities

D.V.: Lsatis			if incnat>.5	if incnat<.5
		whole sample	all waves	all waves
govdo1		1.1183	1.0036	1.1971
		[3.54]	[2.93]	[3.11]
law		-1.0725	-0.6708	-1.3247
		[3.18]	[1.71]	[3.24]
regulate		0.4776	-0.3662	0.7681
		[2.22]	[1.80]	[3.84]
voice		0.1328	0.571	-0.1545
		[0.66]	[3.14]	[0.68]
politic		0.0322	0.3546	0.0501
		[0.18]	[1.15]	[0.24]
incnat		1.0543	0.2361	2.6928
		[2.59]	[0.83]	[2.09]
trustnat		1.8434	0.7642	2.3229
		[4.22]	[1.56]	[3.93]
godn		1.2632	1.2066	1.5278
		[3.82]	[3.10]	[4.03]
Constant		4.679	5.3933	3.992
		[17.27]	[17.98]	[8.35]
Observatio	161	161	65	96
R-squared	0.68	0.68	0.66	0.59

Absolute value of t statistics in brackets

Note 1: *govdo1 is the average of governmental effectiveness and control of corruption indices in Kaufmann, Kraay and Mastruzzi (2005): law is index for rule of law, and regulate is for regulatory quality from the same dataset*

Note 2: voice and politic are "Voice and Accountability" and "Political Stability" from Kaufmann et al (2005):

Note 3: *incnat is per capita real incomes measured at purchasing power parities and shown as ratios of US per capita GDP in 1995.*

Note 4: *trustnat is the national average response to "Generally speaking, would you say that most people can be trusted or that you cant be too careful in dealing wnh people?" in WVS, scaled 0~1*

Note 5: *godn is the national average response to "How important is God in your life?" in WVS, scaled 0~1*

Appendix Table 1: Regressing Individual Level Life Satisfaction on Governance Quality, WVS

Survey Linear Regression

Dependent Variable: Life Satisfaction, scaled 1~10							
	Sample	All Available	Poorer, incnat<0.5	Richer incnat>0.5	All Available	Poorer, incnat<0.5	Richer incnat>0.5
govtot	Gov. Quality: Aggregate	0.715**	0.595**	0.829**			
		[0.121]	[0.156]	[0.226]			
govdo	Gov. Quality: Delivery				0.616**	0.649**	0.202
					[0.180]	[0.241]	[0.261]
govdem	Gov. Quality: Democratic				0.077	-0.09	0.915*
					[0.236]	[0.275]	[0.419]
incnat	Real Per capita GDP over USA 1995, PPP	0.808*	2.243	0.195	0.767	2.311	0.277
		[0.387]	[1.261]	[0.319]	[0.394]	[1.235]	[0.281]
trustnat	National average response to gerneral trust question	0.452	0.619	0.287	0.349	0.475	0.254
		[0.584]	[0.968]	[0.479]	[0.501]	[0.854]	[0.496]
godn	National average response to importance of god	0.775*	0.987*	0.567	0.681*	0.805	0.583
		[0.308]	[0.380]	[0.529]	[0.331]	[0.425]	[0.465]
ztr_cop	trust in police, 0~1	0.416**	0.339*	0.710**	0.395**	0.296	0.700**
		[0.128]	[0.161]	[0.066]	[0.126]	[0.159]	[0.070]
ztrust	general trust, 0~1	0.266**	0.238**	0.334**	0.265**	0.238**	0.334**
		[0.029]	[0.038]	[0.034]	[0.029]	[0.038]	[0.034]
zgod	importance of god, 0~1	0.432**	0.414**	0.426**	0.420**	0.390**	0.433**
		[0.082]	[0.136]	[0.067]	[0.088]	[0.138]	[0.066]
zchurch	frequency of going to church, 0~1	0.164	0.229	0.091	0.18	0.268	0.08
		[0.094]	[0.129]	[0.051]	[0.101]	[0.133]	[0.045]
male	Gender	-0.018	-0.02	-0.004	-0.02	-0.023	-0.007
		[0.037]	[0.056]	[0.029]	[0.037]	[0.057]	[0.029]
age2534	Age Group: 25~34	-0.248**	-0.276**	-0.150**	-0.250**	-0.281**	-0.149**
		[0.033]	[0.044]	[0.030]	[0.032]	[0.043]	[0.028]
age3544	Age Group: 35~44	-0.456**	-0.502**	-0.323**	-0.455**	-0.501**	-0.325**
		[0.049]	[0.063]	[0.035]	[0.048]	[0.062]	[0.032]
age4554	Age Group: 45~54	-0.536**	-0.568**	-0.433**	-0.530**	-0.560**	-0.440**
		[0.055]	[0.070]	[0.055]	[0.055]	[0.070]	[0.047]
age5564	Age Group: 55~64	-0.412**	-0.496**	-0.283**	-0.404**	-0.480**	-0.286**
		[0.072]	[0.098]	[0.063]	[0.070]	[0.096]	[0.059]
age65up	Age Group: 65 up	-0.269**	-0.483**	-0.074	-0.256**	-0.453**	-0.076
		[0.094]	[0.129]	[0.078]	[0.094]	[0.128]	[0.076]
married	Marital Status: Married	0.224**	0.167*	0.374**	0.224**	0.170*	0.373**
		[0.051]	[0.068]	[0.044]	[0.050]	[0.067]	[0.044]
asmarr	Marital Status: As Married	0.284**	0.314*	0.311**	0.286**	0.325*	0.289**
		[0.100]	[0.143]	[0.062]	[0.098]	[0.137]	[0.063]
divorced	Marital Status: Divorced	-0.293**	-0.425**	-0.126*	-0.285**	-0.400**	-0.131*
		[0.073]	[0.107]	[0.056]	[0.070]	[0.098]	[0.054]
separ	Marital Status: Separated	-0.373**	-0.270*	-0.525**	-0.369**	-0.264*	-0.520**
		[0.082]	[0.101]	[0.061]	[0.080]	[0.101]	[0.061]
widowed	Marital Status: Widowed	-0.330**	-0.397**	-0.168**	-0.324**	-0.382**	-0.163**
		[0.066]	[0.095]	[0.049]	[0.065]	[0.091]	[0.047]
zedu1	Education: H.S. Equivl.	-0.008	0.017	-0.014	-0.003	0.026	-0.024
		[0.064]	[0.094]	[0.062]	[0.063]	[0.092]	[0.058]
zedu2	Education: in between	0.170*	0.300*	0.045	0.172*	0.304**	0.034
		[0.078]	[0.116]	[0.059]	[0.077]	[0.113]	[0.057]

zedu3	Education: Univ. Equivl.	0.206*	0.291*	0.057	0.208**	0.297**	0.055
		[0.078]	[0.111]	[0.051]	[0.077]	[0.108]	[0.047]
unemp	LFS, unemployed	-0.788**	-0.800**	-0.769**	-0.782**	-0.779**	-0.752**
		[0.073]	[0.088]	[0.095]	[0.072]	[0.086]	[0.096]
decile2	Income Decile, 2nd	0.117	0.086	0.118	0.111	0.072	0.113
		[0.086]	[0.112]	[0.060]	[0.085]	[0.110]	[0.062]
decile3	..	0.297*	0.283	0.229**	0.297*	0.281	0.228**
		[0.114]	[0.149]	[0.061]	[0.114]	[0.149]	[0.061]
decile4	..	0.464**	0.434**	0.403**	0.468**	0.441**	0.409**
		[0.114]	[0.153]	[0.069]	[0.115]	[0.153]	[0.071]
decile5	..	0.644**	0.661**	0.466**	0.652**	0.678**	0.475**
		[0.132]	[0.179]	[0.074]	[0.133]	[0.179]	[0.075]
decile6	..	0.741**	0.785**	0.498**	0.748**	0.803**	0.506**
		[0.138]	[0.188]	[0.077]	[0.140]	[0.190]	[0.077]
decile7	..	0.844**	0.934**	0.543**	0.849**	0.946**	0.555**
		[0.140]	[0.194]	[0.075]	[0.142]	[0.196]	[0.074]
decile8	..	0.904**	1.061**	0.523**	0.907**	1.068**	0.535**
		[0.150]	[0.205]	[0.076]	[0.151]	[0.207]	[0.074]
decile9	..	0.885**	1.044**	0.570**	0.893**	1.059**	0.569**
		[0.155]	[0.237]	[0.077]	[0.157]	[0.239]	[0.077]
decile10	..	0.987**	1.353**	0.628**	0.997**	1.382**	0.642**
		[0.153]	[0.208]	[0.085]	[0.155]	[0.211]	[0.081]
missinc	Miss income information	0.642**	0.629**	0.532**	0.648**	0.642**	0.493**
		[0.159]	[0.225]	[0.094]	[0.162]	[0.236]	[0.115]
Constant		4.395**	3.957**	4.624**	4.480**	4.073**	4.330**
		[0.301]	[0.534]	[0.301]	[0.308]	[0.522]	[0.290]
Observations		163573	101267	62306	163573	101267	62306
R-squared		0.17	0.11	0.1	0.17	0.11	0.1

Standard errors in brackets

* significant at 5%; ** significant at 1%

Appendix table 2: Adding country dummies for each of the countries for which the life satisfaction errors exceed 1.0 (slightly more than one SD on the 10-point scale)

Survey Linear Regression

Dependent Variable: Life Satisfaction, scaled 1~10			
govdo	0.702**	0.837**	0.585**
	[0.101]	[0.072]	[0.121]
incnat	0.67	0.556*	0.653
	[0.377]	[0.278]	[0.342]
trustnat	1.572**	1.230**	1.399**
	[0.541]	[0.366]	[0.463]
godn	1.282**	1.217**	0.901**
	[0.328]	[0.242]	[0.334]
brazil		1.162**	
		[0.147]	
china		1.368**	
		[0.172]	
malta		1.357**	
		[0.132]	
mexico		1.610**	
		[0.098]	
jordan		-1.288**	
		[0.150]	
nigeria		1.334**	
		[0.158]	
pakistan		-1.125**	
		[0.169]	
tanzania		-1.926**	
		[0.150]	
venezuela		1.403**	
		[0.144]	
zimbabwe		-1.373**	
		[0.162]	
russia			-0.758**
			[0.279]
ukraine			-1.308**
			[0.219]
georgia			-1.052**
			[0.195]
estonia			-0.695**
			[0.140]
latvia			-0.681**
			[0.156]
lith			-0.758**
			[0.130]
Constant	4.887**	4.879**	5.279**
	[0.238]	[0.204]	[0.253]
Observatio	161	161	161
R-squared	0.64	0.82	0.68

Standard errors in brackets

* significant at 5%; ** significant at 1%

Appendix 3: Data Summary and Correlations

A3-1. Data Summary: All Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
govdem	161	.6030911	.8460335	-1.526255	1.660205
govdo	161	.7333284	.9992341	-1.166226	2.338573
govtot	161	.689916	.9310998	-1.273288	1.949078
lsatis	161	6.727862	1.103018	3.91857	8.493724
trustnat	161	.3190525	.1456971	.0281442	.6713615
godn	161	.413052	.2927696	0	1
incnat	161	.4400832	.2815457	.0166528	1.455674
hale	136	65.97426	5.132496	55.5	73.8
le	136	75.14559	4.094547	65.2	81.3

A3-2. Data Summary: if incnat<.5

Variable	Obs	Mean	Std. Dev.	Min	Max
govdem	96	.1247868	.7690133	-1.526255	1.431845
govdo	96	.1157348	.7833334	-1.166226	1.936345
govtot	96	.1187521	.7529005	-1.273288	1.705758
lsatis	96	6.190099	1.066743	3.91857	8.493724
trustnat	96	.2573818	.1194165	.0281442	.6713615
godn	96	.5131171	.3164511	0	1
incnat	96	.2388812	.1213833	.0166528	.4983551
hale	72	62.26389	4.240891	55.5	71
le	72	72.2375	3.462533	65.2	78.8

A3-3. Data Summary: if incnat>.5

Variable	Obs	Mean	Std. Dev.	Min	Max
govdem	65	1.30951	.248219	.6239465	1.660205
govdo	65	1.645467	.4101388	.527467	2.338573
govtot	65	1.533481	.3374504	.5596268	1.949078
lsatis	65	7.522096	.527297	6.213981	8.365005
trustnat	65	.4101353	.1333074	.13	.6617647
godn	65	.2652637	.1686288	.0687285	.7902098
incnat	65	.7372431	.1609102	.5064367	1.455674
hale	64	70.14844	1.656923	66	73.8
le	64	78.41719	1.369574	74.6	81.3

A3-4. Data Summary: if wave==4

Variable	Obs	Mean	Std. Dev.	Min	Max
govdem	66	.4351503	.8716503	-1.526255	1.660205
govdo	66	.5487782	1.023139	-1.166226	2.338573
govtot	66	.5109022	.9512069	-1.087219	1.949078

lsatis	66	6.540689	1.197455	3.91857	8.493724
trustnat	66	.2862879	.1435654	.0784508	.6713615
godn	66	.5112363	.3274525	.0122075	1
incnat	66	.4216862	.3268866	.0166528	1.455674
hale	50	65.522	4.978209	55.5	73.8
le	50	74.764	3.961023	65.2	81.3

A3-5. Data Summary for Table 5

Data Summary for Table 5: if who==1

Variable	Obs	Mean	Std. Dev.	Min	Max
hale	136	65.97426	5.132496	55.5	73.8
le	136	75.14559	4.094547	65.2	81.3
govdo	136	.913091	.9542821	-1.166226	2.338573
govdem	136	.8094131	.6990873	-.818295	1.660205

A3-6. Data Summary for Table 5: if who==1 & incnat>.5

Variable	Obs	Mean	Std. Dev.	Min	Max
hale	64	70.14844	1.656923	66	73.8
le	64	78.41719	1.369574	74.6	81.3
govdo	64	1.654223	.4072107	.527467	2.338573
govdem	64	1.317789	.2409661	.6239465	1.660205

A3-7. Data Summary for Table 5: who==1 & incnat<.5

Variable	Obs	Mean	Std. Dev.	Min	Max
hale	72	62.26389	4.240891	55.5	71
le	72	72.2375	3.462533	65.2	78.8
govdo	72	.2543066	.8057026	-1.166226	1.936345
govdem	72	.3575237	.661585	-.818295	1.431845

A3-8: Data Summary: Other Variables when availalable

Variable	Obs	Mean	Std. Dev.	Min	Max
lsatis	161	6.727862	1.103018	3.91857	8.493724
pres	137	.2846715	.4529139	0	1
maj	137	.2846715	.4529139	0	1
age_dem	137	.2825547	.2685296	.03	1
ME	157	.8069981	3.259885	0	21.6237
govdo	161	.7333284	.9992341	-1.166226	2.338573

```
       avelf |       137    .1935274    .1975376          0      .8358
     cpi9500 |       135    4.036835    2.426988   .2683334      7.864
      incnat |       161    .4400832    .2815457   .0166528   1.455674
    memntotc |       149    .4728285     .399676   .0250232   2.444886
-------------+--------------------------------------------------------
    trustnat |       161    .3190525    .1456971   .0281442   .6713615
        godn |       161     .413052    .2927696          0          1
     divorce |       136    1.909559    1.217848         .2       5.04
          ur |       136    8.001471    4.650703         .1       22.8
```

Correlation Tables

A3-9: correlate lsatis govtot incnat
(whole sample, obs=161)

```
             |   lsatis   govtot   incnat
-------------+---------------------------
      lsatis |   1.0000
      govtot |   0.7139   1.0000
      incnat |   0.6403   0.8331   1.0000
```

A3-10: correlate lsatis govtot incnat if wave==4
(if wave==4, obs=66)

```
             |   lsatis   govtot   incnat
-------------+---------------------------
      lsatis |   1.0000
      govtot |   0.7356   1.0000
      incnat |   0.6941   0.8613   1.0000
```

A3-11: correlate ztr_cop corrupt govdo govdem gastil civil_lb polit_rt cpi9500
(when all are available: obs=127)

```
             |  ztr_cop  corrupt    govdo   govdem   gastil civil_lb
-------------+------------------------------------------------------
     ztr_cop |   1.0000
     corrupt |   0.7859   1.0000
       govdo |   0.7522   0.9735   1.0000
      govdem |   0.6374   0.9051   0.9309   1.0000
      gastil |  -0.5231  -0.7696  -0.8176  -0.8857   1.0000
    civil_lb |  -0.5848  -0.8130  -0.8486  -0.8933   0.9697   1.0000
    polit_rt |  -0.4404  -0.6905  -0.7472  -0.8329   0.9755   0.8921
     cpi9500 |  -0.8109  -0.9690  -0.9363  -0.8574   0.6953   0.7563

             | polit_rt  cpi9500
-------------+------------------
    polit_rt |   1.0000
     cpi9500 |   0.6042   1.0000
```

A3-12: correlate suicide lsatis pres maj mixed polity age_dem ME civil_lb
polit_rt
govdo avelf cpi9500 incnat memntotc trustnat godn divorce ur

(when all are available: obs=109)

	suicide	lsatis	pres	maj	mixed	polity
suicide	1.0000					
lsatis	-0.5682	1.0000				
pres	-0.1205	-0.0919	1.0000			
maj	-0.0239	0.0112	0.0083	1.0000		
mixed	-0.1521	0.3739	0.0014	0.3624	1.0000	
polity	-0.0714	0.3508	-0.3424	0.0740	0.2594	1.0000
age_dem	-0.0988	0.5448	-0.1764	0.4758	0.5647	0.4708
ME	-0.1421	0.0440	0.0370	0.1048	-0.0779	-0.2615
civil_lb	0.1022	-0.5174	0.3660	-0.0797	-0.3360	-0.8606
polit_rt	0.0749	-0.3852	0.3805	-0.0478	-0.2619	-0.9380
govdo	-0.1993	0.7367	-0.4506	0.2001	0.4347	0.6007
avelf	0.3810	-0.3581	0.0711	0.0286	0.0552	-0.2725
cpi9500	0.0859	-0.6940	0.4526	-0.2548	-0.4622	-0.4671
incnat	-0.0917	0.6000	-0.2752	0.2730	0.5076	0.5312
memntotc	-0.1729	0.2987	0.1583	0.0471	0.3063	-0.0323
trustnat	0.0764	0.4569	-0.3892	0.0627	0.2896	0.1381
godn	-0.5008	0.1298	0.5671	0.0580	0.0651	-0.0256
divorce	0.6860	-0.2655	0.0379	0.2673	0.2488	0.0784
ur	0.0556	-0.1868	-0.1706	-0.2021	-0.1502	0.3112

	age_dem	ME	civil_lb	polit_rt	govdo	avelf
age_dem	1.0000					
ME	-0.1035	1.0000				
civil_lb	-0.5891	0.2650	1.0000			
polit_rt	-0.4749	0.2660	0.9070	1.0000		
govdo	0.6790	0.0424	-0.7715	-0.6673	1.0000	
avelf	-0.0670	0.1003	0.2258	0.2395	-0.2670	1.0000
cpi9500	-0.6642	-0.0248	0.6545	0.5041	-0.9347	0.2701
incnat	0.7518	0.0427	-0.6569	-0.5649	0.7868	-0.1906
memntotc	0.2155	0.0644	-0.0292	0.0836	0.1752	0.0105
trustnat	0.4984	-0.2152	-0.3337	-0.1385	0.5409	-0.1816
godn	-0.1182	0.2410	0.0904	0.0637	-0.2429	-0.0349
divorce	0.2971	-0.1268	-0.1055	-0.0668	0.0502	0.2865
ur	-0.1824	-0.0845	-0.1043	-0.2613	-0.0650	0.2147

	cpi9500	incnat	memntotc	trustnat	godn	divorce
cpi9500	1.0000					
incnat	-0.7309	1.0000				
memntotc	-0.2416	0.3159	1.0000			
trustnat	-0.6755	0.4977	0.2103	1.0000		
godn	0.3129	-0.2134	0.0584	-0.5392	1.0000	
divorce	-0.1775	0.2522	0.0990	0.2308	-0.3225	1.0000
ur	0.1606	-0.1812	-0.1745	-0.2800	0.0391	-0.0736

	ur
ur	1.0000