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Human Rights: The Effect of Neighbouring Countries.

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Abstract

We examine the geo-political and international spatial aspects of human rights (HR), using a purpose-designed data-set. Applying tools from the spatial economics literature, we analyse the impact on a country's HR performance of geographical proximity to its neighbours. Unlike previous studies, our approach treats this as partly endogenous: one country's HR performance will affect its neighbours through a variety of potential geographical spillover mechanisms. We start with simple descriptive accounts, using scatter plots, of the geographic history of HR performance. Using a relatively simple spatial weighting model approach we compare each country's HR performance with what would be predicted by regression on a weighted average of its neighbours' performance (i.e. weightings depending positively on country population, and negatively upon distance), using a cross sectional and panel dataset of one hundred and sixty countries. We regress measures of population size, distance between countries, the prevalence of war or ethnic conflict, as well as per capita incomes and distribution, to test the general hypothesis that there may be positive spillovers between neighbours' human rights performance. This is then extended to derive measures of HR performance relative to both economic, social and spatial factors.

Keywords: Human rights, spatial econometrics

JEL Classifications: F59, P48, A12

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1 Introduction

The observation of high standards of human rights protection has long been recognised as one of the distinguishing features of advanced societies. Even when we differentiate between economic rights and basic rights, such as habeas corpus, the absence of torture, or freedom of expression and worship, there is a clear difference between advanced nations and developing countries.

This pattern has both economic and geographic aspects. Comparing trends in human rights (HR) across World regions over the past three decades there are two broad 'clubs' evident. In 1980: the one consisted of Western Europe, North America and Oceania, and the other contained the Rest of the World. Between 1980 and 2004 the only major change is in the Central and Eastern European Countries (CEECs), which move from the 'bad' convergence club to the 'good' (note some Latin American countries have also improved significantly).

Our paper shows that these trends reflect both income and spatial factors. As regards income, using a comprehensive measure of non-economic human rights (Landman and Larizza, 2009) a clear relationship can be shown: ranking 149 countries in 2004 according to GDP per capita, 19 out of the top 20 countries are also in the top 30 in terms of human rights (the exception, the USA, being 69th). At the other end of the table, however, while several out of the bottom 20 countries in terms of per capita GDP also rank badly for human rights (HR) - Congo, Burundi, Ethiopia, Chad, Nepal - it is also noticeable that Mali is 34th in terms of HR, while Ghana, Burkina Faso and Guinea Bissau are in the top 60.

To date, economists, with a few exceptions (Sykes, 2005), have paid relatively little attention to human rights as such. In this, economics lags behind the disciplines of law (Freeman, 2001) and political science (Landman, 2005b). However in recent years international economics has become generally more concerned with socio-economic phenomena, such as the relative quality of national institutions (security, law, governance) in trade performance (Nunn, 2007a) and in particular in the role of social, institutional and political factors in growth (see Djankov et al, 2003; Acemoglu et al, 2008; Acemoglu and Johnson, 2005; Acemoglu, 2003; Nunn, 2007b, Tabellini, 2008 and 2010).

The role of HR (other than property rights and the rule of law) to these crucial relationships in the developmental process is still, however, clouded in obscurity. Admittedly, Sala-i-Martin (1997) does indicate a clear role for HR-type variables in promoting economic growth. However, despite strong arguments (Acemoglu et al, 2004) that political institutions underlie the poverty traps besetting many countries, there has still been relatively little analysis of the role of human rights other than property rights in sustaining such traps. To some extent, this may reflect the influence of one institutional school (Hayek, 1976 or Barro, 2000) arguing that HR is relatively irrelevant to the developmental process, being instead a good which wealthier countries choose to supply to their population. Against this is Sen's (1999) argument in favour of all types of human rights: that freedom, fairness and reciprocity are important and that social capital (which is assumed to encompass elements of both economic and non-economic rights) has a positive effect on welfare and growth, which is, however, not necessarily measured in terms of monetary income only. Some tentative evidence in favour of Sen has come from Blume and Voigt (2007), who found positive relationships between both property rights and non-economic human rights and development.

In this paper, we enter into the debate in a fairly limited way. First of all, we wish to develop the notion that countries should be compared, in terms of HR, not just in absolute levels, but in terms of relative human rights (relative, that is, to what one might expect given their level of development and various other socioeconomic criteria). In this regard, just as economists have long recognised that certain poor countries (such as Sri Lanka) have managed to provide relatively good healthcare and educational levels, so there are beacon developing which perform relatively well on HR ‘against the odds’.

Secondly, we wish to analyse regional patterns in HR, and the extent to which these vary for reasons other than simply income level differences. ‘Bad’ regions of the World in terms of HR, which include not just poor regions, but regions where neighbouring countries have poor HR regimes, such as the Middle East and North Africa. This, of course, means that, again, we should widen our definition of relative human rights to encompass location-related effects: a country may deserve credit for providing good HR relative to its income level or relative to its neighbours. Following spatial econometric analysis, we produce the first league table of human rights adjusted for location.

The structure of the paper is as follows: The rest of this section contains a brief discussion of the historical spread of human rights, in particular outlining the role of international human rights standards and treaties. Section 2 carries out data analysis on the Landman/Larizza (2009) database of human rights, before taking account of spatial factors, in order to ascertain some key underlying relationships to economic and social variables. Section 3 motivates our spatial empirical work by showing that there are significant spatial relationships, and establishes the broad trends between and within regions of the globe that we wish to investigate. Section 4 outlines the methodology for spatial econometric analysis and then estimation results. Section 5 produces a series of comparative HR league tables, taking account of both location and other factors. Section 6 concludes, briefly discussing the implications of the spatial spillovers identified in this paper.

1.1 The Historical Spread of HR innovations and institutions

While rights as a concept in political theory and law has deep historical roots, most scholars and practitioners see human rights as a modern construction that developed out the tradition of citizenship rights and was universalised through a set of practices and agreements

that have yielded the international system that we now have today for the promotion and protection of human rights. The history of citizenship is one of a struggle for rights, as subjugated populations increasingly articulated their grievances in the language of rights and as modern states formed, rights became extended through law and enforcement mechanisms that provided greater legal protections to an increasingly wider range of rights concerns (see, e.g. Foweraker and Landman, 1997). The current system for the promotion and protection of human rights is thus an international version of rights that had been grounded in the nation state, which are now seen as an inherent feature of all human beings by virtue of them being human. They thus transcend the nation state in terms of individual entitlement to an enjoyment of these rights wherever a person may find him or herself. The idea of human rights and its purported universality are still open to debate with respect to contested philosophical foundations for their existence (see, e.g. Landman 2005a), and the different ways in which they are understood across the many different political contexts found in the World today.

Beyond the global development of human rights through UN mechanisms, there have been a number of regional human rights innovations that help explain some for the descriptive patterns we observe in our data. Alongside the rebuilding of Europe after the war and strong external support for democratization, the 1950 European Convention on Human Rights came into effect in 1953 and carries with it a relatively strong set of enforcement institutions. The 1969 American Convention on Human Rights has evolved in similar fashion, although its institutional development had not really solidified until the late 1980s. The African system is still in development compared to the European and Inter-American systems, while neither Asia nor the Middle East have such systems for the promotion and protection of human rights. There is thus a global and regional ‘architecture’ of human rights mechanisms with varying degrees of power and effectiveness that nonetheless have codified the discourse of rights and in the terms of this paper provide a number of ‘signals’ for governments and citizens for the ways in which society’s ought to be governed.

2 Descriptive statistics of countries in isolation.

2.1 Comparative human rights data

Much of our data comes from the Landman/Larizza (2009) database. The analysis uses a global data set on 162 countries between 1980 and 2004 (total N*T = 4050). The process of case selection turned mainly to questions of data availability over time and was in no way a function of values on the dependent variable. Microstates with less than half a million inhabitants were eliminated but the remaining cases provide meaningful geographical spread across different regions of the world. The data set is comprised of variables for personal integrity rights protection, income and land inequality, and various other variables.

The protection of civil and personal integrity rights is operationalised using five “standards-based” (Jabine and Claude 1992) human rights scales: (1) the Amnesty International version of the Political Terror Scale, (2) the US State Department version of the Political Terror Scale, (3) the Cingranelli and Richards Index of Personal Integrity Rights (www.humanrightsdata.com), (4) the Freedom House civil liberties scale, and (5) Hathaway’s (2002) scale of torture, which relies on source material from the US State Department. There are clusters of large and significant correlation coefficients between the human rights scales, suggesting that they may be measuring aspects of the same underlying dimension. The correlations for the torture scale are the lowest across the board, which reflects its more narrow focus on one form of human rights abuse (Hathaway 2002), but the values range from .498 to .822 and are all at 99.9% levels of statistical significance. Given this degree of agreement among the different scales, we used principal components factor analysis to reduce the group of interrelated human rights variables. The analysis revealed five components, but only one has an eigenvalue greater than 1 (i.e. 3.295) and accounts for over 65% of the variance.¹ The resulting factor loadings for this component suggest a strong relationship between each variable and the common underlying dimension they all measure. Moreover, the component represents a set of human rights violations that are consistent with Cingranelli and Richards’ (1999, 410) findings about the uni-dimensionality of their aggregate “personal integrity rights scale.”

Once extracted, the human rights factor score has been inverted to make more intelligible its

¹ Given a different time coverage across the scales, we adopted the “substitute missing values with the mean” option to deal with missing cases, and ensure the widest coverage of the factor-score. This procedure is justified by the fact that missing cases are randomly distributed both across indicators and across countries (note also that for each country year between 1980 and 2004, at least 2 indicators were available).

substantive meaning, where low values of the factor score correspond to a low protection of human rights (high violations) and high values correspond to a high protection of human rights (low violations)². This variable is approximately normally distributed, with a mean by definition of 0, a minimum value is -2.7 and a maximum value is 1.97 . The use of this component has several distinct advantages. It simplifies the presentation of the empirical findings, reduces the need for tests of robustness that substitute various specifications of the dependent variable³, and avoids using ordered probit estimation techniques that are less easy to interpret than more standard regression estimators.

2.2 Relationship to socioeconomic variables

We wish to start by carrying out some fairly simple statistical analysis, to determine the relationships between HR and a series of socio-economic-political factors. We then move on to consider how spatial data might augment this analysis. We refer to a number of figures in the Appendix, showing some key relationships.

Relationship to income per capita. The empirical political science literature on human rights finds a strong positive correlation between HR and per capita GDP. This can be shown quite clearly by the scatterplot using the Landman and Larizza (2009) data (see Appendix 1, Figure 1), for 149 countries in 2004. A univariate regression (see Appendix 1 Table 1) suggests a gradient of 0.292 , and has an adjusted R^2 of 0.332 . It is worth noting that, while this relationship is strong, it does not necessarily prove causality in any one direction. There are credible reasons for believing that richer countries supply their citizens with better rights, but at the same time, there is some weaker evidence (Blume and Voight, 2007) that HR benefits economic growth.

² As alternative data-reduction strategy, we have standardized each of the 5 HR scales, and computed the unweighted average. The empirical analysis undertaken here is based on the HR factor score. However, the use of the “average” measure did not substantially alter the statistical findings.

² We estimated the models that appear in this article using both the extracted factor score and the separate measures for civil and personal integrity rights, but only report those for the factor score since the results did not differ significantly (see the analysis section).

³ We estimated the models that appear in this article using both the extracted factor score and the separate measures for civil and personal integrity rights, but only report those for the factor score since the results did not differ significantly (see the analysis section).

Interestingly, a scatterplot of HR in 2004 against per capita GDP in 1980 (Appendix 1, Figure 2) indicates an almost equally strong relationship (gradient = 0.296, adjusted $R^2 = 0.294$). This tends to indicate that the main direction of causality is probably from GDP to HR (or that, alternatively, both may be responding to other, longstanding institutional factors).

Plotting the change in HR against the change in GDP between 1980 and 2004 (Appendix 1, Figure 3) is also interesting for the lack of any clear relationship (as well as the presence of a couple of worrying outliers). This indicates that the relationship between GDP and HR is a long-term one, not short-term, and may also explain the instability of estimated GDP coefficients in fixed effects, panel regressions on the determination of human rights⁴.

Income inequality is negatively associated with HR (see Appendix 1, Figure 4) with an adjusted R^2 of 0.20. In this case, the relationship between income inequality in 1980 and HR in 2004 is much weaker (though retaining the same sign). Land inequality shows a similar, though slightly weaker, relationship to HR. In both cases, there are plausible explanations for causality in either direction.

Domestic conflict is strongly negatively associated with our HR measure, as shown clearly by the Appendix 1, Figure 5. A univariate regression provides an adjusted R^2 of 0.462, indicating that this is a very strong association: however, the direction of causality is again probably in both directions (conflict leads to worsened HR, but bad HR may trigger a conflict).

Serial correlation of human rights, plotting HR in 2004 against HR in 1980, shows a clear relationship. Interestingly, however, a univariate regression has a gradient of 0.65 (which is significantly less than 1) and an adjusted R^2 of 0.22.

⁴ See Section 5 below. Introducing country fixed effects in a panel regression means that we are ignoring longstanding differences in the level of HR or of GDP across countries.

These suggest that levels of human rights can change significantly over time, and that there is a tendency for HR within a country to revert towards its mean relationship with other variables.

Landman and Larizza (2009) found a number of other factors, such as ethnic fractionalisation, to have an important relationship with HR, but the simple analysis here, focusing on 2004 values, did not find any strong relationship. Some of these univariate, cross-sectional regressions are summarised in the Appendix 1, Table 1, below, along with a preferred multivariate regression, Reg 6. This latter explains 57% of the observed variation in HR across countries, which is generally considered good for a cross-sectional regression. The coefficient on the lagged dependent variable is highly significant, but relatively small at 0.2684, indicating that HR can change substantially over time. Political science models of human rights performance typically include one year lags to take account of the time dependent nature in the data and are thus found here to be consistent (see Poe and Tate 1994).

3 Spatial patterns of HR

We now wish to consider how human rights vary spatially. As a simple procedure to start, we simply regress HR levels in 1980 and 2004 on a series of regional dummies. Note that, due to collinearity, we omit a dummy for Western Europe/North America (WENA), so that effectively the regressions compare all other regions with these advanced Western countries. Consequently, the constant (which improves slightly between 1980 and 2004) represents the average level for WENA countries, while other values represent the difference from WENA.

| Column1 | 1980 | 2004 |
|-------------------------------|------------|------------|
| Constrant | 0.9591*** | 1.0262*** |
| SS Africa | -0.9980*** | -1.236*** |
| Asia | -1.2131*** | -1.5469*** |
| CEEC | -1.0779*** | -0.2352 |
| CIS | -0.9768*** | -1.4342*** |
| Lamerica | -0.1485*** | -1.0017*** |
| Meast | -1.0133*** | -1.2667*** |
| Oceania | 1.1725 | 1.3362*** |
| n | 162 | 162 |
| R sqd | 0.394 | 0.3669 |
| *** = significant at 1% level | | |
| ** = significant at 5% level | | |
| * = significant at 10% level. | | |

Table 1: Regional Differences in HR Performance in 1980 and 2004.

The first thing to note is that regional factors alone have a powerful explanatory role, explaining over 39% of the variation in HR across countries in 1980, and 36% in 2004. Regional dummies are all significant, with Asia and the Middle East coming out particularly bad, along with Sub-Saharan Africa. However, regions can also change significantly in relative terms: hence the Central and Eastern European Countries (CEECs) improved markedly between 1980 and 2004, while Latin America showed a modest improvement. In both cases, this is what we would expect, given the fall of dictatorships. However, the CIS states actually worsened on average after the downfall of the Soviet Union. Meanwhile, human rights worsened in Sub-Saharan Africa, Asia and the Middle East.

Plotting the changes in HR associated with the fall of communism, there is a marked difference between the experiences of the Central and Eastern European Countries and those of the CIS states. In *Appendix 1, Figure 6*, the first group, the CEECs, mostly improve with a step change either around 1989-90 or 1991-2 (for the Baltic states). Two exceptions are Hungary, where HR improved steadily throughout the 1980s, indicating that this country was leading the reform of the Communist bloc, in terms of HR as well as economic reform. Also some of the Former Yugoslav republics, where ethnic conflict fuelled severe problems.

The CIS countries of the Former Soviet Union (*Figure 7*) show quite a different pattern. In this case, one group (Ukraine, Armenia, Kazakhstan)

improved after 1991 but then fell back, while the other group (Belarus, Russia and some of the Central Asian Republics) suffered initially very bad HR, but slowly recovered. In no case does this group show the kind of sustained convergence on Western HR levels seen in the CEECs.

Appendix 1, Figures 8-9 show the trends in regional HR averages over the 24 year period, as well as intra-regional variations. Basically, comparing means of the various regions, there appear to be two ‘clubs’ in 1980: the one consisting of Western Europe, North America and Oceania, and the other containing the Rest of the World. Between 1980 and 2004 the only major real change is the CEECs, which move from the ‘bad’ convergence club to the ‘good’. Latin America has shown a modest improvement, reflecting the fall of dictatorships, while the Middle East/North Africa, Asia and the CIS countries have actually worsened, particularly in the period to the mid 90s (with some recovery since).

Looking at intra-regional standard deviations, it is clear that all regions saw a major rise in HR differences at the end of the 80s through to the mid 90s. Since then, almost all regions have seen convergence between their member states. Latin America is a case in point: former dictatorships, notably Chile, Uruguay and some of the Central American republics, have moved sharply up the table, while the previous regional leader, Costa Rica, has declined a little. This is shown in Figure 11.

This simple analysis does not, of course, explain how much of these regional differences are attributable to bad HR regimes, as opposed to low income levels or the presence of domestic conflict. Hence, the set of regressions in *Appendix 1, Table 2* build on the analysis in Reg 6.

Reg 7 is effectively a simplification of Reg 6, reexpressed with the change (between 1980 and 2004) in HR as the dependent variable, and with inequality dropped as an explanatory variable. It is worth noting that an adjusted R^2 of 0.5 is good for a cross-section regression expressed in differences, and that all explanatory variables are highly significant. Reg 8 just augments this equation

with our set of regional dummies. These perform less well than in the levels regression, but there are significant variables for the Middle East (significant negative change) and (marginally) for Asia. The rising negative coefficient on initial IHRFACTOR shows that human rights exhibit less persistence once regional variables are taken into account.

Interpretation

While we can identify clear regional differences in HR provision, interpretation may not be easy. First of all, a regional pattern may reflect common causal factors, which happen to be concentrated in certain global regions. For example, in the case of property rights and the rule of law, Acemoglu et al (2004) argue that different patterns of colonisation have resulted in very different patterns: in those areas which European colonists found relatively empty, they instituted property laws and institutions which favoured fairly equitably the rights of all the new settlers, whereas where there was an existing large population and/or a valuable resource base to exploit, institutions were put in place which favoured the colonists at the expense of the indigenous (or imported slave) population. Nunn's (2007b) work on the role of slavery in determining bad institutions in Africa is in this same tradition. There are good reasons to believe that persistence of bad institutions may also apply in the case of human rights.

Countries in a region can also share a common culture, which may be more or less favourable to human rights (or interpret them in different ways to Western compilers of HR indices). Alternatively, there may be common causes in the sense of regional security crises. There may be rebellions by cross-border ethnic groups, such as the Kurds. Civil wars may spread across borders (for example, the displacement of the Rwandan crisis in the 1990s to neighbouring Congo). Moreover, economic activity, such as GDP per capita, follows spatial patterns. However, we can correct for this latter observation by including GDP per capita in any spatial regressions, so that, when we estimate the effect on HR in a particular country of HR in its neighbours, then a spillover from GDP in one country to its neighbours feeding through into higher HR in both countries can be removed from the estimation by including local HR in our regressions.

The alternative explanation of spatial patterns is direct spillovers between HR in one country and its neighbours. For example, this may reflect colonisation or occupation (as in the Soviet Bloc). However, even when one country does not force its HR standards (good or bad) on its neighbours, it may have strong influence, for example through treaties and issue-linkages in trade negotiations (such as in the case of the European Union). Alternatively, private investors may react to differences in observed HR in other countries: this may well have selfish rationale, since a country which behaves well in terms of HR may well be signalling responsible governance in other areas.

Beyond this, there is plenty of evidence of demonstration effects, as can be seen in Latin America in the 1980s/90s or the Middle East/North Africa today. A country which liberalises its political and legal system with no adverse effects (or maybe with benefit) is likely to have a positive influence upon other countries. We would expect this effect to be stronger, the closer the ties between countries' citizens, and the greater the similarities between the countries. The former reason, in particular, suggests a gravity-type spatial spillover mechanism, since a country which is large and nearby will have more effect on its neighbours, both through trade and through personal and other connections.

In summary, we need to try and differentiate between common causal factors and spillover effects, where possible, when carrying out econometric analysis.

4 Spatial Econometrics

Methodology

Having ascertained that there are clear regional patterns in HR, we develop in this section a more formal spatial econometric model, based upon a panel of countries between 1992 and 2004^{5,2}. The critical assumption here is that changes in

⁵ We have to exclude countries for which data are missing: consequently, it was decided to start in 1992 (after the major national boundary changes associated with the breakup of the former Soviet

one country's HR is correlated with those in other countries, with the degree of correlation depending upon distance. This is a common assumption in spatial econometrics (Arbia et al, 2010).

We model the statistical link between HR in one country and others in the form of a n by n spatial weight matrix (where n is the number of countries in the sample). One potential spatial weight matrix is expressed as the inverse of the square distance between each pair of country to account for the intuition that a given country is more related to closer countries than to further ones:

$$W = w_{ij} = 0 \text{ if } i = j,$$

$$W = w_{ij} = \frac{1}{d^2} \text{ if } i \neq j,$$

(1)

where d_{ij} denotes the geographical distance between countries i and j .

As an alternative, we might also decide to weight countries according to population size, as well as distance. It is likely that countries with larger population have a greater impact on neighbouring countries:

$$W = w_{ij} = 0 \text{ if } i = j,$$

$$W = w_{ij} = \frac{1}{d^2} \times \frac{Pop_j}{Pop_i} \text{ if } i \neq j,$$

(2)

where the geographical distance between countries i and j is adjusted by the relative size of their populations. A third alternative might be to use a weighting scheme based upon GDP (as in gravity modelling of trade): however, the main problem with this is that GDP may not be entirely exogenous, which could cause estimation biases in a spatial econometric model.

Spatial econometric models treat cross-border spillovers as a form of autocorrelation (in terms of distance, rather than autocorrelation over time).

Union), rather than go back to 1980.

Hence, we start by looking for indicators of spatial autocorrelation. Moran's I statistic and the Local Indicator for Spatial Autocorrelation (LISA) are used to check the global and local autocorrelation, respectively. The Moran's I statistic is given by the following expression:

$$I_G = \frac{\sum_i \sum_j W_{ij} z_i z_j}{\sum_i z_i^2},$$

(3)

where Z is the vector of a given variable in deviation from its mean and W is the spatial weight matrix.

Figure 1, below, reports the results of Moran's I statistic for HR in 1992, regardless of the spatial structure imposed, this variable present a positive association between the original variable and its spatially lagged version.

Figure

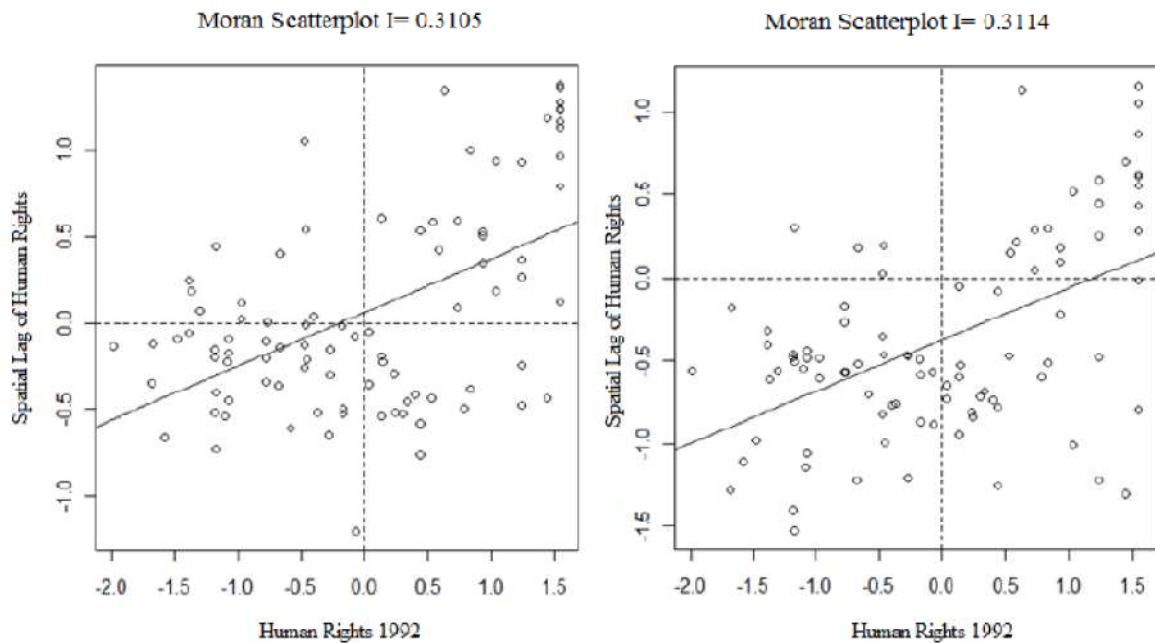


Figure 1: Moran's Scatterplots of human rights based upon inverse squared distance and inverse squared distance times relative population.

Figure 1 clearly indicates that countries' HR should not be viewed as a randomly distributed variable. The spatial autocorrelation observed in HR is 0.3105 using the inverse of the squared distance and 0.3114 for the spatial weight adjusted for population. This spatial autocorrelation suggests that countries

with good HR are more likely to be close to each other. If this spatial dependence is reflected in the error term, regression results using standard econometric estimators, which ignore spatial dependence, will provide unreliable results⁶. In this paper, we use a spatial extension of the linear regression model called the Spatial Autoregressive Model (SAR) that takes the following form:

$$HR_{it} = \rho HR_{it} + bX_{it} + u_{it},$$

(4)

where ρ is the spatial autoregressive parameter and captures the magnitude of the spatial autocorrelation in HR, X is a vector with HR determinants, i denotes each individual country and t represents each period of time considered. As demonstrated in Anselin 1988, the SAR model cannot be estimated by OLS due to the problem of bias when there is a spatially autocorrelated dependent variable. Consequently, he proposes the maximum likelihood (ML) estimator to produce reliable estimators. We use Anselin's ML estimator to perform the regressions in cross-section and its extension proposed by Elhorst (2010) for panel estimates.

Results

We estimate equations on annual data for a balanced panel of 91 countries between 1992 and 2004. Other countries had to be excluded, as some of the data was incomplete. As is standard in panel econometrics, models can be estimated either using random effects or fixed effects. The difference is that the latter incorporate a set of country and year dummies.

We start by running the panel estimator with fixed effects. Results of a fairly simple estimation, relating HR to domestic conflict, per capita GDP, inequality of land ownership and income and spatial lags are shown below, for the two

⁶ We formally detect the presence of spatial dependence in the standard OLS and LSDV regressions using the LM diagnostic tests to confirm the need to use spatial econometrics. For more details on the LM tests see Burridge (1981) and Anselin et al (1996). This is equivalent to Nickel bias in models with serial correlation and a lagged dependent variable.

weighting schemes. We note that the population-based weighting scheme performs fractionally better in terms of fit, but that the two equations are, in fact, remarkably consistent. The only significant difference is in terms of the estimated spatial effect, which is about twice as strong once population is taken into account.

| Panel with fixed effects | | |
|---|------------|------------|
| Dep variable IHRFACTO | Distfe1 | Popdistfe1 |
| Domestic conflict | -0.0981*** | -0.0983*** |
| LnpcGDP | -0.2313** | -0.2247* |
| llandineq | 0.0051 | 0.005 |
| lincineq | -0.0234*** | -0.0224*** |
| W*dep variable | 0.0960** | 0.1790*** |
| n | 1183 | 1183 |
| R2 | 0.89 | 0.9 |
| corr-2 | 0.12 | 0.12 |
| Log likelihood | -414 | -411 |
| LM test for FE | 1782*** | 1782*** |
| Ethnic fractionalisation was insignificant and/or unstable. | | |
| *= significant at 10% level | | |
| **= significant at 5% level | | |
| ***= significant at 1% level | | |

Table 2: panel fixed effects regressions, 1980-2004.

Lagrange multiplier (LM) tests indicate that the fixed effect is clearly supported, in preference to a random effects specification. The Popdistfe equation also shows quite clearly that there is a significant positive spatial effect (coefficient near to 0.18), which indicates that a spatial model is much preferred to a non-spatial model.

However, there are a few worrying indications in this model. First of all, while domestic conflict and income inequality are strongly significant and have the ‘correct’ signs, land inequality is insignificant, while per capita GDP appears to have a negative relationship to HR, albeit with only marginal statistical significance.

To understand this latter effect, it is worth harking back to Figure 4 in the Appendix. Including country fixed effects means that we are subsuming into a set of country dummies any differences in variables which are time-invariant. Hence we are really looking at changes in HR and changes in GDP per capita within countries, rather than across countries. But we already know that the

relationship between HR and per capita income is a long-run relationship, and that there is little correlation (and significant outliers) when we look at changes within countries. The implication is that the fixed effects model, while it is statistically more robust, should be interpreted as a relatively ‘short-run’ model, which will omit some powerful effects picked up in cross-sectional regressions, such as the strong positive relationship in the long run between GDP and HR. For this reason, it is at least worth looking at panel regressions without fixed effects. These are summarised in Table 3 below. The first two regressions use the distance-only weighting scheme, while the next two use a population-based weighting. Once again, most of the estimated coefficients are little affected by the choice of spatial weighting: the only exception being the spatially-weighted dependent variable, which again clearly has a stronger estimated effect once population is included. Overall, the effect of per capita GDP is now significant and positive (although these results should be taken with a dose of salt, given the LM test evidence in favour of fixed effects). Both measures of inequality are significant and negative, while the spatial effect is somewhat stronger than before.

| Panel no fixed effects | | | | |
|------------------------|------------|------------|------------|------------|
| Dep variable IHRFACTC | Dist1 | Dist2 | Popdist1 | Popdist2 |
| Domestic conflict | -0.1446*** | -0.1484*** | -0.1481*** | -0.1495*** |
| LnpcGDP | 0.1063*** | 0.1246*** | 0.0973*** | 0.1125*** |
| llandineq | -0.0048*** | -0.0060*** | -0.0050*** | -0.0059*** |
| lincineq | -0.0423*** | 0.0465*** | -0.0388*** | -0.0417*** |
| Catholic | | 0.0023*** | | 0.0015** |
| SSA | | 0.3463*** | | 0.2871*** |
| Muslim | | -0.5293*** | | -0.5625*** |
| W*dep variable | 0.1600*** | 0.0950*** | 0.2570*** | 0.1840*** |
| | | | | |
| n | 1183 | 1183 | 183 | 1183 |
| Adj-R2 | 0.51 | 0.6 | 0.51 | 0.59 |
| Log likelihood | -1305 | -1201 | -1287 | -1190 |

Table 3: Panel regressions with no fixed effects, 1980-2004.

In a model without fixed effects, it is also possible to include cultural or other variables, which may be largely invariant over time. This is important, since inclusion of these variables may help us interpret the degree to which our estimated spatial weightings are picking up regionally-varying historical or cultural factors: for this reason, we include variables for Sub-Saharan Africa, Catholic culture and the proportion of Muslims. Inclusion of these variables does reduce the power of the spatial weighting - though $w*dep\ variable$ still has a coefficient of over

0.18 in the population-weighted model. We would tentatively see this as a sign that there are indeed regional spillovers, in addition to some spatially-varying cultural factors present.

It is also worth looking at some cross-sectional results incorporating spatial spillovers. In these cases, the coefficient on per capita GDP is stronger than in the panel with fixed effects. Inequality is much less significant, as, curiously, is domestic conflict. However, the estimated effect of spatial spillovers is strong, at 0.3 without the cultural dummies, and remains at 0.19 even with them included.

Table 4: cross-sectional spatial regressions.

5 Interpretation of the results

We start with a simple version of the regressions run above (the cross-sectional regression PopdistCS2). This equation can be seen as ‘long term’, and does not have the cultural variables. We show a full table of country rankings in terms of relative and absolute human rights in *Appendix 2*.

First of all, in Table 4, below, we compare countries’ location. In general, countries in poor or troubled regions of the World will tend to have worse human rights than those in prosperous areas. Given the large populations of China and India, and the fact that their measured HR scores are poor, we would expect those countries’ neighbours to have poor locations. Our estimates are shown below: Congo Brazzaville (close to the Republic of Congo) has the worst location, followed by South Korea and Mongolia. The Low Countries are the best located (as are several European countries).

| Table 4: Countries with the worst and best locations | | |
|---|------------------------|------------------|
| Worst | Location effect | IHRfactor |
| Congo Brazzaville | -0.58 | 0.19 |
| Republic of Korea (South) | -0.41 | 0.55 |
| Mongolia | -0.38 | 0.43 |
| Angola | -0.36 | -1.05 |
| Japan | -0.34 | 1.05 |
| Benin | -0.34 | 0.63 |
| Bhutan | -0.33 | 0.32 |
| Taiwan | -0.33 | 1.05 |
| Vietnam | -0.31 | -0.67 |
| India | -0.31 | -0.93 |
| Thailand | -0.31 | -0.44 |
| Bangladesh | -0.30 | -1.17 |
| Philippines | -0.30 | -1.05 |
| Eritrea | -0.29 | -0.80 |
| Nepal | -0.29 | -1.66 |
| Afghanistan | -0.29 | -1.20 |
| Djibouti | -0.28 | 0.03 |
| Sri Lanka | -0.28 | -0.32 |
| Gabon | -0.28 | 0.27 |
| | | |
| Best | | |
| Belgium | 0.24 | 1.17 |
| Luxembourg | 0.23 | 1.12 |
| Netherlands | 0.23 | 1.12 |
| Slovakia | 0.23 | 0.92 |
| Austria | 0.22 | 0.92 |
| France | 0.21 | 0.80 |
| Czech Republic | 0.21 | 0.80 |
| United Kingdom | 0.20 | 0.92 |
| Denmark | 0.19 | 1.12 |
| Croatia | 0.18 | 0.80 |
| Slovenia | 0.18 | 1.42 |
| Switzerland | 0.18 | 0.92 |
| Ireland | 0.17 | 1.17 |
| Hungary | 0.15 | 0.80 |
| Germany | 0.14 | 0.92 |
| Gambia | 0.13 | 0.27 |
| United States of America | 0.12 | 0.30 |
| Bosnia Herzegovina | 0.11 | 0.68 |
| Norway | 0.11 | 1.12 |
| Uruguay | 0.11 | 1.05 |

We would also like to extend the methodology to develop league tables of countries relative not just to their location, but to income levels, the effects of conflict and inequality. These are effectively just the residuals from the regression equation, and suggest that the table of worst and best countries in terms of relative human rights is shown in Table 5, below:

| Table 5: Countries with the worst and best overall relative HR | | | |
|---|--------------|------------------|--|
| Worst | relhr | ihrfactor | |
| Colombia | -1.71 | -1.80 | |
| Israel | -1.38 | -1.18 | |
| Haiti | -1.23 | -1.54 | |
| Cote d'Ivoire | -1.09 | -1.54 | |
| China | -1.00 | -1.41 | |
| Nigeria | -0.91 | -1.17 | |
| Algeria | -0.85 | -0.80 | |
| Indonesia | -0.74 | -1.17 | |
| Bangladesh | -0.63 | -1.17 | |
| Libyan Arab Jamahiriya | -0.62 | -0.67 | |
| Egypt | -0.60 | -0.92 | |
| Philippines | -0.56 | -1.05 | |
| Saudi Arabia | -0.53 | -0.67 | |
| Brazil | -0.45 | -0.69 | |
| Syrian Arab Republic | -0.45 | -0.79 | |
| Pakistan | -0.44 | -1.04 | |
| Ethiopia | -0.43 | -1.29 | |
| Iran (Islamic Republic of) | -0.40 | -0.70 | |
| Venezuela | -0.38 | -0.55 | |
| Tunisia | -0.34 | -0.43 | |
| | | | |
| Best | | | |
| Chile | 1.45 | 1.30 | |
| New Zealand | 1.34 | 1.42 | |
| Senegal | 1.21 | 0.81 | |
| Ghana | 1.16 | 0.43 | |
| Congo Brazzaville | 1.07 | 0.19 | |
| Burkina Faso | 1.05 | 0.44 | |
| Finland | 1.00 | 1.54 | |
| Sierra Leone | 0.99 | 0.31 | |
| Australia | 0.98 | 1.17 | |
| Madagascar | 0.98 | 0.39 | |
| Mongolia | 0.98 | 0.43 | |
| Canada | 0.96 | 1.42 | |
| Panama | 0.95 | 0.63 | |
| Sweden | 0.95 | 1.54 | |
| Uruguay | 0.92 | 1.05 | |
| Liberia | 0.86 | 0.06 | |
| Japan | 0.85 | 1.05 | |
| Costa Rica | 0.83 | 0.75 | |
| Nicaragua | 0.83 | 0.43 | |

It is worth noting the preponderance of countries in the Middle East and North Africa in the ‘worst’ table - perhaps it is hardly surprising that in 2011 this region is experiencing a wave of pro-democratic revolts. Meanwhile, China’s bad performance in both relative and absolute terms is important, given its size and potential influence. At the other end of the table , Chile is top (perhaps a reaction to its erstwhile bad record under Pinochet). Of the wealthy countries, only New Zealand, Finland and Australia rank in the top ten, alongside countries such as

Senegal, Ghana, Congo Brazzaville, Burkina Faso and Sierra Leone, whose good HR performances in 2004 in spite of poverty and bad neighbours perhaps deserve some acclaim.

6 Conclusions

In recent years, economists have been increasingly turning their attention both to institutional factors and to spatial relationships between socio-economic variables. Central to this is the idea of quantifying institutional and cultural variables, and developing data panels covering a wide variety of countries over a period of time. While this analysis is not without its technical difficulties, because of the heterogeneity of the countries involved and the frequently long-run nature of the relationships described, these kind of long-run relationships are consistent with recent research by Acemoglu et al (2004, 2005) or Tabellini (2008, 2010).

We introduce a quantified index of human rights (HR) into this analysis, based upon a comprehensive index developed by Landman (2005), but drawing on a number of other studies. First, our study confirms earlier findings by Landman and Larizza (2009) that HR is clearly linked to other socioeconomic variables, though we find that this relationship is only robust in the longer term. This latter finding is in keeping with the economic literature mentioned above. The significant explanatory power of (24 year) lagged GDP per capita in explaining HR does suggest causation is primarily from income to HR, though we would not wish to rule out causality in both directions. This is subject to further research.

In addition, we find that there is a clear regional pattern to HR, which goes beyond what can be explained by GDP patterns alone. This is picked up either by including regional dummies, as well as by more the more explicit use of spatial econometric estimation techniques. We find that inclusion of some simple cultural variables only mildly reduces the significance of the spatial terms, indicating that there is probably a spillover mechanism involved – something which should not be surprising given the observable history of democratic spread across groups of countries, such as the Former Soviet Bloc,

parts of Latin America or most recently North Africa.

These convergence trends are strong over time, so that countries revert towards what one would expect from their neighbours' performance and their own GDP. However, there is significant persistence so that it is fruitful to look for beacon countries whose relative HR performance stands out relative to GDP and location.

These findings may be of particular importance, assuming the evidence of spatial spillovers is robust because this indicates that beacon countries will play an important role in disseminating good HR practice to neighbours.

Such findings may have policy significance, notwithstanding the importance of absolute levels of domestic HR performance since regional good performers may play an important part in the incremental progress of HR in the World's poorer or more troubled regions. But also that in modern society it is too costly to rely primarily on formal law to promote cooperation. Instead, we coordinate via social norms.

We tentatively suggest that in an internationally cooperative setting, social norms could play a larger role than previously thought, both at the regional and multilateral level. If so, the urge for states to cooperate and coalesce around social and legal norms may serve to raise global HR standards.

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Appendix 1: Figures and Tables.
Figure 1:

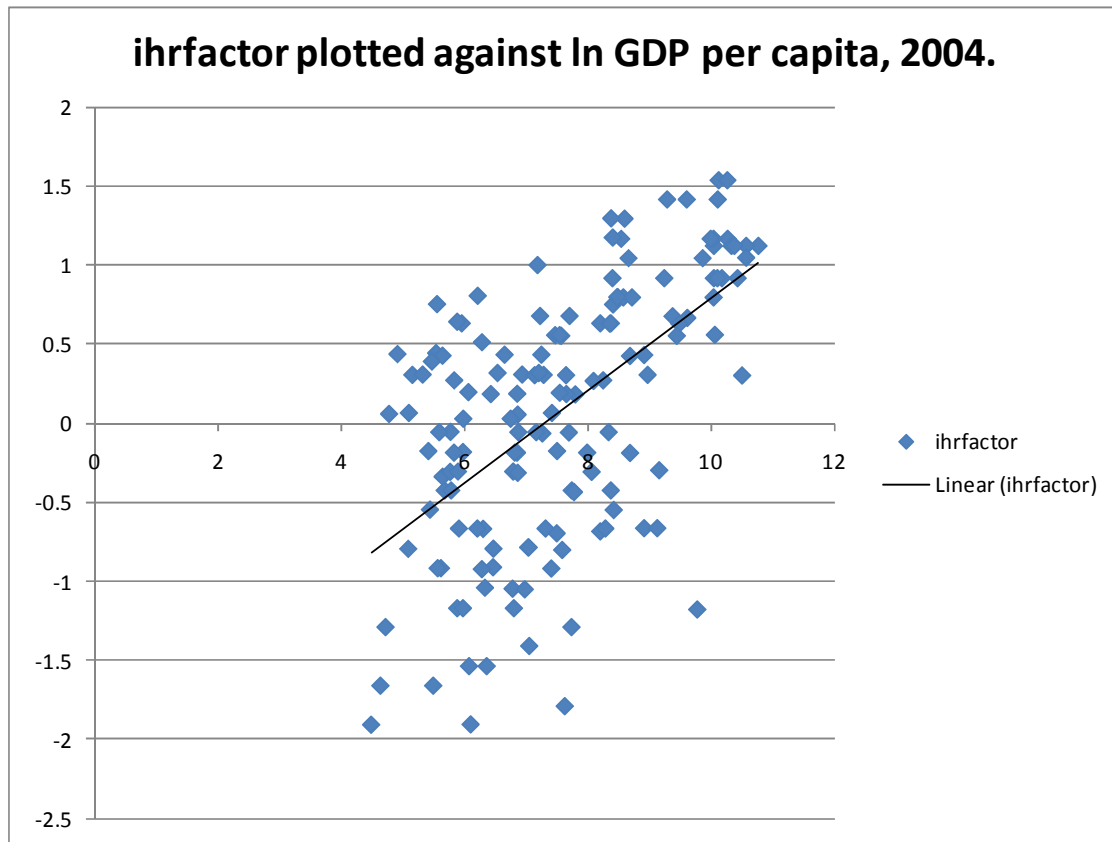


Figure 2:

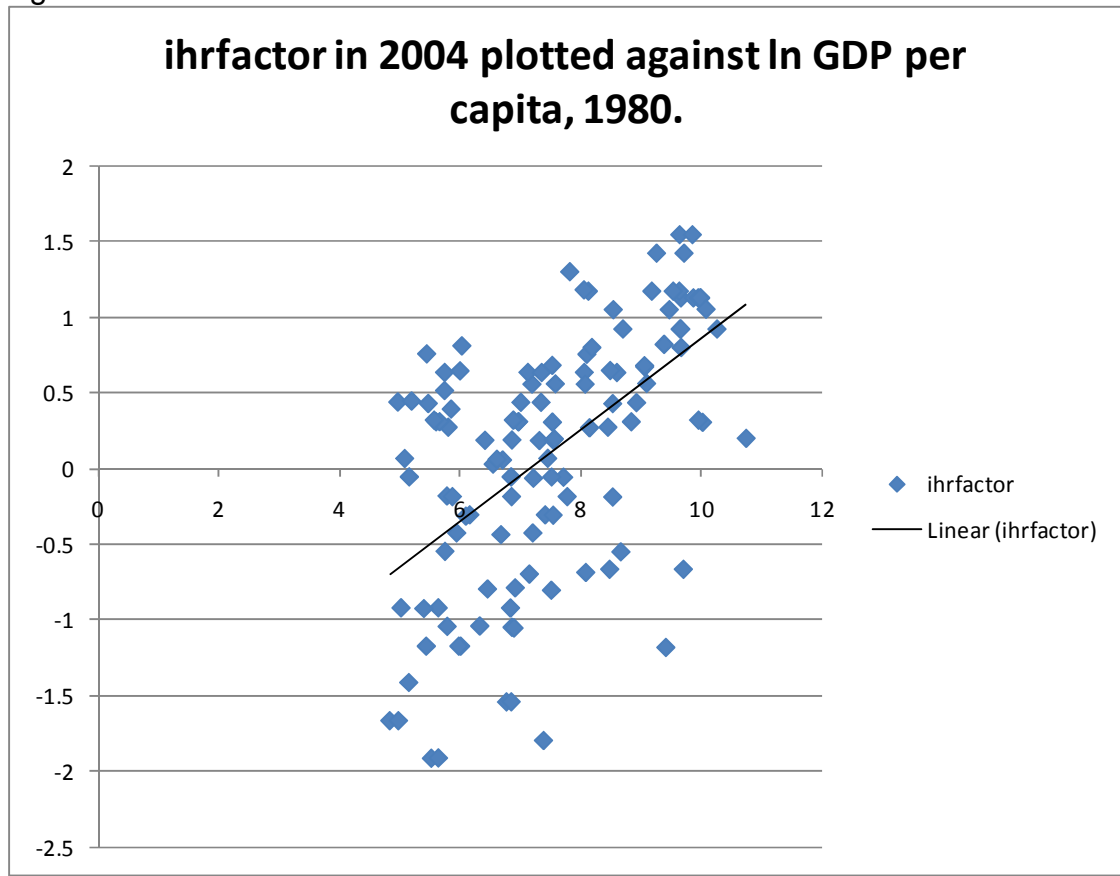


Figure 3:

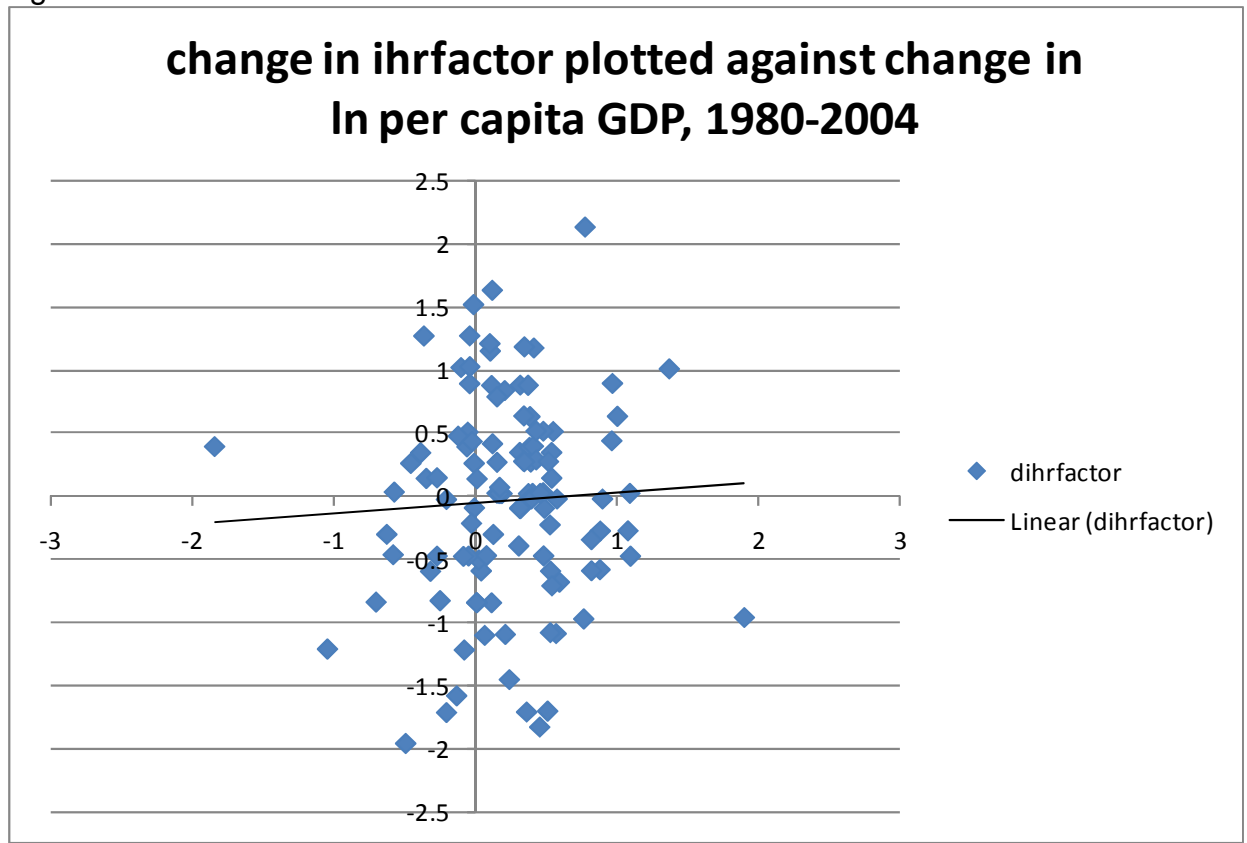


Figure 4:

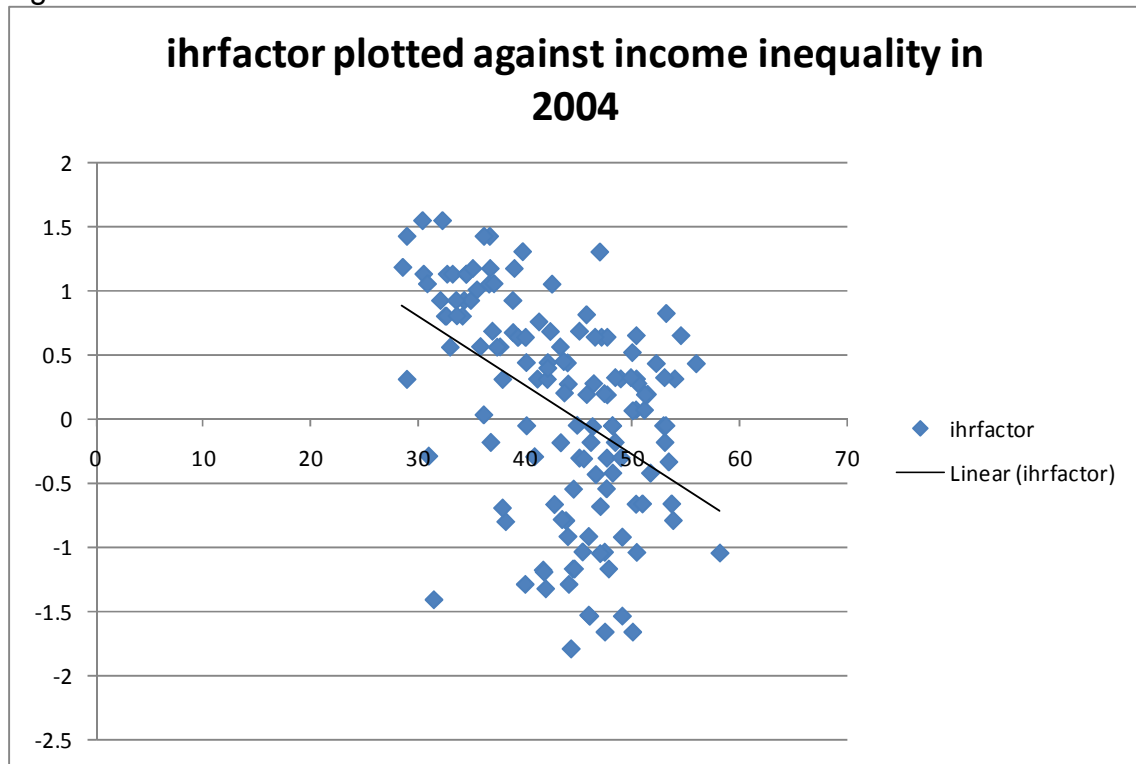


Figure 5:

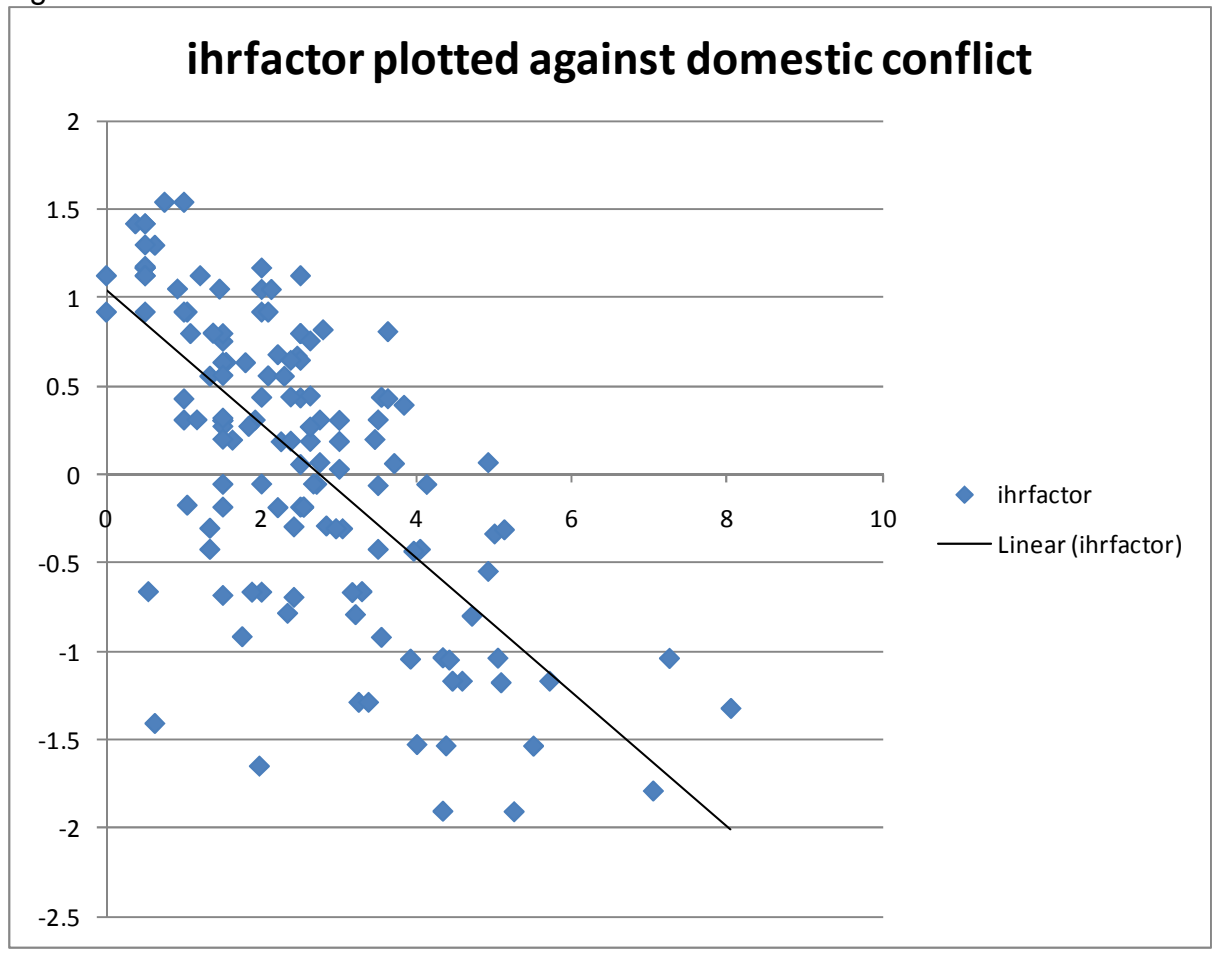


Figure 6:

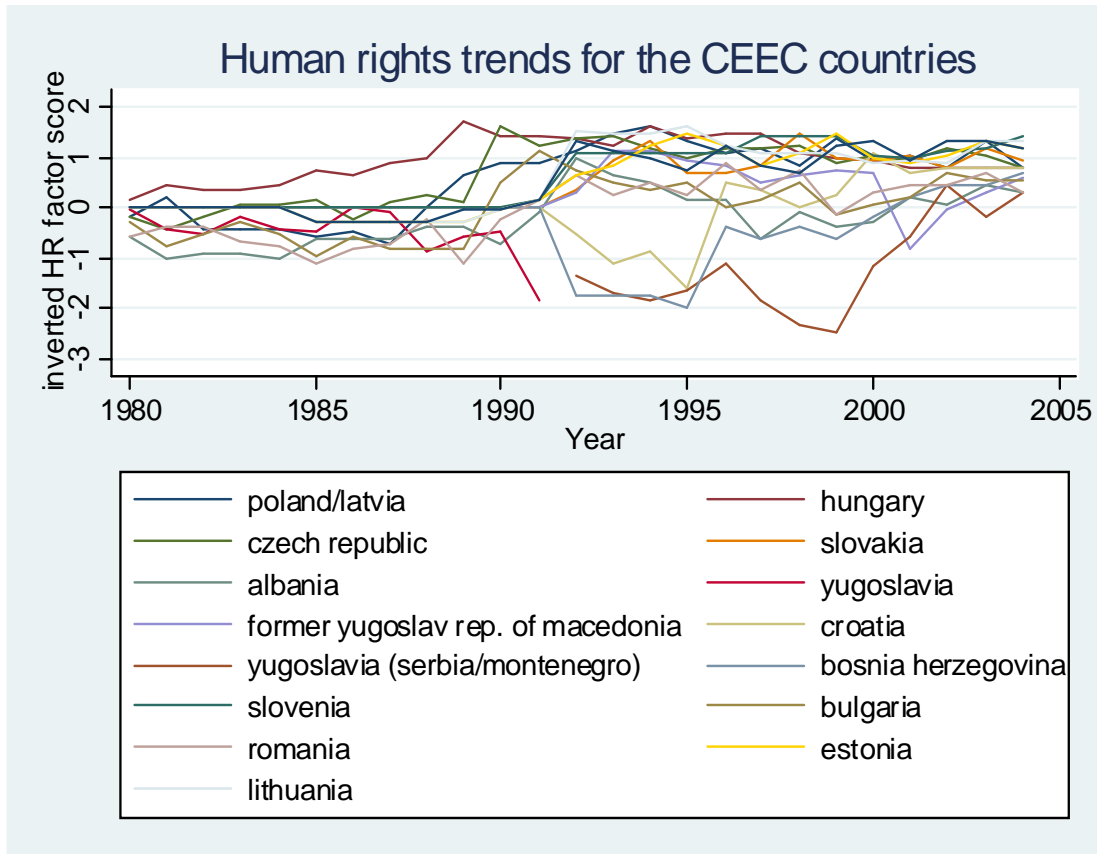


Figure 7:

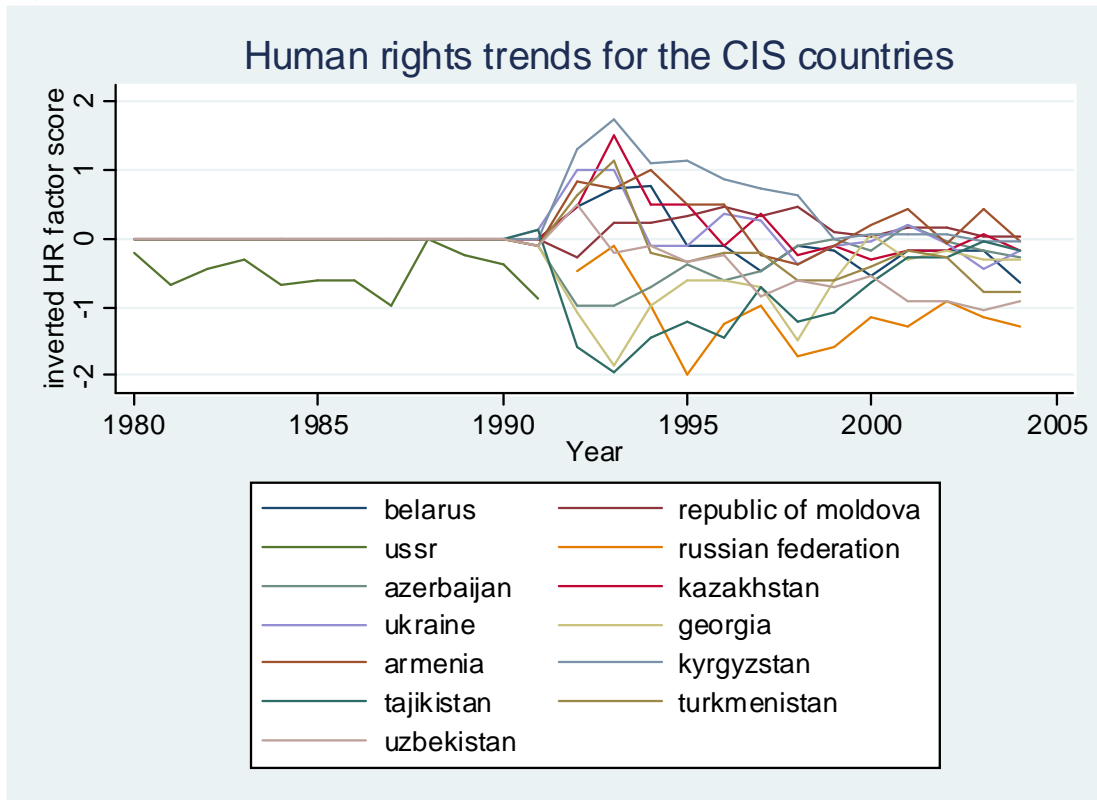


Figure 8:

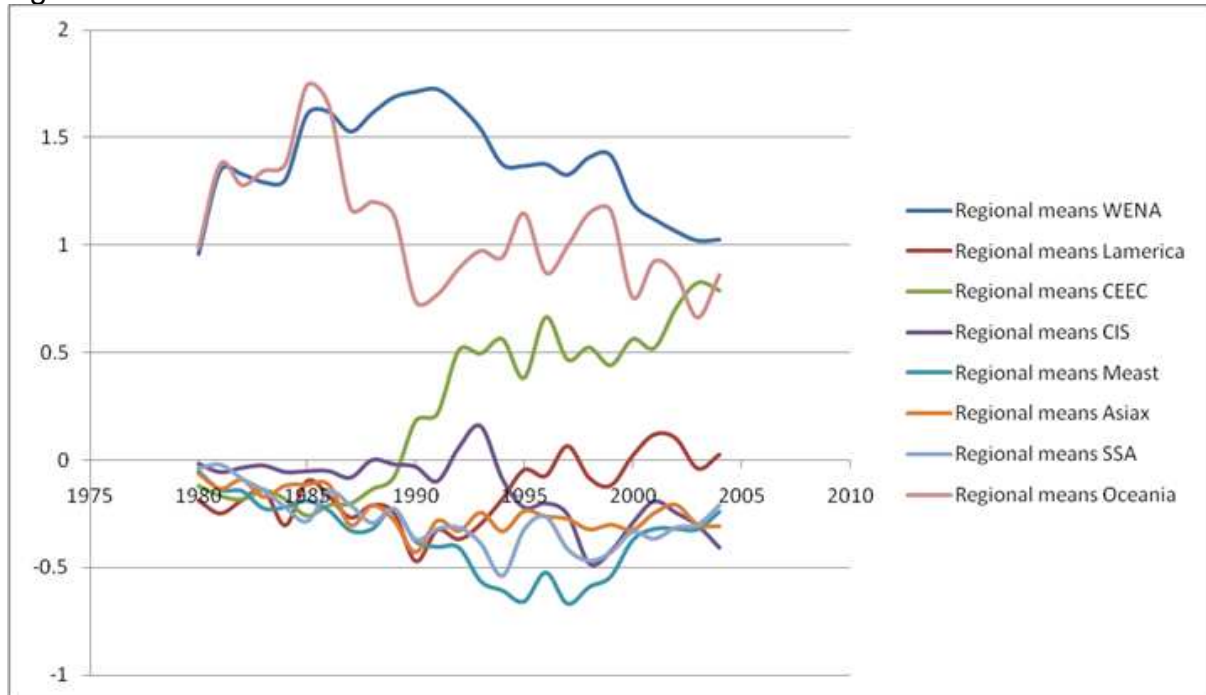


Figure 9:

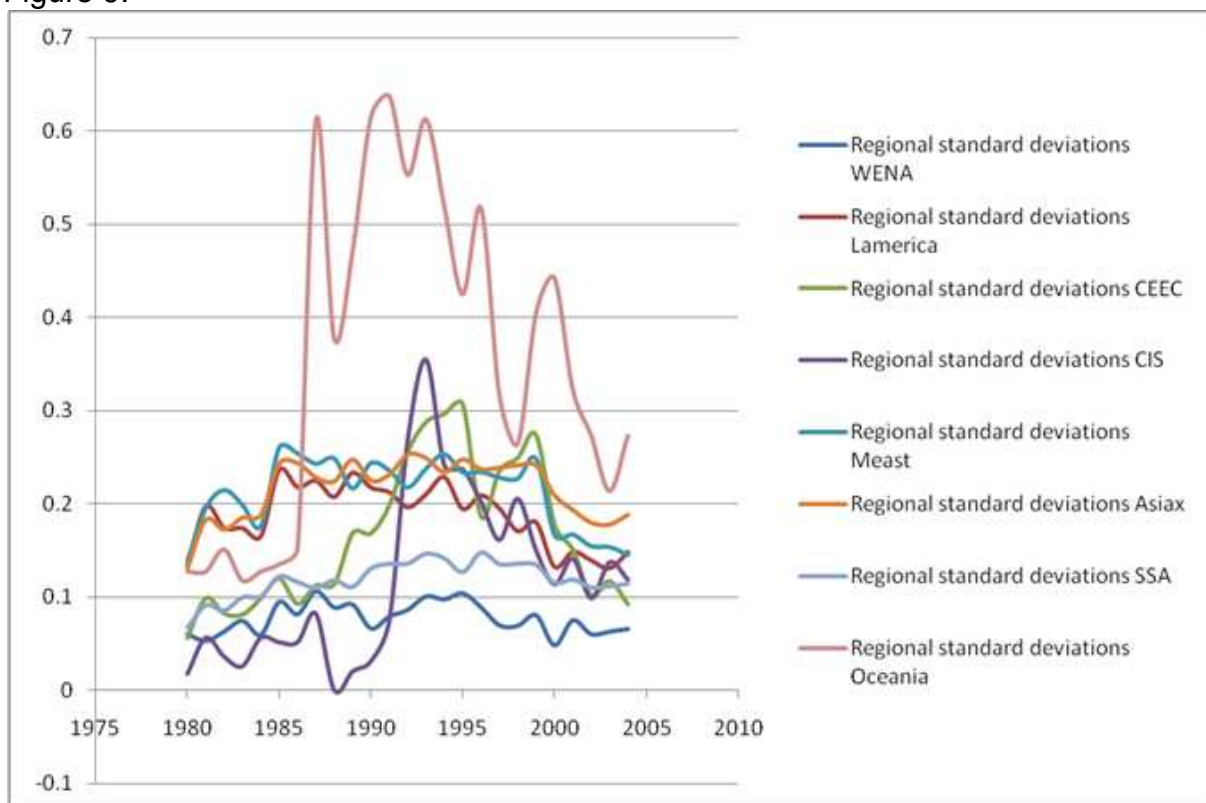
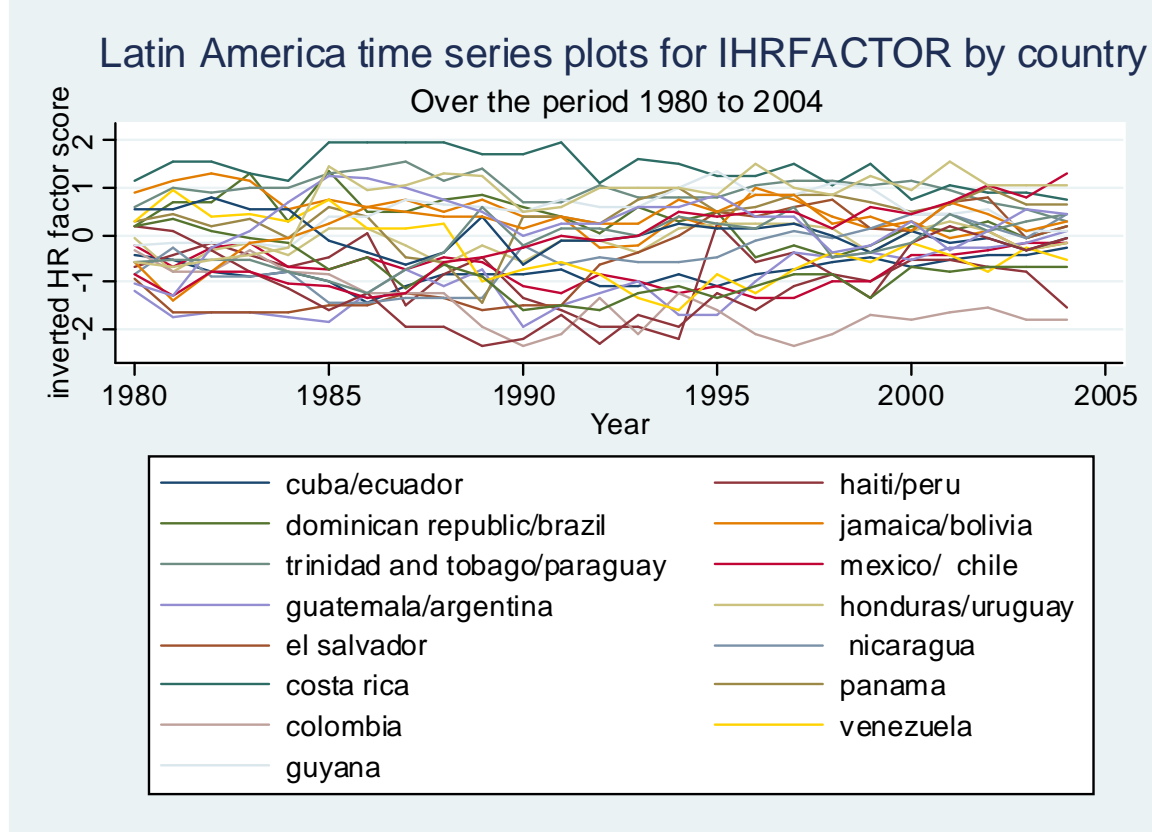


Figure 10:



Appendix 1 Table 1: Univariate and multivariate non-spatial regressions for human rights in 2004.

| Regressions for IHRFACTOR 2004 | Reg 1 | Reg 2 | Reg 3 | Reg 4 | Reg 5 | Reg 6 |
|---------------------------------|-----------|-----------|------------|-----------|-----------|------------|
| IHRFACTOR | | | | | | |
| Constant | -2.137*** | -2.152*** | 2.484*** | 1.034*** | 0.00 | 0.49 |
| Ln per capita GDP | 0.292*** | | | | | |
| Lnpcgdp1980 | | 0.296*** | | | | 0.0924** |
| Ln Income inequality | | | -0.0551*** | | | -1.0102 |
| Domestic conflict | | | | -0.379*** | | -0.2775*** |
| IHRFACTOR1980 | | | | | 0.6579*** | 0.2929*** |
| n | 149 | 131 | 137 | 135 | 162 | 103 |
| Adj R2 | 0.332 | 0.294 | 0.194 | 0.462 | 0.219 | 0.729 |
| *=significant at the 10% level | | | 0.93 | | | |
| **=significant at the 5% level | | | 0.93 | | | |
| ***=significant at the 1% level | | | 0.93 | | | |

Table 2: Regressions for the change in Human Rights, 1980-2004.

| Regressions for change in IHRFACTOR | Reg7 | Reg8 | LR reg |
|-------------------------------------|------------|------------|--------|
| DIHRFACTOR | | | |
| Constant | 0.0774 | 0.3457 | 0.45 |
| Lnpcgdp1980 | 0.1010** | 0.0857 | 0.11 |
| Domconflict | -0.3088*** | -0.2811*** | -0.36 |
| SSAfrica | | -0.2340 | -0.30 |
| Asia | | -0.4392* | -0.57 |
| CEEC | | 0.0812 | 0.10 |
| CIS | | -0.6589** | -0.85 |
| Lamerica | | -0.1241 | -0.16 |
| Meast | | -0.5575*** | -0.72 |
| Oceania | | 0.5637 | 0.73 |
| IHRFACTOR1980 | -0.7177*** | -0.7767*** | |
| n | 113 | 113 | |
| Adj R2 | 0.499 | 0.534 | |

Appendix 2: Full 'league table' of relative and absolute human rights, 2004.

| Country listing | relhr | ihrfactor |
|---------------------------|----------|-----------|
| Chile | 1.454189 | 1.2955669 |
| New Zealand | 1.337755 | 1.4176708 |
| Senegal | 1.206828 | 0.8066678 |
| Ghana | 1.158283 | 0.4266347 |
| Congo Brazzaville | 1.074506 | 0.1863208 |
| Burkina Faso | 1.050785 | 0.4427343 |
| Finland | 1.001462 | 1.5397748 |
| Sierra Leone | 0.994125 | 0.3069091 |
| Australia | 0.982886 | 1.1673601 |
| Madagascar | 0.976123 | 0.3899548 |
| Mongolia | 0.975329 | 0.4257719 |
| Canada | 0.959339 | 1.4176708 |
| Panama | 0.952682 | 0.6317843 |
| Sweden | 0.947309 | 1.5397748 |
| Uruguay | 0.922257 | 1.0452561 |
| Liberia | 0.855033 | 0.0589768 |
| Japan | 0.854206 | 1.0484973 |
| Costa Rica | 0.833133 | 0.7515099 |
| Nicaragua | 0.832047 | 0.4342531 |
| Malawi | 0.822766 | 0.0642168 |
| Paraguay | 0.748175 | 0.4342531 |
| Bolivia | 0.715097 | 0.3069091 |
| Bulgaria | 0.698011 | 0.5539787 |
| Portugal | 0.665228 | 0.9179122 |
| Hungary | 0.658407 | 0.7958082 |
| Botswana | 0.652611 | 0.6317843 |
| Italy | 0.627734 | 1.0452561 |
| Jordan | 0.621049 | 0.1924236 |
| Iceland | 0.614373 | 1.1230618 |
| Gabon | 0.593542 | 0.2702293 |
| Dominican Republic | 0.589858 | 0.1824267 |
| Gambia | 0.576386 | 0.2702293 |
| Mozambique | 0.549809 | -0.057024 |
| Ireland | 0.542775 | 1.1673601 |
| Republic of Korea (South) | 0.532583 | 0.5539787 |
| South Africa | 0.509857 | 0.2667169 |
| Kenya | 0.483015 | -0.18761 |
| Albania | 0.478113 | 0.3060464 |
| Poland | 0.46683 | 0.7958082 |
| Cyprus | 0.44706 | 0.6306504 |
| Belgium | 0.443598 | 1.1673601 |
| Ecuador | 0.426993 | -0.065506 |
| Romania | 0.390668 | 0.303668 |
| Trinidad and Tobago | 0.389016 | 0.3060464 |
| Norway | 0.387284 | 1.1230618 |
| Spain | 0.384996 | 0.6676014 |
| Zambia | 0.384309 | -0.307335 |
| Greece | 0.377296 | 0.6760826 |
| Netherlands | 0.368195 | 1.1230618 |

| | | |
|--|----------|-----------|
| El Salvador | 0.357153 | 0.1848052 |
| Tanzania | 0.355322 | -0.309714 |
| Uganda | 0.330327 | -0.339046 |
| Guatemala | 0.318686 | 0.0650796 |
| Denmark | 0.297784 | 1.1230618 |
| Austria | 0.291616 | 0.9179122 |
| United Kingdom of Great Britain and Northern Ireland | | |
| Ireland | 0.288831 | 0.9179122 |
| Luxembourg | 0.286871 | 1.1230618 |
| Argentina | 0.277665 | 0.4318747 |
| Togo | 0.269821 | -0.427061 |
| Peru | 0.23928 | -0.059403 |
| Malaysia | 0.193903 | -0.057887 |
| Honduras | 0.154079 | -0.18761 |
| Morocco | 0.118579 | -0.057024 |
| Jamaica | 0.091361 | -0.18761 |
| Sri Lanka | 0.06961 | -0.315816 |
| France | 0.056614 | 0.7958082 |
| Cameroon | -0.13873 | -0.796234 |
| Thailand | -0.167 | -0.43792 |
| yemen, rep. | -0.17275 | -0.671269 |
| Mexico | -0.2201 | -0.189988 |
| Turkey | -0.28829 | -0.309714 |
| United States of America | -0.28947 | 0.302534 |
| India | -0.31805 | -0.925473 |
| Angola | -0.32685 | -1.048923 |
| Tunisia | -0.33968 | -0.427061 |
| Venezuela | -0.37801 | -0.551543 |
| Iran (Islamic Republic of) | -0.39791 | -0.698173 |
| Ethiopia | -0.43234 | -1.293131 |
| Pakistan | -0.44262 | -1.042821 |
| Syrian Arab Republic | -0.45356 | -0.788616 |
| Brazil | -0.45461 | -0.687368 |
| Saudi Arabia | -0.53355 | -0.666512 |
| Philippines | -0.56021 | -1.05368 |
| Egypt | -0.60189 | -0.921579 |
| Libyan Arab Jamahiriya | -0.62323 | -0.666512 |
| Bangladesh | -0.63384 | -1.173406 |
| Indonesia | -0.74217 | -1.173406 |
| Algeria | -0.85442 | -0.804715 |
| Nigeria | -0.91321 | -1.173406 |
| China | -1.00399 | -1.412857 |
| Cote d'Ivoire | -1.08987 | -1.540201 |
| Haiti | -1.22849 | -1.541064 |
| Israel | -1.37556 | -1.181887 |
| Colombia | -1.70618 | -1.795268 |