**Maximizing the reliability of cross-national measures of presidential power**

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This note aims to maximize the reliability of presidential power scores for a larger number of countries and time periods than currently exists for any single measure and in a way that is replicable and easy to update. We begin by identifying all of the studies that have estimated the effect of a presidential power variable, clarifying what scholars have attempted to capture when they have operationalized the concept of presidential power. We then identify all of the measures of presidential power that have been proposed over the years, noting the problems that are associated with them. To generate our new set of presidential power scores, we draw upon the comparative and local knowledge embedded in existing measures of presidential power. Employing principal component analysis together with the expectation maximization algorithm and maximum likelihood estimation, we generate a set of presidential power scores for a larger set of countries and country time periods than currently exists, reporting 95 per cent confidence intervals and standard errors for the scores. Finally, we discuss the implications of the new set of scores for future studies of presidential power.

**Estimating the effect of presidential power**

There is now a large body of work that has estimated the outcome of variation in presidential power. To identify studies of presidential power systematically, we searched a selection of leading comparative politics journals. Using the term 'presidential power variable', we searched the *American Journal of Political Science*, *American Political Science Review*, *British Journal of Political Science*, *Comparative Political Studies*, *Comparative Politics*, *European Journal of Political Research*, *International Studies Quarterly*, *Journal of Politics*, *Political Research Quarterly*, and

*World Politics*. All articles published to the end of 2011 that included an estimation with a presidential power variable were recorded. These articles were also consulted to identify whether or not they referred to other books or journal articles that might include such an estimation. In total, 49 studies that included an estimation of presidential power were identified.[1] In all but four of these studies presidential power was operationalized explicitly or implicitly as an explanatory variable. In these 45 studies, the dependent variable ranged widely across topics such as economic reform; democratic consolidation; the level of protectionism; the effective number of parties; cabinet composition; voter turnout; and many others. In 30 of these 45 studies, variation in presidential power was confirmed to have a significant effect on the outcome under investigation.

What are scholars trying to capture when they estimate the effect of presidential power? In 11 of the 49 studies we identified, scholars focused on only a specific aspect of presidential power. For example, Cheibub wished to explain variation in budget balances in democratic systems.[2] Consistent with his focus, he operationalized a presidential power variable, but only in terms of the president's power over budgetary policy and the president's veto power rather than presidential power generally. Thus, when scholars wish to test a particular theory of presidential power, there is evidence that they have estimated the effects of only the specific elements of presidential power relating to that theory.

In the remaining cases, though, scholars stated that they wished to estimate the effect of presidential power generally. A very small number of scholars were

[1] A full list of these studies is available in the online material.

[2] Cheibub 2006

more precise about what they understood by this term. For example, Biglaiser and DeRouen stated that they were trying to capture "centralized executive authority".[3] Hicken and Stoll understood presidential power to be "the degree to which power is concentrated in the presidency within the national level of government".[4] Most scholars, though, stated only that they were interested in the effects of a general term such as presidential power or powers, presidential strength, presidential authority, executive power, executive authority, or an equivalent term. While there could be semantic differences between these terms, there is no discussion of such differences. Scholars have been using them synonymously. With regard to the terms presidential power and executive power, there were studies that used the terms presidential power and executive power as direct synonyms.[5] However, there were studies that estimated the effect of variation in the level of constraints on the executive in the system of checks and balances. They operationalized Polity's XCONST variable or Henisz's POLCON variable.[6] There were also studies where scholars estimated both a presidential power variable and the XCONST executive constraints variable separately.[7] In short, scholars were able to distinguish presidential power from executive constraints more broadly. We excluded studies that estimated solely the effect of executive constraints.

[3] Biglaiser and DeRouen 2004, 567

[4] Hicken and Stoll 2008, 1110

[5] Roper 2002, 253; Clark and Wittrock 2005, 475 and 479

[6] We excluded studies that estimated the effect of constraints on the executive from the start using XCONST and POLCON. So, they are not counted in the 49 studies we identified.

[7] For example, Doyle 2010

Overall, we identified 38 studies where scholars tried to estimate the impact of presidential power generally. They used different terms to refer to this phenomenon, but we can be confident that whatever term they used they were trying to capture the extent to which the presidency was a powerful actor within the national government, rather than either some specific power of the institution or the position of the executive within the system of checks and balances more broadly.

**Existing measures of presidential power**

How have scholars tried to estimate the impact of presidential power generally? A number of the 38 studies we identified drew up a discrete measure of presidential power with cross-national country scores. Most studies, though, relied on a measure that had been drawn up by other scholars whose sole aim was to generate a set of presidential power scores rather than to estimate the empirical effect of variation in the scores. These measures were often available only either in specialist journals or in online datasets. Therefore, to identify the full set of presidential power measures that have been proposed over the years, it was necessary to move beyond a search of leading journals. To that end, a separate Google Scholar search was conducted using terms such as 'presidential power measure' and 'index of presidential power'. We identified 19 separate and original measures of presidential power,[8] plus a further 16 studies that used one of these measures but both/either reported scores

[8] A full list of these studies is available in the online material.

for a different set of countries and/or gave countries different scores from the original study.[9] Thus, we have a dataset of 35 measures of presidential power.

The methodology used across the 35 measures is relatively consistent. The measures are all based on a set of individual indicators of presidential power. Often, the indicators are binary. If a president enjoys a particular power, then a value of 1 is assigned for that indicator. Otherwise, a value of 0 is recorded. Sometimes the indicators are ordinal. For example, Shugart and Carey propose ten indicators of presidential power with each indicator having a range of 0-4.[10] Presidents are then awarded a score within this range for each indicator. Whether the indicator scores are binary or ordinal, the total score for presidential power is invariably the aggregate of the scores for each indicator. This generates a set of cross-national presidential power scores for particular time periods.

While there are now many different measures of presidential power, there are empirical and theoretical problems with them. First, while none of the measures aimed to capture the personal power of individual presidents, the measures did capture two different manifestations of presidential power. Some were derived solely from constitutional indicators of presidential power, whereas others were based on a mix of constitutional and behavioral power, meaning the power of the presidency in "actual political practice".[11] There are problems with measuring the constitutional powers of presidents because constitutions can be imperfect measures of actual political power. However, there are also problems with measuring the

[9] A full list of these studies is available in the online material.

[10] Shugart and Carey 1992

[11] Siaroff 2003, 303

behavioral power of presidents because there is the risk of capturing the impact of factors such as party competition, rather than the power of the presidency itself.

Second, there is great variation in the country coverage of the different studies as well as the time periods that were covered. Only three of the 35 measures covered a large number of countries across political regimes generally.[12] Some focused on only one particular region, such as Latin America, Eastern Europe and the former Soviet Union, or Africa. Others selected on the basis of a different analytical criterion. For example, Tavits reports the scores for 23 countries but only those with weak presidencies.[13] What is more, scholars have now been proposing presidential powers scores for nearly 20 years. However, these scores are not updated after publication. Given that constitutions are often amended, reported presidential power scores can soon go out of date. This means that countries sometimes cannot be reliably included in an estimation even if a presidential power score for that country exists.

Finally, there are problems of construct validity. Fortin has shown that the indicators of any given measure of presidential power are not necessarily capturing a single latent construct.[14] She performed factor analysis on a dataset that pooled Shugart and Carey's presidential power scores with Frye, Hellman and Tucker's scores.[15] These scores are based on ten indicators of presidential power, capturing two different dimensions, one relating to the president's executive powers with four indicators and another relating to the president's legislative powers with six

[12] Shugart and Carey 1992; Siaroff 2003; Johannsen 2002

[13] Tavits 2008

[14] Fortin 2013

[15] Shugart and Carey 1992; Hellman and Tucker 2000

indicators. However, Fortin found that seven of the ten indicators cluster into a single factor with eigenvalues greater than 1 and "with no evidence of separate latent constructs for legislative and non-legislative powers".[16] She also pointed out that the process of aggregating the scores for the individual indicators is problematic. She states: "[a]ggregation produces homogeneity claims, meaning that equal scores are substitutable or equivalent".[17] However, she noted that "each score can be obtained through broad combinations of different powers, and should thus not be considered homogenous in terms of causal analyses".[18] She goes on to argue that for any given measure "not all items hypothesized to capture the concept of presidential power seem to matter equally in accounting for composite scores" and that "not all potentially relevant items were tested".[19] She concludes that existing indices of presidential power have "limited validity".[20]

**Generating a new set of presidential power scores**

We resist the temptation to construct a new measure of presidential power from scratch. Fortin's study shows that any measure of presidential power is likely to suffer from a basic problem of construct validity.[21] We agree with her analysis, but note that most social science concepts, including voter turnout, social equality, and

[16] Fortin 2013, 97

[17] Fortin 2013,107

[18] Fortin 2013,107

[19] Fortin 2013,108

[20] Fortin 2013,108

[21] Fortin 2013

corruption suffer from equivalent problems of construct validity. For that reason, we prefer to place the emphasis on the reliability of the data that underpins the concept we are trying to capture. Specifically, we wish to avail of the expert information embedded in existing measures, but in a way that generates a more reliable set of cross-national presidential power scores.

To maximize the reliability of our new set of scores, three elements are emphasized. First, we focus solely on measures that record the constitutional power of presidents. To be sure, constitutions can be sometimes imperfect indicators of presidential power, but the overall reliability of our new set of measures is increased by referring solely to information in publicly available documents than by including essentially contestable judgments about presidential power in practice. Five of the 35 measures of presidential power that we identified provided scores for the behavioral power of presidents.[22] Excluding them leaves 30 measures. For the purposes of our methodology, two measures of constitutional presidential power that scored only a single country were also excluded, leaving a database of 28 measures from which to generate our new set of scores.

Second, we wish to draw upon all of the expert information in these 28 studies, but we wish to generate new scores in a way that indicates their general reliability. This allows researchers to make a decision as to whether to include particular countries in any estimation of presidential power. Therefore, standard

[22] See the online materials for a full list.

errors and 95 per cent confidence intervals are reported for each of our presidential power scores.[23]

Third, we wish to maximize the reliability of our scores by accounting for systematic variation between the 28 measures of presidential power and so reducing the impact of any idiosyncratic measures. To do so, principal-component analysis (PCA) is employed. If certain measures are found to vary systematically from others, then it is possible to adjust for the relative importance of those measures when generating our new presidential power scores.

To begin, we identify the time period covered by the presidential power score for all of the different countries in each of the 28 original datasets. There can be more than one time period for a given country. For example, there are two time periods for Albania, 1991-1997 inclusive and 1998-2012 inclusive. These periods correspond to the first post-communist constitution that came into force in 1991 and the new constitution that was promulgated in 1998. Eight of our 28 datasets recorded a presidential power score for Albania for the 1991-1997 period and three for the later period. Overall, there are scores for a total of 116 countries and 181 country time periods. There was a maximum of four time periods for a number of countries, including Chile and Slovakia, and a maximum of 17 presidential power scores for one country time period, namely Romania 1991-2012. The mean number of scores per country time period was 2.7, the modal category was one score for 54 country

[23] We calculate the confidence intervals and standard errors on the basis of the raw scores (before normalization). They provide a measure of the degree of certainty among the constituting measures. Their primary purpose is to provide researchers with an easy way of establishing whether a given measure accurately captures a shared understanding of presidential power among researchers for that country constitution.

time periods, and the median number of scores per country time period was two. Therefore, the data is in country time period format. Country scores do not change on a yearly basis. They change only when the constitution is amended in a way that alters that country's presidential power score. For example, there are two lines for Argentina in the dataset; one for the years 1984-1994 and another for the period from 1995 onwards, following the constitutional amendments in August 1994.

With information about the time period for each country, the first new measure can be calculated (Prespow1). Given that presidential power scores are calculated differently across many of the different datasets, each country score in each of the 28 datasets was normalized as follows: (x minus minimum possible value)/(maximum possible value minus minimum possible value). For example, Shugart and Carey recorded a score of 17 for Panama 1972-2012 on their scale from 0-40.[24] Therefore, the Shugart and Carey normalized presidential power score for Panama was 0.43 in a range from 0-1. A score for Panama was recorded in four of the 28 datasets. The average of these four normalized scores was 0.47, generating a raw (Prespow1) measure. The whole set of country scores was then normalized to generate a range from 0-1 to facilitate comparison with our second set of scores below. The final normalized (Prespow1) score for Panama is 0.45. The full set of raw and normalized Prespow1 scores with their standard errors and 95 per cent confidence intervals are reported in Appendix 1 Table A.

To calculate our second new measure, principal component analysis (PCA) was employed. This method relies on a correlation or covariance matrix. However, there are large gaps in our sample. Any individual measure of presidential power

[24] Shugart and Carey 1992

covers only a specific subset of countries and country years. For example, Shugart and Carey may have good coverage of the Americas, but no African countries are included. Moreover, Shugart and Carey's scores were reported as of 1992. As a result, their data will only partially overlap with Hicken and Stoll, who code presidential power not only for the Americas but also for countries in Asia, Africa and Eastern Europe and who also have the opportunity to record scores for more recent country years.[25] Therefore, before we can apply PCA, the issue of missing data needs to be addressed.

We do this by following the method of analyzing incomplete data suggested by Truxillo and performing PCA by using maximum likelihood estimation with the expectation-maximization (EM) algorithm.[26] This approach is an alternative to multiple imputation and is particularly suited to PCA, for while principal components can be explicitly computed, as Chen notes, we can also derive the principal components with an EM approach.[27] This allows us to use the EM as a means to estimate the data we are missing. In essence, this is an iterative procedure, which, without explicitly deriving the sample covariance, enables us to determine the subspace spanned by the dominant eigenvector.[28] The initial step in this approach involves computing the maximum likelihood estimates of the mean vector and covariance matrix for our set of 28 presidential power measures.[29] These

[25] Hicken and Stoll 2008; Shugart and Carey 1992

[26] Truxillo 2005

[27] Chen 2002, 4.

[28] Chen 2002, 5.

[29] Given our data is in country time period format, the starting year for each country is the year when presidential power is first measured in that country's constitution.

estimates are derived from an iterative expectation-maximization algorithm.[30] The EM algorithm provides estimates of the missing data based on the observed values within the dataset, that is, the existing measures of presidential power. In doing so, it estimates parameters that take into account any dependencies in the missingness among our measures of power.[31] So, the Expectation (E) step fills in the gaps in our data. The now complete data, including all observed and estimated data points, are processed with maximum-likelihood estimation, or the Maximization (M) step. This provides the updated mean vector and covariance matrix estimates. This process is repeated until the "maximum change in the estimates from one iteration to the next does not exceed a convergence criterion".[32] That is, with the new data from the M step, the E is repeated, followed again by the M step, and so on. This iterative process continues until we derive reliable estimates of the missing data matrix.

With complete data, we can then perform PCA. This method seeks a linear combination of potentially correlated variables and extracts the maximum variance from them. The resulting principal component ($Y_1$) is weighted by the degree to which each original variable explains the variance in the underlying orthogonal dimension.[33] That is,

$$Y_1 = a_{11}X_1 + a_{12}X_2 + \ldots + a_{1p}X_p$$

Each of the 28 measures of presidential power can be treated as a separate variable. Using PCA, a single presidential power score can be generated for each country

[30] Truxillo 2005, 3; see the website for the full code.

[31] Truxillo 2005, 3.

[32] Truxillo 2005, 3; for the EM algorithm more generally, see McLachlan and Krishnan 1997.

[33] See for example Flury 1988; Jolliffe 2002.

time period using the information from all 28 measures.[34] The resulting measure is a linear *weighted* construct of all existing power measures.[35] Using this technique, we can control for variation across the 28 measures of presidential power, reducing the impact of idiosyncratic measures on the final presidential power score that we report. This method allows us to weight the contribution of each existing measure of presidential power. Thus, the Prespow2 scores are a linear construct of all existing presidential power variables, which are *weighted* by their rotated component scores.[36] These scores capture the underlying variance explained by each measure of power. The Kaiser-Meyer-Olkin measure of sampling adequacy is quite high, lending credence to our low-dimensional representation of presidential power. In a final step, the raw scores are normalized to generate a range from 0-1. The full set of raw and normalized prespow2 scores with their standard errors and 95 per cent confidence intervals is reported in Appendix 1 Table B.

[34] We use the command pcamat in Stata 13. This allows the covariance matrix C to be specified as a $k \times k$ symmetric matrix. We also avoid biased estimates by specifying the column-wise minimum $n$ as suggested by Truxillo 2005.

[35] If our data exhibits serial dependence, then this will undermine the assumptions needed to perform PCA on longitudinal data (for example, Wansbeek and Meijer 2000). However, our raw data is in country time period format, meaning that we do not perform PCA with a long time series, which is where we are most likely to find this type of auto-correlation. In fact, the results of a Wooldridge test for serial correlation indicates that this is not an issue for our data (see Drukker 2003). Nonetheless, as a further robustness test, we also performed a dynamic PCA with panel data. Please see the online material for more detail on this analysis. The result of the dynamic PCA model has a correlation with Prespow2 of over 0.93.

[36] As part of this process, each measure of presidential power is standardized with mean 0 and variance 1.

**Discussion**

A set of presidential power scores has been generated for a greater number of countries and country years than any existing dataset. By accounting for the idiosyncrasies of existing measures, the reliability of our set of scores relative to any existing measure has been maximized. By using publicly available measures, our method is replicable. It is also easy to include new measures of presidential power and generate updated scores. If scholars wish to test a particular theoretical proposition about a certain aspect of presidential power, such as veto power or decree power, then they should construct their own measure and estimate its effect.[37] However, if scholars wish to examine the effect of presidential power generally, there is great benefit to be gained from the scores we have generated. With this aim in mind, two points should be emphasized.

First, for both of our measures standard errors and 95 per cent confidence intervals for each country time period have been reported. This allows the basic reliability of any individual score to be identified, meaning that scholars can make an informed choice about whether or not to include a country in their estimation. For example, there are only two original scores for Cyprus (1960-) and both are very different. The normalized Hicken and Stoll score is 0.325, while for Shugart it is 1.[38] Cyprus is the only presidential system in Europe. Therefore, the relatively high scores for Cyprus in the Appendices might be considered to have good face validity

[37] We would like to thank Cecilia Martínez-Gallardo for drawing our attention to this important point.

[38] Hicken and Stoll 2008; Shugart 1996

(Prespow1 = 0.64, Prespow2 = 0.70). However, the Tables in the Appendix show that the confidence intervals for Cyprus are very large, reflecting the differences in the original measures. The way that the scores have been generated and reported gives scholars the opportunity to decide whether or not to include Cyprus in any estimation. Some may wish to include it because of what they might consider to be good face validity. Others may wish to exclude it because of the large confidence intervals. We make no recommendation, but we provide the grounds on which scholars can make an informed choice.

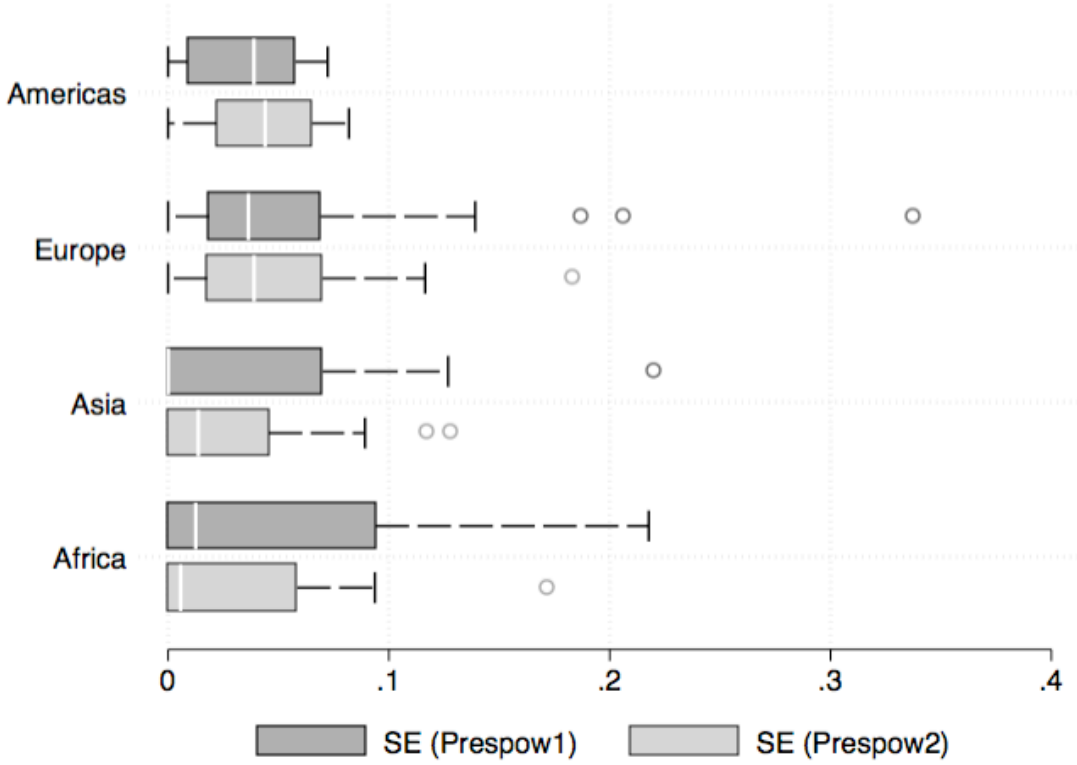
Second, we also provide the grounds on which scholars can decide which set of scores to use in comparative analysis. Figure 1 compares the range of standard errors for the Prespow1 and Prespow2 scores for the different regions. It suggests that the Prespow2 scores increase the range of the standard errors for Latin America, but decrease it for both Africa and Asia. The effect on the scores for presidents in European countries is minimal. This suggests that scholars wanting to estimate the effect of presidential power solely in Latin America might wish to use the Prespow1 scores. However, scholars wanting to estimate the effect of presidential power solely in Africa might wish to use the Prespow2 scores. Scholars who wanted to estimate the effect of presidential power across all regions might also wish to use the Prespow2 scores, because on balance the reliability of the whole set of scores is probably slightly greater, even if the range of the standard errors in Latin America is increased. Again, we make no firm recommendation because the choice will be sensitive to the focus of the particular study. However, we provide information with which the scholar can make an informed decision.

**Figure 1 about here**

## Conclusion

By pooling the comparative and local knowledge present in 28 existing measures, we have generated a new set of presidential power scores for a larger number of countries and a longer time series than before. We have also maximized the reliability of these scores by deriving them solely from measures based on constitutional indicators of presidential power and by using a method that accounts for the idiosyncrasies of country scores in existing measures. By reporting the standard errors and the confidence intervals for individual country time periods in our measures, we have also provided information with which scholars can make an informed choice about whether or not a particular country should be included in an estimation and which of our measures should be used in comparative studies. Overall, we encourage people to keep developing new measures of presidential power and to update existing measures for as many countries and as long a time period as possible. The advantage of our approach is that new country scores can be easily incorporated into the method we have used, creating the potential for country coverage to be further extended, for existing country scores to be updated, and for cross-national measures to become even more reliable.

**Figure 1: The Distribution of Standard Errors for Prespow1 and Prespow2**




Note: The thick white lines within each box represent the median. The outside edges of the boxes represent the 25% quantile and the 75% quantile. The whiskers report outliers. The hollow circles represent data points 1.5 times outside of the interquartile range.

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## Appendix 1

**Table A: Prespow1 Scores**

| Country Year | Raw score | Standard errors | [95% Confidence Intervals for raw scores] | | Normalized score |
|---|---|---|---|---|---|
| Albania 1991-1998 | 0.214 | 0.037 | 0.127 | 0.301 | 0.181 |
| Albania 1998 | 0.175 | 0.027 | 0.055 | 0.295 | 0.141 |
| Algeria 1997-2008 | 0.504 | | | | 0.483 |
| Angola 1993-2009 | 0.431 | | | | 0.408 |
| Argentina 1984-1994 | 0.317 | 0.032 | -0.098 | 0.732 | 0.288 |
| Argentina 1994 | 0.430 | 0.049 | 0.294 | 0.567 | 0.407 |
| Armenia 1991-1994 | 0.436 | 0.043 | 0.301 | 0.571 | 0.412 |
| Armenia 1995-2005 | 0.427 | 0.060 | 0.271 | 0.582 | 0.403 |
| Armenia 2006 - | 0.664 | | | | 0.650 |
| Austria 1945 - | 0.128 | 0.012 | 0.100 | 0.156 | 0.092 |
| Azerbaijan 1996-2002 | 0.711 | 0.070 | 0.488 | 0.933 | 0.699 |
| Bangladesh 1986 - | 0.143 | | | | 0.107 |
| Belarus 1994-1996 | 0.564 | 0.067 | 0.399 | 0.728 | 0.545 |
| Belarus 1997 - | 0.631 | 0.094 | 0.369 | 0.893 | 0.615 |
| Benin 1991 - | 0.647 | 0.179 | -0.125 | 1.419 | 0.632 |
| Bolivia 1967-1994 | 0.317 | 0.033 | -0.098 | 0.733 | 0.289 |
| Bolivia 1995-2008 | 0.347 | 0.053 | 0.179 | 0.514 | 0.319 |
| Bosnia and H 1996 - | 0.313 | 0.188 | -2.070 | 2.695 | 0.284 |
| Botswana 1967 - | 0.750 | | | | 0.740 |
| Brazil 1946-1953 | 0.475 | | | | 0.453 |
| Brazil 1954 - 1960 | 0.407 | 0.068 | -0.461 | 1.274 | 0.382 |
| Brazil 1988 - | 0.507 | 0.044 | 0.394 | 0.619 | 0.486 |
| Bulgaria 1990-1991 | 0.058 | 0.033 | -0.361 | 0.477 | 0.018 |
| Bulgaria 1992 - | 0.216 | 0.044 | 0.122 | 0.310 | 0.183 |
| Burkina Faso 1978-1980 | 0.200 | | | | 0.166 |
| Burkina Faso 1991-2011 | 0.375 | | | | 0.349 |
| Burundi 1992 - 1996 | 0.575 | | | | 0.557 |
| CAR 1992-1993 | 0.300 | | | | 0.271 |
| CAR 1995-2002 | 0.413 | 0.113 | -1.017 | 1.842 | 0.388 |
| CAR 2005 - | 0.481 | 0.044 | -0.075 | 1.037 | 0.460 |
| Cameroon 1996 - | 0.375 | | | | 0.349 |
| Cape Verde 1991-1992 | 0.225 | | | | 0.193 |
| Cape Verde 1993 - | 0.310 | 0.066 | 0.100 | 0.520 | 0.281 |
| Chile 1891-1925 | 0.400 | | | | 0.375 |
| Chile 1925-1969 | 0.500 | | | | 0.479 |
| Chile 1969-1973 | 0.542 | 0.058 | -0.191 | 1.275 | 0.523 |
| Chile 1989 - | 0.587 | 0.058 | 0.427 | 0.747 | 0.570 |
| China 1983-2004 | 0.040 | | | | 0 |
| Colombia 1960 - 1990 | 0.440 | 0.060 | -0.326 | 1.205 | 0.416 |
| Colombia 1991 - | 0.406 | 0.062 | 0.233 | 0.578 | 0.381 |
| Comoros 1997-1998 | 0.350 | | | | 0.323 |
| Comoros 2002 - | 1.000 | | | | 1.000 |
| Congo Brazzaville 1961-1963 | 0.200 | | | | 0.166 |
| Congo Brazzaville 1992-1997 | 0.242 | 0.068 | -0.052 | 0.535 | 0.210 |
| Congo Brazzaville 2002 - | 1.000 | | | | 1.000 |
| Costa Rica 1949 - | 0.312 | 0.032 | 0.223 | 0.402 | 0.284 |
| Cote d'Ivoire 1961-1999 | 0.380 | | | | 0.354 |
| Croatia 1991-2000 | 0.362 | 0.050 | 0.250 | 0.473 | 0.335 |

| | | | | | |
|---|---|---|---|---|---|
| Croatia 2001 - | 0.319 | 0.074 | 0.001 | 0.637 | 0.291 |
| Cuba 1941-1958 | 0.325 | | | | 0.297 |
| Cyprus 1960 - | 0.663 | 0.338 | -3.626 | 4.951 | 0.648 |
| Czech Rep 1993-2000 | 0.177 | 0.036 | 0.088 | 0.266 | 0.142 |
| Czech Rep 2001-2011 | 0.287 | 0.103 | -0.042 | 0.615 | 0.257 |
| Djibouti 1993-2009 | 1.000 | | | | 1.000 |
| Dominican Republic 1967-1994 | 0.350 | | | | 0.323 |
| Dominican Republic 1995-2002 | 0.424 | 0.072 | 0.113 | 0.735 | 0.400 |
| Ecuador 1984-1998 | 0.388 | 0.058 | 0.138 | 0.638 | 0.363 |
| Ecuador 1999-2008 | 0.578 | 0.050 | 0.417 | 0.738 | 0.560 |
| Egypt 1980-2000 | 0.528 | | | | 0.509 |
| El Salvador 1984-2000 | 0.340 | 0.063 | 0.140 | 0.541 | 0.313 |
| El Salvador 2001 - | 0.398 | 0.022 | 0.125 | 0.672 | 0.373 |
| Estonia 1992 - | 0.217 | 0.032 | 0.145 | 0.289 | 0.184 |
| Finland 1957 - 1994 | 0.191 | 0.009 | 0.075 | 0.306 | 0.157 |
| Finland 1995-1999 | 0.196 | 0.027 | 0.121 | 0.271 | 0.162 |
| Finland 2000-2011 | 0.088 | 0.035 | -0.023 | 0.200 | 0.050 |
| France 1963-2008 | 0.166 | 0.020 | 0.117 | 0.214 | 0.131 |
| Gabon 1997-2010 | 0.434 | 0.004 | 0.387 | 0.481 | 0.410 |
| Gambia 1997 - | 0.625 | | | | 0.609 |
| Georgia 1990-1995 | 0.200 | | 0.200 | 0.200 | 0.166 |
| Georgia 1996-2003 | 0.604 | 0.071 | 0.430 | 0.779 | 0.588 |
| Georgia 2004 - | 0.575 | | | | 0.557 |
| Germany 1920-1932 | 0.400 | | | | 0.375 |
| Germany 1946 - | 0.068 | | | | 0.029 |
| Ghana 1980-1991 | 0.450 | | | | 0.427 |
| Ghana 1992 - | 0.458 | 0.091 | 0.068 | 0.849 | 0.436 |
| Greece 1986 - | 0.068 | | | | 0.029 |
| Guatemala 1985 - | 0.312 | 0.061 | 0.144 | 0.480 | 0.283 |
| Guinea 1992-2009 | 0.600 | 0.212 | -2.094 | 3.295 | 0.584 |
| Guinea-Bissau 1980 - | 0.310 | 0.015 | 0.123 | 0.498 | 0.281 |
| Haiti 1987 - | 0.104 | 0.070 | -0.196 | 0.404 | 0.066 |
| Honduras 1982 - | 0.369 | 0.010 | 0.337 | 0.401 | 0.343 |
| Hungary 1991-2011 | 0.305 | 0.045 | 0.200 | 0.409 | 0.275 |
| Iceland 1944 - | 0.352 | 0.079 | 0.133 | 0.571 | 0.325 |
| India 1950 - | 0.098 | | | | 0.060 |
| Indonesia 1960-2002 | 0.069 | | | | 0.030 |
| Iran 1990 - | 0.158 | | | | 0.123 |
| Ireland 1938 - | 0.100 | 0.048 | -0.033 | 0.233 | 0.062 |
| Israel 1964 - | 0.045 | | | | 0.005 |
| Italy 1948 - | 0.136 | | | | 0.100 |
| Kazakhstan 1990-1992 | 0.520 | 0.220 | -2.275 | 3.315 | 0.500 |
| Kazakhstan 1993-1995 | 0.450 | | | | 0.427 |
| Kazakhstan 1996 - | 0.674 | 0.080 | 0.419 | 0.930 | 0.661 |
| Kenya 1998-2007 | 0.631 | 0.119 | 0.119 | 1.143 | 0.616 |
| Kyrgyzstan 1990-1992 | 0.275 | | 0.275 | 0.275 | 0.245 |
| Kyrgyzstan 1993-1995 | 0.480 | 0.089 | 0.196 | 0.765 | 0.459 |
| Kyrgyzstan 1996-2002 | 0.505 | 0.055 | 0.363 | 0.647 | 0.484 |
| Kyrgyzstan 2003-2007 | 0.671 | 0.019 | 0.430 | 0.911 | 0.657 |
| Latvia 1992-1997 | 0.168 | 0.025 | 0.111 | 0.225 | 0.133 |
| Latvia 1998 - | 0.050 | | | | 0.010 |
| Lithuania 1993 - | 0.311 | 0.044 | 0.217 | 0.405 | 0.282 |
| Macedonia 1992 - | 0.151 | 0.031 | 0.084 | 0.219 | 0.116 |
| Madagascar 1993-1997 | 0.138 | 0.088 | -0.974 | 1.249 | 0.101 |
| Madagascar 1998-2008 | 0.431 | 0.006 | 0.352 | 0.511 | 0.407 |
| Malawi 1994 - | 0.607 | 0.165 | 0.082 | 1.132 | 0.590 |
| Mali 1992-2012 | 0.365 | 0.094 | 0.104 | 0.626 | 0.339 |

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|---|---|---|---|---|---|
| Malta 1965 - | 0.182 | | | | 0.148 |
| Mauritania 2006-2008 | 0.469 | 0.031 | 0.072 | 0.866 | 0.446 |
| Mauritius 1992 - | 0.210 | 0.103 | -1.095 | 1.515 | 0.177 |
| Mexico 1929 - | 0.370 | 0.028 | 0.280 | 0.460 | 0.343 |
| Moldova 1990 | 0.260 | 0.110 | -1.140 | 1.660 | 0.229 |
| Moldova 1991-1994 | 0.316 | 0.091 | -0.843 | 1.475 | 0.288 |
| Moldova 1995-2000 | 0.270 | 0.059 | 0.130 | 0.410 | 0.240 |
| Moldova 2001 - | 0.301 | 0.069 | 0.004 | 0.598 | 0.272 |
| Mongolia 1992 - | 0.322 | 0.092 | -0.075 | 0.718 | 0.293 |
| Mozambique 1987 - 1990 | 0.318 | | | | 0.290 |
| Mozambique 1991-2004 | 0.381 | 0.006 | 0.308 | 0.453 | 0.355 |
| Mozambique 2005 - | 0.491 | 0.099 | 0.065 | 0.916 | 0.469 |
| Namibia 1990 - | 0.410 | 0.060 | 0.256 | 0.563 | 0.385 |
| Nicaragua 1987 - | 0.427 | 0.039 | 0.303 | 0.550 | 0.403 |
| Niger 1993-1995 | 0.475 | 0.025 | 0.157 | 0.793 | 0.453 |
| Niger 2000-2009 | 0.369 | 0.069 | -0.505 | 1.242 | 0.342 |
| Nigeria 1989-1993 | 0.313 | 0.013 | 0.154 | 0.471 | 0.284 |
| Nigeria 1999 - | 0.658 | 0.170 | -0.074 | 1.391 | 0.644 |
| Pakistan 1998-1999 | 0.344 | | | | 0.316 |
| Panama 1972 | 0.474 | 0.046 | 0.326 | 0.621 | 0.452 |
| Paraguay 1968-1991 | 0.550 | | | | 0.531 |
| Paraguay 1992 - | 0.301 | 0.045 | 0.156 | 0.446 | 0.272 |
| Peru 1980-1992 | 0.236 | 0.011 | 0.101 | 0.370 | 0.204 |
| Peru 1994 - | 0.443 | 0.056 | 0.263 | 0.623 | 0.420 |
| Philippines 1987 - | 0.305 | 0.095 | -0.906 | 1.515 | 0.276 |
| Poland 1990-1992 | 0.175 | | | | 0.140 |
| Poland 1993-1996 | 0.323 | 0.051 | 0.205 | 0.441 | 0.295 |
| Poland 1997 - | 0.271 | 0.044 | 0.175 | 0.368 | 0.241 |
| Portugal 1976 - 1982 | 0.294 | 0.031 | -0.103 | 0.691 | 0.264 |
| Portugal 1983 - | 0.229 | 0.016 | 0.190 | 0.268 | 0.197 |
| Romania 1992 - | 0.280 | 0.033 | 0.211 | 0.349 | 0.250 |
| Russia 1990-1991 | 0.150 | | | | 0.114 |
| Russia 1992-1993 | 0.298 | 0.073 | -0.017 | 0.613 | 0.269 |
| Russia 1994 - | 0.579 | 0.056 | 0.454 | 0.704 | 0.561 |
| STP 1991-2002 | 0.310 | 0.015 | 0.123 | 0.498 | 0.281 |
| STP 2003 - | 0.239 | 0.011 | 0.094 | 0.383 | 0.207 |
| Senegal 1992-2000 | 0.413 | 0.013 | 0.254 | 0.571 | 0.388 |
| Senegal 2001 - | 0.583 | 0.116 | 0.084 | 1.082 | 0.566 |
| Seychelles 1993 - | 0.625 | | | | 0.609 |
| Sierra Leone 1992 - | 0.565 | 0.217 | -0.369 | 1.500 | 0.547 |
| Singapore 1995 - | 0.210 | | | | 0.176 |
| Slovakia 1993-1998 | 0.207 | 0.033 | 0.129 | 0.284 | 0.173 |
| Slovakia 1999-2001 | 0.082 | 0.032 | -0.322 | 0.486 | 0.043 |
| Slovakia 2002 - | 0.222 | 0.139 | -0.376 | 0.820 | 0.189 |
| Slovenia 1992 - | 0.153 | 0.019 | 0.114 | 0.193 | 0.118 |
| South Africa 1996 - | 0.407 | 0.218 | -2.358 | 3.173 | 0.383 |
| South Korea 1949-1959 | 0.250 | | | | 0.219 |
| South Korea 1962-1972 | 0.450 | | | | 0.427 |
| South Korea 1988 - | 0.375 | | | | 0.349 |
| Sri Lanka 1979 - | 0.314 | 0.086 | -0.054 | 0.683 | 0.286 |
| Syria 1973-2011 | 0.602 | | | | 0.585 |
| Taiwan 1995 - | 0.300 | 0.025 | -0.018 | 0.618 | 0.271 |
| Tajikistan 1995 - | 0.518 | 0.051 | 0.387 | 0.649 | 0.498 |
| Tanzania 1995 - | 0.469 | 0.094 | -0.722 | 1.660 | 0.446 |
| Timor Leste 2002 - | 0.193 | | | | 0.159 |
| Togo 2003 - | 0.438 | | | | 0.414 |
| Trinidad & Tobago 1976 - | 0.100 | | | | 0.063 |

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|---|---|---|---|---|---|
| Tunisia 1998 - 2010 | 0.380 | | | | 0.354 |
| Turkey 1983-2007 | 0.297 | 0.127 | -1.314 | 1.909 | 0.268 |
| Turkey 2008 - | 0.182 | | 0.182 | 0.182 | 0.148 |
| Turkmenistan 1992 - 2008 | 0.675 | 0.078 | 0.476 | 0.875 | 0.662 |
| US 1788 - | 0.318 | 0.008 | 0.222 | 0.413 | 0.289 |
| Uganda 1996 - | 0.531 | 0.126 | -0.012 | 1.075 | 0.512 |
| Ukraine 1992-1995 | 0.420 | 0.106 | 0.125 | 0.715 | 0.395 |
| Ukraine 1996-2004 | 0.463 | 0.061 | 0.319 | 0.606 | 0.440 |
| Ukraine 2005-2010 | 0.356 | 0.206 | -2.264 | 2.977 | 0.329 |
| Ukraine 2011 - | 0.486 | 0.065 | 0.328 | 0.644 | 0.464 |
| Uruguay 1985 - | 0.402 | 0.020 | 0.338 | 0.467 | 0.377 |
| Uzbekistan 1993 - | 0.659 | 0.056 | 0.516 | 0.802 | 0.645 |
| Venezuela 1961 - 1999 | 0.287 | 0.039 | 0.179 | 0.395 | 0.257 |
| Venezuela 2001 - | 0.415 | | | | 0.391 |
| Yugoslavia 1992-2000 | 0.235 | 0.025 | -0.083 | 0.553 | 0.203 |
| Zaire 1997-2002 | 0.304 | | | | 0.275 |
| Zambia 1992-1995 | 0.350 | | | | 0.323 |
| Zambia 1996 - | 0.625 | 0.130 | 0.213 | 1.038 | 0.610 |
| Zimbabwe 1991-2008 | 0.752 | 0.189 | -0.061 | 1.565 | 0.742 |

**Table B: Prespow2 Scores**

| Country Year | Raw score | Standard errors | [95% Confidence Intervals for raw scores] | | Normalized score |
|---|---|---|---|---|---|
| Albania 1991-1998 | -0.181 | 0.038 | -0.270 | -0.091 | 0.215 |
| Albania 1998 | -0.203 | 0.116 | -0.704 | 0.298 | 0.185 |
| Algeria 1997-2008 | 0.271 | | | | 0.813 |
| Angola 1993-2009 | 0.041 | | | | 0.509 |
| Argentina 1984-1994 | -0.069 | 0.078 | -1.059 | 0.921 | 0.363 |
| Argentina 1994 | 0.052 | 0.047 | -0.078 | 0.182 | 0.523 |
| Armenia 1991-1994 | 0.161 | 0.021 | 0.094 | 0.228 | 0.668 |
| Armenia 1995-2005 | 0.087 | 0.046 | -0.030 | 0.204 | 0.570 |
| Armenia 2006 - | 0.020 | | | | 0.480 |
| Austria 1945 - | -0.082 | 0.021 | -0.131 | -0.033 | 0.346 |
| Azerbaijan 1996-2002 | 0.323 | 0.056 | 0.144 | 0.502 | 0.882 |
| Bangladesh 1986 - | -0.207 | | | | 0.180 |
| Belarus 1994-1996 | 0.220 | 0.055 | 0.086 | 0.354 | 0.745 |
| Belarus 1997 - | 0.412 | 0.059 | 0.249 | 0.575 | 1.000 |
| Benin 1991 - | 0.205 | 0.030 | 0.076 | 0.334 | 0.725 |
| Bolivia 1967-1994 | -0.069 | 0.078 | -1.059 | 0.921 | 0.363 |
| Bolivia 1995-2008 | -0.082 | 0.019 | -0.143 | -0.021 | 0.346 |
| Bosnia and H 1996 - | -0.060 | 0.087 | -1.166 | 1.047 | 0.375 |
| Botswana 1967 - | 0.067 | | | | 0.543 |
| Brazil 1946-1953 | 0.089 | | | | 0.572 |
| Brazil 1954 - 1960 | 0.007 | 0.082 | -1.034 | 1.047 | 0.463 |
| Brazil 1988 - | 0.181 | 0.045 | 0.066 | 0.295 | 0.693 |
| Bulgaria 1990-1991 | -0.253 | 0.078 | -1.246 | 0.740 | 0.119 |
| Bulgaria 1992 - | -0.122 | 0.036 | -0.199 | -0.046 | 0.293 |
| Burkina Faso 1978-1980 | 0.013 | | | | 0.472 |
| Burkina Faso 1991-2011 | -0.219 | | | | 0.165 |
| Burundi 1992 - 1996 | -0.020 | | | | 0.429 |
| CAR 1992-1993 | -0.027 | | | | 0.419 |
| CAR 1995-2002 | -0.021 | 0.006 | -0.093 | 0.051 | 0.427 |
| CAR 2005 - | -0.093 | 0.078 | -1.084 | 0.897 | 0.331 |
| Cameroon 1996 - | -0.219 | | | | 0.165 |
| Cape Verde 1991-1992 | -0.103 | | | | 0.317 |
| Cape Verde 1993 - | -0.064 | 0.031 | -0.163 | 0.035 | 0.370 |
| Chile 1891-1925 | 0.041 | | | | 0.509 |
| Chile 1925-1969 | 0.105 | | | | 0.593 |
| Chile 1969-1973 | 0.143 | 0.025 | -0.169 | 0.456 | 0.644 |
| Chile 1989 - | 0.293 | 0.069 | 0.102 | 0.485 | 0.843 |
| China 1983-2004 | -0.343 | | | | 0 |
| Colombia 1960 - 1990 | 0.042 | 0.063 | -0.754 | 0.837 | 0.510 |
| Colombia 1991 - | 0.016 | 0.074 | -0.190 | 0.221 | 0.475 |
| Comoros 1997-1998 | 0 | | | | 0.454 |
| Comoros 2002 - | 0.257 | | | | 0.794 |
| Congo Brazzaville 1961-1963 | -0.129 | | | | 0.283 |
| Congo Brazzaville 1992-1997 | -0.004 | 0.067 | -0.292 | 0.284 | 0.449 |
| Congo Brazzaville 2002 - | 0.257 | | | | 0.794 |
| Costa Rica 1949 - | -0.119 | 0.041 | -0.234 | -0.004 | 0.297 |
| Cote d'Ivoire 1961-1999 | 0.106 | | | | 0.594 |
| Croatia 1991-2000 | 0.082 | 0.025 | 0.026 | 0.138 | 0.563 |
| Croatia 2001 - | -0.062 | 0.018 | -0.139 | 0.014 | 0.372 |
| Cuba 1941-1958 | -0.007 | | | | 0.446 |

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|---|---|---|---|---|---|
| Cyprus 1960 - | 0.183 | 0.184 | -2.154 | 2.520 | 0.697 |
| Czech Rep 1993-2000 | -0.207 | 0.039 | -0.303 | -0.112 | 0.180 |
| Czech Rep 2001-2011 | -0.139 | 0.087 | -0.418 | 0.139 | 0.270 |
| Djibouti 1993-2009 | 0.257 | | | | 0.794 |
| Dominican Republic 1967- | 0.009 | | | | 0.467 |
| Dominican Republic 1995- | 0.053 | 0.033 | -0.087 | 0.193 | 0.525 |
| Ecuador 1984-1998 | 0.056 | 0.043 | -0.130 | 0.242 | 0.529 |
| Ecuador 1999-2008 | 0.288 | 0.064 | 0.084 | 0.493 | 0.836 |
| Egypt 1980-2000 | 0.303 | | | | 0.855 |
| El Salvador 1984-2000 | -0.066 | 0.043 | -0.203 | 0.070 | 0.367 |
| El Salvador 2001 - | 0.017 | 0.041 | -0.501 | 0.534 | 0.476 |
| Estonia 1992 - | -0.212 | 0.040 | -0.303 | -0.121 | 0.174 |
| Finland 1957 - 1994 | 0.006 | 0.092 | -1.162 | 1.174 | 0.462 |
| Finland 1995-1999 | 0.074 | 0.070 | -0.120 | 0.268 | 0.553 |
| Finland 2000-2011 | -0.140 | 0.079 | -0.393 | 0.113 | 0.269 |
| France 1963-2008 | 0.008 | 0.051 | -0.117 | 0.133 | 0.465 |
| Gabon 1997-2010 | 0.001 | 0.172 | -2.183 | 2.185 | 0.455 |
| Gambia 1997 - | -0.029 | | | | 0.417 |
| Georgia 1990-1995 | -0.104 | 0.045 | -0.672 | 0.465 | 0.317 |
| Georgia 1996-2003 | 0.251 | 0.042 | 0.149 | 0.354 | 0.787 |
| Georgia 2004 - | -0.067 | | | | 0.366 |
| Germany 1920-1932 | 0.041 | | | | 0.509 |
| Germany 1946 - | -0.243 | | | | 0.133 |
| Ghana 1980-1991 | 0.127 | | | | 0.623 |
| Ghana 1992 - | -0.062 | 0.058 | -0.312 | 0.187 | 0.372 |
| Greece 1986 - | -0.243 | | | | 0.133 |
| Guatemala 1985 - | -0.133 | 0.056 | -0.288 | 0.023 | 0.279 |
| Guinea 1992-2009 | 0.116 | 0.002 | 0.094 | 0.137 | 0.608 |
| Guinea-Bissau 1980 - | 0 | 0.002 | -0.030 | 0.030 | 0.454 |
| Haiti 1987 - | -0.148 | 0.065 | -0.973 | 0.676 | 0.258 |
| Honduras 1982 - | -0.047 | 0.070 | -0.270 | 0.175 | 0.392 |
| Hungary 1991-2011 | -0.056 | 0.058 | -0.190 | 0.077 | 0.380 |
| Iceland 1944 - | 0.296 | 0.096 | 0.030 | 0.561 | 0.846 |
| India 1950 - | -0.267 | | | | 0.102 |
| Indonesia 1960-2002 | -0.305 | | | | 0.051 |
| Iran 1990 - | -0.187 | | | | 0.207 |
| Ireland 1938 - | -0.122 | 0.051 | -0.264 | 0.019 | 0.293 |
| Israel 1964 - | -0.337 | | | | 0.008 |
| Italy 1948 - | -0.039 | | | | 0.403 |
| Kazakhstan 1990-1992 | 0.214 | 0.117 | -1.278 | 1.706 | 0.738 |
| Kazakhstan 1993-1995 | 0.330 | | | | 0.892 |
| Kazakhstan 1996 - | 0.226 | 0.015 | 0.180 | 0.272 | 0.754 |
| Kenya 1998-2007 | 0.082 | 0.021 | -0.007 | 0.171 | 0.564 |
| Kyrgyzstan 1990-1992 | 0.031 | 0.027 | -0.316 | 0.377 | 0.495 |
| Kyrgyzstan 1993-1995 | 0.163 | 0.043 | 0.026 | 0.300 | 0.670 |
| Kyrgyzstan 1996-2002 | 0.213 | 0.034 | 0.125 | 0.300 | 0.736 |
| Kyrgyzstan 2003-2007 | 0.136 | 0.128 | -1.495 | 1.767 | 0.634 |
| Latvia 1992-1997 | -0.282 | 0.021 | -0.331 | -0.233 | 0.081 |
| Latvia 1998 - | -0.292 | | | | 0.067 |
| Lithuania 1993 - | -0.056 | 0.039 | -0.140 | 0.028 | 0.380 |
| Macedonia 1992 - | -0.226 | 0.023 | -0.276 | -0.175 | 0.156 |
| Madagascar 1993-1997 | -0.039 | 0.065 | -0.862 | 0.784 | 0.403 |
| Madagascar 1998-2008 | -0.089 | 0.082 | -1.135 | 0.957 | 0.337 |
| Malawi 1994 - | 0.090 | 0.060 | -0.102 | 0.282 | 0.574 |
| Mali 1992-2012 | -0.042 | 0.040 | -0.155 | 0.070 | 0.398 |
| Malta 1965 - | 0.098 | | | | 0.584 |
| Mauritania 2006-2008 | -0.092 | 0.079 | -1.097 | 0.912 | 0.333 |

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|---|---|---|---|---|---|
| Mauritius 1992 - | -0.260 | 0.006 | -0.333 | -0.188 | 0.110 |
| Mexico 1929 - | -0.092 | 0.065 | -0.300 | 0.115 | 0.332 |
| Moldova 1990 | -0.159 | 0.091 | -1.311 | 0.994 | 0.244 |
| Moldova 1991-1994 | -0.059 | 0.039 | -0.552 | 0.434 | 0.376 |
| Moldova 1995-2000 | -0.086 | 0.052 | -0.209 | 0.037 | 0.341 |
| Moldova 2001 - | -0.227 | 0.013 | -0.283 | -0.170 | 0.154 |
| Mongolia 1992 - | -0.106 | 0.066 | -0.389 | 0.177 | 0.314 |
| Mozambique 1987 - 1990 | 0.005 | | | | 0.461 |
| Mozambique 1991-2004 | 0.012 | 0.014 | -0.171 | 0.195 | 0.471 |
| Mozambique 2005 - | 0.014 | 0.011 | -0.031 | 0.060 | 0.473 |
| Namibia 1990 - | -0.010 | 0.023 | -0.071 | 0.050 | 0.441 |
| Nicaragua 1987 - | 0.056 | 0.036 | -0.059 | 0.171 | 0.528 |
| Niger 1993-1995 | 0.085 | 0.094 | -1.105 | 1.275 | 0.567 |
| Niger 2000-2009 | -0.083 | 0.088 | -1.198 | 1.031 | 0.344 |
| Nigeria 1989-1993 | -0.003 | 0.004 | -0.049 | 0.043 | 0.450 |
| Nigeria 1999 - | 0.082 | 0.064 | -0.194 | 0.357 | 0.562 |
| Pakistan 1998-1999 | 0.058 | | | | 0.532 |
| Panama 1972 | 0.137 | 0.033 | 0.031 | 0.243 | 0.636 |
| Paraguay 1968-1991 | 0.136 | | | | 0.635 |
| Paraguay 1992 - | -0.158 | 0.050 | -0.318 | 0.002 | 0.245 |
| Peru 1980-1992 | -0.134 | 0.064 | -0.944 | 0.676 | 0.277 |
| Peru 1994 - | 0.059 | 0.073 | -0.174 | 0.292 | 0.533 |
| Philippines 1987 - | -0.039 | 0.080 | -1.057 | 0.979 | 0.403 |
| Poland 1990-1992 | -0.098 | | | | 0.325 |
| Poland 1993-1996 | 0.040 | 0.064 | -0.108 | 0.188 | 0.507 |
| Poland 1997 - | -0.008 | 0.044 | -0.105 | 0.089 | 0.443 |
| Portugal 1976 - 1982 | 0.110 | 0.116 | -1.369 | 1.588 | 0.600 |
| Portugal 1983 - | 0.067 | 0.063 | -0.088 | 0.222 | 0.543 |
| Romania 1992 - | 0.006 | 0.034 | -0.067 | 0.079 | 0.463 |
| Russia 1990-1991 | -0.249 | | | | 0.124 |
| Russia 1992-1993 | -0.030 | 0.037 | -0.187 | 0.127 | 0.415 |
| Russia 1994 - | 0.249 | 0.037 | 0.167 | 0.330 | 0.784 |
| STP 1991-2002 | 0 | 0.002 | -0.030 | 0.030 | 0.454 |
| STP 2003 - | -0.008 | 0.017 | -0.218 | 0.203 | 0.444 |
| Senegal 1992-2000 | 0.081 | 0.085 | -1.001 | 1.162 | 0.561 |
| Senegal 2001 - | -0.027 | 0.080 | -0.369 | 0.316 | 0.419 |
| Seychelles 1993 - | -0.029 | | | | 0.417 |
| Sierra Leone 1992 - | 0.114 | 0.072 | -0.195 | 0.424 | 0.606 |
| Singapore 1995 - | -0.119 | | | | 0.297 |
| Slovakia 1993-1998 | -0.190 | 0.035 | -0.273 | -0.106 | 0.203 |
| Slovakia 1999-2001 | -0.195 | 0.089 | -1.321 | 0.930 | 0.196 |
| Slovakia 2002 - | -0.106 | 0.071 | -0.411 | 0.198 | 0.314 |
| Slovenia 1992 - | -0.215 | 0.017 | -0.252 | -0.178 | 0.169 |
| South Africa 1996 - | -0.087 | 0.058 | -0.830 | 0.656 | 0.339 |
| South Korea 1949-1959 | -0.054 | | | | 0.383 |
| South Korea 1962-1972 | 0.073 | | | | 0.551 |
| South Korea 1988 - | 0.025 | | | | 0.488 |
| Sri Lanka 1979 - | -0.030 | 0.089 | -0.414 | 0.354 | 0.415 |
| Syria 1973-2011 | 0.400 | | | | 0.984 |
| Taiwan 1995 - | -0.052 | | | | 0.385 |
| Tajikistan 1995 - | 0.106 | 0.028 | 0.033 | 0.178 | 0.594 |
| Tanzania 1995 - | -0.149 | 0.073 | -1.074 | 0.777 | 0.257 |
| Timor Leste 2002 - | -0.035 | | | | 0.408 |
| Togo 2003 - | -0.171 | | | | 0.228 |
| Trinidad & Tobago 1976 - | -0.264 | | | | 0.105 |
| Tunisia 1998 - 2010 | 0.106 | | | | 0.594 |
| Turkey 1983-2007 | 0.114 | 0.051 | -0.528 | 0.756 | 0.606 |

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|---|---|---|---|---|---|
| Turkey 2008 - | 0.124 | 0.014 | -0.050 | 0.298 | 0.619 |
| Turkmenistan 1992 - 2008 | 0.297 | 0.048 | 0.175 | 0.420 | 0.848 |
| US 1788 - | -0.084 | 0.077 | -1.061 | 0.893 | 0.344 |
| Uganda 1996 - | -0.014 | 0.012 | -0.068 | 0.039 | 0.436 |
| Ukraine 1992-1995 | 0.052 | 0.089 | -0.197 | 0.300 | 0.523 |
| Ukraine 1996-2004 | 0.165 | 0.036 | 0.081 | 0.249 | 0.673 |
| Ukraine 2005-2010 | -0.079 | 0 | -0.083 | -0.075 | 0.350 |
| Ukraine 2011 - | 0.192 | 0.026 | 0.128 | 0.256 | 0.709 |
| Uruguay 1985 - | -0.037 | 0.039 | -0.160 | 0.087 | 0.406 |
| Uzbekistan 1993 - | 0.278 | 0.025 | 0.215 | 0.341 | 0.823 |
| Venezuela 1961 - 1999 | -0.157 | 0.047 | -0.289 | -0.025 | 0.247 |
| Venezuela 2001 - | 0.027 | | | | 0.490 |
| Yugoslavia 1992-2000 | -0.278 | 0.001 | -0.286 | -0.269 | 0.087 |
| Zaire 1997-2002 | 0.006 | | | | 0.462 |
| Zambia 1992-1995 | 0.025 | | | | 0.487 |
| Zambia 1996 - | 0.117 | 0.023 | 0.043 | 0.192 | 0.610 |
| Zimbabwe 1991-2008 | 0.172 | 0.044 | -0.019 | 0.362 | 0.682 |