Supporting Material for Article

Is There an Environmental Version of the Kantian Peace?

Insights from Water Pollution in Europe

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European Journal of International Relations, Vol.16, No.1, 2009

Rivers and Country Dyads Included in the Datasets

BOD_5

River	*Dyad(s)*	*River*	*Dyad(s)*
Arda	Bulgaria-Greece	Nestos	Bulgaria-Greece
Danube	Germany-Austria Austria-Slovakia Czechoslovakia-Hungary	Oder	Czech Republic-Poland
Daugava	Belarus-Latvia	Rhone	Switzerland-France
Drau	Austria-Slovenia	Sambre	France-Belgium
Escaut	France-Belgium	Sava	Slovenia-Croatia
Garonne	Spain-France	Struma	Bulgaria-Greece
Inn	Switzerland-Austria	Tajo	Spail-Portugal
Mosel	France-Germany	Tisa	Hungary-Yugoslavia / Serbia Hungary-Serbia
Mur	Austria-Slovenia	Vardar	Yugoslavia-Greece Macedonia-Greece
Mura	Romania-Hungary	Venta	Latvia-Lithuania
Nemunas	Belarus-Lithuania		

$\underline{NO_3}$

River	*Dyad(s)*	*River*	*Dyad(s)*
Arda	Bulgaria-Greece	Nestos	Bulgaria-Greece
Danube	Germany-Austria Austria-Slovakia Slovakia-Hungary Bulgaria-Romania	Oder	Czech Republic-Poland
Daugava	Belarus-Latvia	Rhine	France-Germany Germany-Netherlands
Drau	Austria-Slovenia	Rhone	Switzerland-France
Elbe	Czech Republic-Germany / GDR	Sambre	France-Belgium
Escaut	France-Belgium	Sava	Slovenia-Croatia
Garonne	Spain-France	Schelde	Belgium-Netherlands
Inn	Switzerland-Austria	Struma	Bulgaria-Greece
Mosel	France-Germany	Tajo	Spain-Portugal
Mur	Austria-Slovenia	Tisa	Hungary-Yugoslavia Hungary-Serbia
Mura	Romania-Hungary	Vardar	Yugoslavia-Greece Macedonia-Greece
Nemunas	Belarus-Lithuania	Venta	Latvia-Lithuania

Variables and Data Sources

In the following sections we discuss the construction of variables that are less common in research on international environmental policy. All other variables are defined in the main text and their sources are listed in the main text and in the table below. For references please consult the references in the main text.

Water Pollution: Biological Oxygen Demand (BOD_5) and Nitrate (NO_3^-)

We focus on *biological oxygen demand* (BOD_5) and *nitrate* (NO_3^-) for several reasons. First, consistency of data quality across countries and time is acceptable, and both indicators are available for a relatively large number of countries and long periods of time. Numerous national and international authorities, in fact, use BOD_5 and NO_3^- to describe water quality and have established standards (limits) for both indicators (European Environment Agency, 2004).

Second, these indicators capture general forms of anthropogenic pollution (sewage in the case of BOD_5 and pollution from agriculture in the case of NO_3^-). Attribution is possible because these pollutants have low background values and low levels of natural variation, so that neither heterogeneity in local industrial activity nor heterogeneity in geological or environmental attributes should have a strong influence on the two indicators. Both BOD_5 and NO_3^- can travel rather far downstream. This is important because we are focusing on transboundary externalities. Other pollutants, such as pathogens, which have more direct effects on human health, usually do not travel more than a few kilometres downstream.

Third, both forms of pollution can be influenced by governments if they decide to do so. BOD_5 is related to the oxygen (O_2) regime of a river and measures the proportion of organic pollution on oxygen depletion. Although every river contains some organic load, the main source of organic pollution is the discharge of untreated or poorly treated sewage. Reducing the amount of sewage discharge into a river and/or installing sewage treatment plants can curtail organic pollution. But doing so is costly. Most NO_3^- pollution results from agricultural production. Reducing the use of fertilizers containing high amounts of nitrate, using natural or alternative artificial fertilizers, changing agricultural production methods, and increasing efficiency in agricultural production can curtail NO_3^- pollution, but is costly (European Environment Agency, 2003).

We use these two pollution parameters also to account for the two main sources of anthropogenic water pollution: point- and non-point sources (Cech, 2004: 113-118). Pollution from point sources, such as BOD_5, is easier to identify and quantify than pollution from non-point sources, such as NO_3^-. For these reasons, pollution from point sources is often regarded as technically and politically easier to control than pollution from non-point sources.

The data for BOD_5 and NO_3^- covers the time-period 1970-2003. Since the distributions of both indicators are skewed towards zero, we follow a common practice in other studies on the determinants of pollution (e.g. Grossman and Kruger, 1995; Antweiler et al., 2001) and use the logarithmic transformation of the mean annual pollution concentrations. The measurement unit is mg O_2/l for **BODlevel** and mg N/l for **NOlevel**. The construction of the second dependent variable (**BODnimby**, **NOnimby**), which relies on BODlevel and NOlevel, is described in the main text.

Trade relations

We use three types of trade variables. The first is upstream countries' general trade openness, defined as (exports+imports)/real GDP. We are primarily interested in trade openness of the upstream country (**openus**).

The second variable measures the relative importance of a bilateral trade relationship. The third variable measures inequity of trade dependence between two countries. The second and third variables are constructed as follows: we start by defining a national measure of trade dependence, since both dyadic measures rely on this national measure. National dependence of state i on trade with state j at time t is defined as

$$\text{Trade Dependence}_{i,t} = \frac{\text{Dyadic Trade}_{ij,t}}{\text{Total Trade}_{i,t}} = \frac{\text{Imports}_{ij,t} + \text{Exports}_{ij,t}}{\sum_{k=1}^{N} (\text{Imports}_{ik,t} + \text{Exports}_{ik,t})}$$

To average the national dependence scores (second trade variable) we use the geometric mean because it is less outlier sensitive and produces zero as soon as one of the two trade dependence values equals zero. We consider both effects to be theoretically desirable since highly unequal trade dependence of states should not lead to higher values in trade intensity than more equal trade dependence among pairs of states. We thus define the **intensity** of a bilateral trade relationship, the second trade variable, between states *i* and *j* at time *t* as

$$\text{Intensity}_{ij,t} = \sqrt{\text{Trade Dependence}_{i,t} * \text{Trade Dependence}_{j,t}}$$

This definition produces values ranging from 0 to 1. Higher values indicate more intensive bilateral trade relationships.

For the third trade variable we use a directional measure for **asymmetry** in the trade relationship between the upstream country *i* and the downstream country *j* at time t. This asymmetry is defined as

$$\text{Asymmetry}_{ij,t} = \text{Trade Dependence}_{i,t} - \text{Trade Dependence}_{j,t}$$

This definition produces values ranging from -1 to 1. Positive values indicate higher trade dependence of the upstream country on the downstream country; negative values indicate higher trade dependence of the downstream on the upstream country. All trade data was taken from the expanded trade and GDP dataset by Gleditsch (2006).

Domestic environmental policy

The existing literature does not offer any widely accepted indicators for the stringency of domestic environmental policy. Moreover, many of the existing indicators are time-invariant and do not permit a strict separation of domestic and international environmental policy. We use several indicators to proxy for the two concepts. For the stringency of domestic environmental policy we use the 2001 Environmental Sustainability Index (**esi**), one of its component indicators, and an environmental sustainability indicator provided by the World Bank. The 2001 ESI is based largely on data for several years in the 1990s and thus captures primarily the state of domestic environmental policy as it existed in that decade. Since our pollution data is concentrated in the 1990s, using the ESI is defensible, though not ideal (some data for our dependent variables extends back to 1970; moreover, the ESI also includes some international environmental policy aspects). The ESI captures in a very broad manner how well individual countries take care of their natural environment.[1] In addition, we use one component of the ESI separately: a rating by the World Economic Forum of the stringency and consistency of environmental regulation, undertaken in the late 1990s (**wefstr**). Higher values on this variable indicate stronger regulation. In contrast to the ESI and its component indicators, the environmental sustainability indicator provided by the World Bank varies over time. Adjusted net

[1] The ESI includes BOD emissions per capita and day. Since it does not include BOD concentrations and includes also many other indicators, using the ESI does not pose the problem of measuring similar phenomena on the independent and dependent variables.

savings (**ans**) measure the rate of savings (as a percentage of gross national income) after taking into account investments in human capital, depletion of natural resources and damage caused by pollution. Higher values indicate better domestic environmental performance.

The environmental policy data was incomplete for several countries and/or years. When data for specific years was missing, we extrapolated the data forward or backward from the closest year for which data was available. When data for the former Czechoslovakia was missing we used averages for the Czech and Slovak republics based on the closest year for which data was available. When data for the former Yugoslavia was missing, we used averages for the former Yugoslav republics or data for Serbia-Montenegro or (in the case of the variable ans) for Macedonia for the closest year for which data was available. Data for the variable ans was not available for Latvia; we used the corresponding data for Lithuania as a proxy.

International environmental commitment

International environmental commitment is measured in four ways. First, we count the cumulated number of global environmental agreements ratified by a country (**cumraty**). We also use the number of international agreements on water quality to which the country is a party (**agtwatqual**).[2] The first indicator draws on data from Ronald Mitchell (http://www.uoregon.edu/~iea/, last accessed on 8 April 2008) and data from the Environmental Treaties and Resource Indicators (ENTRI) (http://sedac.ciesin.columbia.edu/entri/ last accessed on 8 April 2008). The second indicator is from the latter source. The former variable varies over time, the latter does not. We use two additional indicators as well. (1) A global environmental commitment rating by the authors of the ESI (**glocoo**). It is based on the number of memberships in environmental intergovernmental organizations in 1998, the percentage of CITES reporting requirements met in 2000, levels of participation in the Vienna Convention/Montreal Protocol in 2000, and a rating of compliance with environmental agreements (undertaken in 2000). Higher values on this variable indicate stronger international environmental commitment. (2) A network centrality index developed by Ward (2006) (**centrality**). This index is cross-sectional for the year 2002 and measures the extent to which a country is involved in networks of international environmental cooperation.

Variables in baseline models

We include a time variable (**year**) to control for general trends in income, economic structure of countries, and trade liberalization that are related to a trend towards lower pollution.

A large body of literature on the environmental Kuznets curve holds that at lower income levels people are mostly concerned about food, shelter, and other material needs, less concerned about environmental quality, and less likely to have the capacity to afford costly environmental clean-up or pollution control measures. As income levels rise, people demand higher levels of environmental quality and can afford higher environmental clean-up costs. We thus expect a negative relationship between per capita income and pollution levels, controlling for scale and composition

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2 Another data source, the Transboundary Freshwater Dispute Database, records rather few international water quality agreements, suggesting that its coverage is incomplete.

effects of economic activity. We proxy this income (or technique) effect by including the log value of a moving three-year average of lagged real income per capita in thousands of US-Dollars of the upstream country (**lrgdpcus**). The literature on the environmental Kuznets curve stipulates that pollution increases and at some point starts to decrease with income per capita. We examine this possibility by including the squared value of income alongside income.

The monitoring stations in our datasets can be located upstream or downstream (within 5km) of the border. Since upstream stations may be inclined to under-report pollution to whitewash the upstream country and downstream stations may have an incentive to over-report pollution to demonstrate a victim status, we include the upstream or downstream location as dummy variables (**usstation**, **dsstation**).

Studies on the economy-environment relationship pay a lot of attention to income as a surrogate for several underlying economic factors that individually influence environmental quality (e.g. Grossman and Kruger, 1993, 1995). Recent theoretical and empirical studies (e.g., Antweiler et al., 2001) decompose economic impacts on the environment into scale, composition, and technique effects. We adopt this approach by including several pollutant specific control variables besides income.

The scale effect of an economic activity is defined as the intensity with which the activity is pursued. Since the pollutants we examine do not primarily occur naturally or accidentally, we assume that the larger the scale of economic activity related to these pollutants, the higher the level of pollution is likely to be. Sewage, the main cause of high levels of BOD_5, stems primarily from human excrements and biological waste. We measure the scale of sewage production by population per square kilometre in a gauging station's catchment area per year. We use data on flow direction from the US Geologic Survey's (USGS) Global Hydro1K database as well as global population grids (adjusted for UN totals) for the years 1990, 1995, 2000, and 2005[3] provided by the Center for International Earth Science Information Network (CIESIN). We then calculate this variable within a geographic information system (GIS) model, using the flow accumulation function in ArcGIS. For all other years in our sample the values were intra- or extrapolated based on the four years for which data is available. We use the log of this indicator, **lnpopdensity**.

High levels of NO_3^- result to a large extent from extensive use of synthetic fertilizers in agricultural production. We measure the intensity of synthetic fertilizer use in agricultural production by the amount (metric tons) of fertilizers consumed per square kilometre of irrigated and arable crops land per year in the upstream country (we use the log of this indicator, **lnfertcropsus**). For both indicators we expect a positive relationship between pollution levels and the intensity of upstream economic or anthropogenic activity.

The composition of economic activity influences pollution levels because different sectors of the economy affect the environment differently. As to NO_3^- pollution of water, agriculture is more pollution intensive than either industry or services. We measure composition in this regard with the percentage of irrigated and arable crops per square kilometre in a gauging station's catchment area. This indicator is constructed with the flow accumulation function in ArcGIS on the basis of a GIS model using data on flow direction from the USGS Global Hydro1k database and the

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[3] The values for 2005 are estimates by CIESIN.

USGS Global land cover data for 1993. Because no consistent, high-resolution land cover data is freely available over time this variable does not vary over time (we use the log of this indicator, **lnlandusecrops**). We expect a positive effect of this composition indicator on pollution. We do not compute a composition indicator with respect to BOD_5 because sewage production resulting from human excrements and biological waste cannot be altered.

River characteristics at gauging stations, e.g., water temperature and flow rates, are unlikely to be strongly correlated with our principal explanatory variables. But their influence on pollution levels has been noted in the hydrologic literature (Cech, 2004). Since both dependent variables measure the concentration of pollutants, we control for average river flow at each gauging station. River flow influences the dilution rate and thus the effect of waste input on in-stream pollution concentrations. We use the log of flow (**lnflow**) and expect a negative effect of river flow on pollution. For gauging stations where no annual or triennial means data was provided, we used averages for longer time-periods provided by EEA stations. Where flow data was still missing we entered 0 and constructed a dummy variable that takes the value 1 when flow data was missing and 0 if not (**flowmiss**).

BOD_5 levels indicate the amount of oxygen consumed by bacterial activity within five days, keeping everything else constant. Since biochemical processes are faster at higher temperatures, which results in higher oxygen consumption through bacterial activity and growth, water temperature at the gauging station has to be controlled for. To control for the speed of natural attenuation we use the time rate of exponential decay of BOD_5 (known as the *deoxygenation rate* ***k***). We calculate this value from EEA data on water temperature[4], using a nonlinear function from the hydrologic literature (Bowie et al., 1985: 139). We expect a negative effect of the deoxygenation rate on pollution.

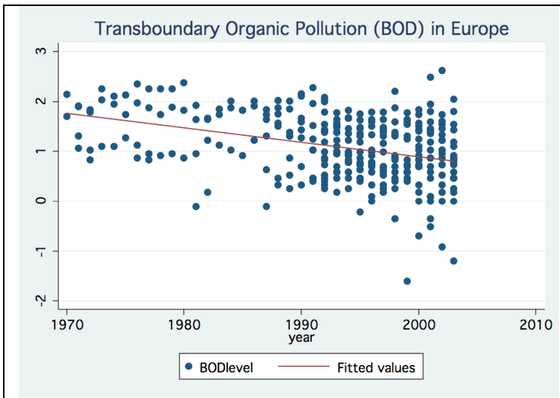
Data Sources

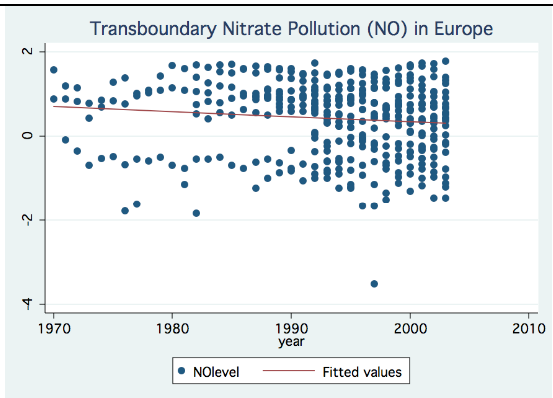
BOD_5	European Environment Agency (EEA) Waterbase – Rivers Version 5 (http://dataservice.eea.eu.int/dataservice/metadetails.asp?id=758, last accessed on 8 April 2008)
Democracy	polityus, polityds, jointpol: Polity IV Dataset (http://www.cidcm.umd.edu/inscr/polity, last accessed on 8 April 2008); Marshall and Jaggers, 2004
Environmental policy	esi, wefstr: World Economic Forum, Yale Center for Environmental Law and Policy, and CIESIN, 2001: Environmental Sustainability Index (http://www.ciesin.columbia.edu/indicators/ESI, last accessed on 8 April 2008). ans: World Bank (http://web.worldbank.org, last accessed on 8 April 2008)
EU-membership	euus, jointeu: European Union, http://europa.eu.int (last accessed on 8 April 2008)

4 Several stations did not report annual or triennial water temperature. Following Grossman and Kruger (1995: 362) we estimate water temperature for each station based on the maximum number of available observations and the decimal geographic coordinates (x/y) of a station and its elevation ($n=96$, $R^2 = 0.5$).

Fertilizer consumption	lnfertcropsus: based on data from Food and Agriculture Organization (FAO) (http://faostat.fao.org, last accessed on 8 April 2008)
International environmental commitment	cumraty: based on data from http://sedac.ciesin.columbia.edu/entri/ (last accessed on 8 April 2008) and http://www.uoregon.edu/~iea/ (last accessed on 8 April 2008) agtwatqual, glocoo: http://sedac.ciesin.columbia.edu/entri/ (last accessed on 8 April 2008) centrality: Ward (2006)
Land use	lnlandusecrops: based on data from U.S. Geological Survey (USGS), Global Land Cover Characterization (http://edc2.usgs.gov/glcc/ , last accessed on 8 April 2008)
NO_3^-	European Environment Agency (EEA) Waterbase – Rivers Version 5 (http://dataservice.eea.eu.int/dataservice/metadetails.asp?id=758, last accessed on 8 April 2008)
Population density	lnpopdensity: based on data from Gridded Population of the World (http://sedac.ciesin.columbia.edu/gpw, last accessed on 8 April 2008)
River flow and deoxygenation rate	lnflow, flowmiss, k: European Environmental Agency (EEA) Waterbase – Water Quantity Version 2 (http://dataservice.eea.eu.int/dataservice/metadetails.asp?id=752, last accessed on 8 April 2008) Global Environmental Monitoring System (GEMS) Water (http://www.gemswater.org/publications/index-e.html, last accessed on 8 April 2008)
Trade and GDP	lrgdpcus, intensity, asymmetry, openus: Expanded Trade and GDP Data by Kristian S. Gleditsch (http://privatewww.essex.ac.uk/~ksg/exptradegdp.html, last accessed on 8 April 2008) Data on countries: Kristian S. Gleditsch and Michael D. Ward. (2006). A Revisited List of Independent States since 1816 (http://privatewww.essex.ac.uk/~ksg/statelist.html, last accessed on 8 April 2008)

Most of our variables vary more cross-sectional than longitudinal. As shown by the following figure, our data is concentrated in the 1990s, with rather few observations in the 1970s and 1980s. BOD levels, and to a lesser extent also NO levels are decreasing over time.





Correlation of BODlevel and year: -0.365	Correlation of NOlevel and year: -0.106

Descriptive Statistics: BOD dataset

Variable		*Mean*	*Std. Dev.*	*Min*	*Max*	*Observations*
BODlevel	overall	1.102166	.6568039	-1.609438	2.624669	N = 310
	between		.532861	-.1728916	2.079442	n = 29
	within		.3290288	-.3343805	2.268309	T-bar = 10.6897
BODnimby	overall	.3260922	2.010908	-5.721519	7.306481	N = 215
	between		1.614411	-2.798887	2.464196	n = 23
	within		1.230803	-5.217095	5.444619	T-bar = 9.34783
lrgdpcus	overall	15.86409	6.388218	4.34959	25.86973	N = 249
	between		7.136604	4.34959	25.0401	n = 28
	within		1.851341	10.14434	20.72711	T-bar = 8.89286
lnpopd~y	overall	7.18891	.8208876	5.278307	8.289611	N = 310
	between		.7280424	5.33491	8.282538	n = 29
	within		.0713301	6.817588	7.555074	T-bar = 10.6897
lnflow	overall	4.530252	2.003034	0	8.71276	N = 310
	between		2.481629	0	8.71276	n = 29
	within		.0744186	4.07843	4.897248	T-bar = 10.6897
flowmiss	overall	.0580645	.2342435	0	1	N = 310
	between		.3509312	0	1	n = 29
	within		0	.0580645	.0580645	T-bar = 10.6897
k	overall	.2489454	.0272555	.1747012	.3029409	N = 310
	between		.0255452	.1747012	.2968084	n = 29
	within		.0056489	.2208647	.2754025	T-bar = 10.6897
year	overall	1992.974	8.373906	1970	2003	N = 310
	between		4.731124	1986.5	2003	n = 29
	within		6.612712	1974.784	2009.474	T-bar = 10.6897
usstat~n	overall	.5322581	.4997651	0	1	N = 310
	between		.5061202	0	1	n = 29
	within		0	.5322581	.5322581	T-bar = 10.6897
dsstat~n	overall	.4677419	.4997651	0	1	N = 310
	between		.5061202	0	1	n = 29
	within		0	.4677419	.4677419	T-bar = 10.6897
polityus	overall	9.198387	1.657628	1.5	10	N = 310
	between		1.704225	2.5	10	n = 29
	within		1.141945	1.727799	12.86505	T-bar = 10.6897
polityds	overall	9.697581	.8472986	5.75	10	N = 310
	between		.6522771	6.779412	10	n = 29
	within		.3983416	6.905914	12.16817	T-bar = 10.6897
jointp~y	overall	9.447984	1.006284	3.625	10	N = 310
	between		.9493384	6.25	10	n = 29
	within		.6639354	5.447984	12.01048	T-bar = 10.6897
euus	overall	.4774194	.5002974	0	1	N = 310

	between		.4276427	0	1	n = 29
	within		.205796	-.3225806	.7851117	T-bar = 10.6897
jointeu	overall	.3580645	.4802064	0	1	N = 310
	between		.3799955	0	1	n = 29
	within		.1454344	-.3919355	.6437788	T-bar = 10.6897
euds	overall	.6387097	.4811511	0	1	N = 310
	between		.4905197	0	1	n = 29
	within		.1206777	-.1112903	.8887097	T-bar = 10.6897
eucount	overall	11.41935	15.90419	0	47	N = 310
	between		12.5839	0	41.5	n = 29
	within		5.112775	-5.080645	27.91935	T-bar = 10.6897
intens~y	overall	.0706381	.0466296	0	.1539899	N = 252
	between		.0410848	.011926	.1427554	n = 26
	within		.0113506	.0274236	.1334888	T-bar = 9.69231
asymme~y	overall	-.0208518	.0903584	-.3605798	.1213222	N = 252
	between		.0885497	-.3455705	.1025894	n = 26
	within		.0144533	-.1567294	.0113622	T-bar = 9.69231
openus	overall	.3903297	.227864	.0243395	.9187427	N = 252
	between		.2079839	.1044298	.8374872	n = 26
	within		.1271381	-.0399653	.7833275	T-bar = 9.69231
esi	overall	62.81177	8.741374	39.21	74.61	N = 310
	between		9.45311	39.21	74.61	n = 29
	within		0	62.81177	62.81177	T-bar = 10.6897
wefstr	overall	.8126072	.8236004	-.78	1.8	N = 280
	between		.9761113	-.78	1.8	n = 22
	within		0	.8126072	.8126072	T-bar = 12.7273
ans	overall	11.77645	5.710719	-9.95	29.27	N = 310
	between		5.882188	-1.212	19.8475	n = 29
	within		2.281244	2.832285	23.02812	T-bar = 10.6897
cumraty	overall	61.06774	32.3895	0	151	N = 310
	between		32.53303	1	140.3333	n = 29
	within		15.46101	15.54393	96.18895	T-bar = 10.6897
agtwat~l	overall	9.951613	7.343243	0	22	N = 310
	between		6.337394	0	22	n = 29
	within		0	9.951613	9.951613	T-bar = 10.6897
glocoo	overall	.8075	.5953687	-.75	1.53	N = 310
	between		.7160918	-.75	1.53	n = 29
	within		0	.8075	.8075	T-bar = 10.6897
centra~y	overall	6858.087	995.2057	4320	7878	N = 310
	between		1070.239	4320	7878	n = 29
	within		0	6858.087	6858.087	T-bar = 10.6897

Descriptive Statistics: NO dataset

Variable		Mean	Std. Dev.	Min	Max	Observations
NOlevel	overall	.4321856	.8691232	-3.506558	1.791759	N = 398
	between		.7566526	-1.246022	1.587785	n = 35
	within		.3234622	-2.900511	2.342998	T-bar = 11.3714
NOnimby	overall	.1664099	1.19326	-2.809048	3.589436	N = 257
	between		.9477675	-1.702344	2.207419	n = 26
	within		.5710312	-1.689268	2.050198	T-bar = 9.88462
lrgdpcus	overall	15.46648	6.296649	4.34959	25.86973	N = 323
	between		6.921291	4.34959	25.0401	n = 33
	within		1.746294	9.746736	20.32951	T-bar = 9.78788
lnfert~s	overall	7.378034	.7318638	4.741714	8.445491	N = 355
	between		.7388319	5.715636	8.179908	n = 30
	within		.2376635	6.058913	8.552454	T-bar = 11.8333
lnland~s	overall	3.822655	.7395619	1.651156	4.561522	N = 398
	between		.6960854	1.651156	4.561522	n = 35
	within		0	3.822655	3.822655	T-bar = 11.3714
lnflow	overall	4.833365	2.1238	0	8.71276	N = 398
	between		2.500643	0	8.71276	n = 35
	within		.0878973	4.371073	5.418502	T-bar = 11.3714
flowmiss	overall	.0628141	.2429336	0	1	N = 398
	between		.3550358	0	1	n = 35
	within		0	.0628141	.0628141	T-bar = 11.3714
year	overall	1993.304	7.844235	1970	2003	N = 398
	between		4.725561	1986	2003	n = 35
	within		6.227972	1976.804	2009.804	T-bar = 11.3714
usstat~n	overall	.5201005	.5002246	0	1	N = 398
	between		.5054327	0	1	n = 35
	within		0	.5201005	.5201005	T-bar = 11.3714
dsstat~n	overall	.4798995	.5002246	0	1	N = 398
	between		.5054327	0	1	n = 35
	within		0	.4798995	.4798995	T-bar = 11.3714
polityus	overall	8.896985	2.251938	1.5	10	N = 398
	between		2.244012	2.388889	10	n = 35
	within		1.104625	1.426397	15.5081	T-bar = 11.3714
polityds	overall	9.659722	.9783544	5.25	10	N = 396
	between		1.119727	5.25	10	n = 35
	within		.3526612	6.868056	12.13031	T-bar = 11.3143
jointpol	overall	9.286932	1.373639	3.375	10	N = 396
	between		1.456148	3.375	10	n = 35
	within		.6013189	5.286932	11.84943	T-bar = 11.3143

euus	overall	.4874372	.5004713	0	1	N = 398
	between		.4496678	0	1	n = 35
	within		.1528068	-.3220866	.7601645	T-bar = 11.3714
jointeu	overall	.3919598	.4888022	0	1	N = 398
	between		.4163147	0	1	n = 35
	within		.1468071	-.417564	.9828689	T-bar = 11.3714
euds	overall	.6356784	.4818451	0	1	N = 398
	between		.4946016	0	1	n = 35
	within		.1380704	-.1143216	1.226587	T-bar = 11.3714
eucount	overall	13.71357	17.18336	0	47	N = 398
	between		14.9841	0	45.5	n = 35
	within		5.023081	-2.786432	30.21357	T-bar = 11.3714
intens~y	overall	.0796986	.0485177	0	.1584234	N = 323
	between		.0443592	.011926	.1438924	n = 32
	within		.0116646	.0063661	.1425493	T-bar = 10.0938
asymme~y	overall	-.0193641	.1182614	-.3605798	.3437127	N = 323
	between		.1122546	-.3424757	.3064196	n = 32
	within		.015303	-.1552417	.0204086	T-bar = 10.0938
openus	overall	.374737	.2101892	.0565593	1.454214	N = 323
	between		.2599872	.1609916	1.454214	n = 32
	within		.1197698	-.055558	.7677348	T-bar = 10.0938
esi	overall	61.86214	8.352344	39.21	74.61	N = 398
	between		9.079941	39.21	74.61	n = 35
	within		0	61.86214	61.86214	T-bar = 11.3714
wefstr	overall	.800546	.8002701	-.78	1.8	N = 348
	between		.9142693	-.78	1.8	n = 28
	within		0	.800546	.800546	T-bar = 12.4286
ans	overall	11.2604	5.370866	-9.95	29.27	N = 398
	between		5.282813	-1.005833	19.17818	n = 35
	within		2.237673	1.898584	24.34124	T-bar = 11.3714
cumraty	overall	61.80905	37.181	0	151	N = 398
	between		35.90922	.4444444	131.75	n = 35
	within		15.42105	19.17268	96.93026	T-bar = 11.3714
agtwat~l	overall	10.42714	7.905517	0	22	N = 398
	between		6.761234	0	22	n = 35
	within		0	10.42714	10.42714	T-bar = 11.3714
glo_coo	overall	.7812814	.6369124	-.75	1.53	N = 398
	between		.6859441	-.75	1.53	n = 35
	within		0	.7812814	.7812814	T-bar = 11.3714
centra~y	overall	6746.99	1092.505	4320	7878	N = 398
	between		1053.695	4320	7878	n = 35
	within		0	6746.99	6746.99	T-bar = 11.3714

The two datasets are available from the authors on request. Contact:
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