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UN Arms Embargo Violations – It Takes Two To Tango.

A QCA Perspective

Luka Bareis

L.Bareis@lse.ac.uk

Department of International Relations

London School of Economics and Political Science

Abstract

Every UN arms embargo imposed in the last decade has been violated. This means that arms supplier states, among them permanent members of the UN Security Council, have transferred weaponry to the embargoed state. States engage in these activities to enhance their regional power and thereby extend their influence. Past research almost exclusively deals with the recipient side of an embargo violating arms transfer, i.e. the embargoed state. Yet, it is crucial to gain a better understanding of the arms supplier side in order to enhance embargo effectiveness as the responsibility of implementing an arms embargo lies de-facto with potential arms supplier states. This paper conducts a crisp-set analysis (csQCA) to investigate the conditions under which these states present a higher propensity to violate an UN arms embargo. Among the five included conditions, ‘low global integration’ together with ‘high corruption’ and ‘weak rule of law’ appears to be a necessary combination for a violation. Adding the conditions a ‘minor state’ or a ‘non-democratic state’ leads to sufficiency. When including residuals for the analysis, rule of law becomes the most important condition in explaining a violation, being alone necessary and sufficient. Implications are discussed.

Key Words: *UN arms embargo violation, Arms Supplier, Qualitative Comparative Analysis, Crisp Set.*

Inter arma silent leges¹.

(Cicero)

(I) Introduction

The purpose of the United Nations (UN) is to “maintain peace and security”, as stated in Chapter I, Article 1.1 of the UN Charter (United Nations, 1945). In order to promote international peace and security, the United Nations is entitled to choose from a repertory of sanctions, ranging from comprehensive economic and trade sanctions to ones that target particular issues. It imposes these on states that fail to uphold international commitments, for instance preventing genocides. By this means, the UN, through the United Nations Security Council (UNSC), has coercive instruments at its disposal to influence and improve the behaviour of states in line with international commitments. However, being imposed not more than twice² by the UNSC before 1990 (Chesterman & Pouligny, 2003), sanctions have gained in attractiveness only recently. In the period from 1990 onwards, sanctions were imposed for a diverse range of purposes on a multitude of states, Cortright and Lopez (2000) even speak of the ‘Sanctions Decade’. These sanctions can be of comprehensive nature and thus entail entire trade and economic blockades. Yet, concerns were expressed regarding the negative effects of those sanctions: Instead of directly affecting political and military elites of a state, they impose negative effects on vulnerable civilian populations and on third states (United Nations Sanctions Secretariat, 1999). As a result, so-called ‘targeted’ or ‘smart’ sanctions emerged and gained in popularity. Compared to the comprehensive sanctions, smart sanctions minimize detrimental humanitarian effects, while they maximize the impact on particular targets. Amongst diplomatic sanctions, travel bans and targeted financial sanctions, arms embargoes constitute the most important form of targeted sanctions (Chesterman & Pouligny, 2003).

According to Brzoska (2008), of all available sanctions, especially arms embargoes have been employed by international organizations and individual states. Since the Cold War, the UNSC has imposed 14 mandatory arms embargoes. The recently gained popularity thereof can be traced back to several key developments. The end of bipolar power structures after the Cold War reduced ideological opposition in the UNSC and consequently enabled easier agreement on passing embargo resolutions (Fruchart et al., 2007). This led to the UN playing a more active role on the international stage and promoting itself as a global institution with the purpose of maintaining international peace and security (Tierny, 2005). Further, UN arms embargoes are regarded as more precise than comprehensive sanctions. The resulting limitation of humanitarian impacts and the more effective targeting distinguishes arms embargoes from other sanctions (Fruchart et al., 2007). Also, the nature of today’s armed conflicts renders arms embargoes a comparatively effective tool to contain conflicts. Internal rivalries and disputes over territory or resources generate the transfer of arms from one conflict to the next, affecting national interests of neighbouring states and eventually jeopardizing the stability of an entire region.

¹ i.e.: Amongst arms the law falls silent.

² The economic blockade of Southern Rhodesia (1966-1979) and the arms embargo imposed on South Africa (1977 – 1994)

Hence, suppressing arms transfers has become important in containing these conflicts and breaking the cycle of violence (Bondi, 2002). Finally, arms embargoes are a comparatively cost effective tool, not necessarily to change the behaviour of the embargoed state, but much rather to disassociate oneself from the renegade state (Brzoska, 2008). As a result, UN arms embargoes have distinguished themselves as main tool for containing conflict (Chesterman & Pouligny, 2003), but also for improving human rights, promoting democracy, deterring aggression, condemning behaviour, ensuring international security (Brzoska, 2008) and, consequently, maintaining peace and security.

Imposing international mandatory arms embargoes is the sole responsibility of the UNSC (Epps, 2002). UN arms embargoes can be invoked based on resolutions adopted under Chapter VII, Article 41, of the UN Charter (United Nations, 1945) when voted for by at least 9 members under the principle of majority, regulated in Chapter V, Article 27.3 of the UN Charter (United Nations, 1945). There is a distinction between mandatory and voluntary UN arms embargoes: While the UNSC *calls upon all states* to stop the supply of arms and related resources under the voluntary embargo, it *decides that all states shall* prohibit the supply thereof under the mandatory embargo (Fruchart et al., 2007). Under Chapter I, Article 2.5, of the UN Charter (United Nations, 1945), the member states have pledged to *refrain from giving assistance to any state against which the United Nations is taking preventive or enforcement action*. Hence, member states are obliged to implement mandatory embargoes, which they constantly fail to do.

In that regard, UN arms embargoes have attained a bad reputation, being seemingly ineffective or even malevolent and falling short of the ultimate goal, viz., containing a conflict. In fact, academic studies confirm that past arms embargoes have been ineffective, poorly designed and never fully implemented (Brzoska, 2008). Of the 13 mandatory UN arms embargoes that were imposed since the invasion of Kuwait by Iraqi forces in August 1990, all have been systematically violated (Cortright and Lopez, 2000; Bondi, 2002; Control Arms, 2006). These transgressions occur, because member states of the UN do not enforce implementation to a necessary extent. The main motivation to do so is creating dependencies and therefore gaining strategic influence (Wheelock, 1978; Pollock, 1982; Catrin, 1988; Sislin, 1994). In fact, even permanent members of the UNSC have engaged into embargo violating activities. For instance, Fruchart et al. (2007) report that the United Nations Commodity Trade Statistics Database suggests that France and the UK have transferred weapons to the Sudanese government while an UN arms embargo was in place. These kinds of incidences and especially the fact that permanent members of the UNSC were involved further undermine embargo effectiveness and offer a rationale for future breaches (Bondi, 2002).

The main conclusion drawn from the literature is that arms embargoes can be successful if the arms supplying states are willing to make them so. Yet, they lack the disposition to do so (Brzoska, 2008). Despite of this conclusion, past research literature is mostly concerned with the behaviour of the embargoed state, thereby focusing on the end result rather than the process that determines whether the embargo will be a success (Moore, 2010). In order to improve the design of UN arms embargoes, it is crucial to turn the focus towards the supplier side and gain an

understanding of the circumstances under which arms supplier states decide to violate an UN arms embargo.

Hence, the question arises under what conditions does a state present a higher propensity to breach an UN arms embargo and therefore violate an international commitment, as specified in the Charter of the United Nations.

In order to answer this question, the paper conducts a Crisp-Set Qualitative Comparative Analysis with the aim to investigate the conditions leading to an embargo violation committed by an arms supplying state.

(II) QCA Crisp Set Analysis

In the following section a technique from the configurational comparative analysis, known as Crisp-Set Qualitative Comparative Analysis (csQCA) (Ragin, 1987; Rihoux & De Meur, 2009), will be employed. The aim of this analysis is to gain insights into the underlying sufficient and necessary conditions that characterize a state transgressing an UN-arms embargo,

(A) Methodology and Case Selection

The csQCA methodology has first been developed by Ragin in the 1980s and is based on Boolean algebra. One of the main advantages of the crisp-set approach is that it “proposes a middle path between generality and complexity” (Kogut & Ragin, 2006, p. 47), since it combines case- and variable- based analysis (Ragin, 1987). Of the various QCA techniques, csQCA is the most widely used (Rihoux & De Meur, 2009). It treats each case as a combination of necessary and sufficient conditions that lead to a certain outcome, i.e. each case has a clear set-membership being either fully in or fully out. These combinations are compared and reduced through Boolean minimization to parsimonious form³ in order to establish a minimal list of configurations of the conditions that lead to the outcome (Ragin, 1987). This constitutes the core of the csQCA: “QCA techniques strive to achieve some form of short (parsimonious) explanation of a certain phenomenon of interest, while still providing appropriate allowance for causal complexity” (Berg-Schlusser, De Meur, Rihoux and Ragin, 2009, p. 10). Hence, it enables the creation of a more simple expression that explains a certain outcome. For example, “if two Boolean expressions differ in only one causal condition yet produce the same outcome, then the causal condition that distinguishes the two expressions can be considered irrelevant and can be removed to create a simpler, combined expression” (Ragin, p.93). The resulting combinations of the conditions then represent the configurations that are jointly sufficient for an outcome (Kogut & Ragin, 2006).

By comparing the alternative configurations, necessary or sufficient elements can be identified (Rihoux & De Meur, 2009). If a condition is always present when the outcome occurs, it is regarded as necessary condition. However, the presence of a necessary condition does not automatically mean that the corresponding outcome is present. It is possible and likely that the necessary condition needs to be combined

³ According to the parsimony principle

with other conditions to produce a sufficient configuration for the outcome. Yet, vice versa, there is never an outcome present without the necessary condition being present too (Kogut & Ragin, 2006).

In order to conduct the Boolean minimization and establish the necessary and sufficient causal conditions that are present when an UN-arms embargo violation occurs, the crisp set analysis at hand uses the software Tosmana (Cronqvist, 2009)⁴.

The crisp-set approach is appropriate for the case at hand for several reasons. First of all, the outcome of interest (violation or compliance) is intrinsically dichotomous: Either, a supplier state violates an UN-arms embargo by shipping arms to the embargoed state, or it does not. Hence, the outcome is regarded as crisp, because a given case is either fully in or out of the set of violators. Further, the analysis refers to the different attributes of violating states, which is rather a question of differences in kind, than difference in degree and therefore should logically be conducted first (Sartori, 1970). In that sense, the independent variables are all of qualitative nature and are therefore better suited for a distinction in terms of kind, than in terms of frequency: The question is whether a violating country is a democracy or not; whether it is corrupt or not, etc. Hence, the analysis is concerned with the presence or absence of certain causal conditions and does not suggest a linear relationship, as assumed in a standard regression analysis. This means, for instance, that a higher degree of corruption does not necessarily increase the probability of a violation to the same extent at varying degrees. Also, the independent variables in a standard regression are competing against each other in explaining the variation in the dependent variable and their effect is therefore considered individually. In order to investigate combinational effects of the independent variables, one would introduce interaction terms in a multiple regression (Stock & Watson, 2007). However, given the small amount of cases at hand and the resulting high number of interaction terms, the statistical degrees of freedom would be reduced even more. Moreover, the analysed cases do not represent a random sample, which renders the standard significant tests questionable at best. Finally, the dependent variable, namely violation, is inherently positive. A state can violate more than one embargo, however, it cannot have a negative number of violations. This means that the assumption of normally distributed errors is violated and an OLS regression could produce biased coefficients (Stock & Watson, 2007).

In comparison to standard regression approach, the crisp-set approach is particularly well suited when a small number of cases is available and the variables are of dichotomous nature. It is not handicapped by skewed distributions and allows for substitutable causal conditions and combinations thereof (Chan, 2003). This means that the crisp-set approach acknowledges that different combinations of varying conditions can lead to the same outcome and are therefore substitutable. As a result, in line with the characteristics of the cases at hand, the crisp-set approach appears to be most suitable for an initial analysis of the attributes of a UN-embargo violating states for the initial time.

The crisp-set analysis at hand is conducted in line with the 6-step approach outlined by Rihoux & De Meur (2009). It will be based on 20 cases and employ five

⁴ Citation according to guidelines from website: <http://www.tosmana.net>

conditions of interest and investigate their causal relationship to UN-arms embargo violations committed by the arms supplier side.

The cases for the analysis are selected on basis of their combined volume of arms exports in the period 2005 – 2009, as provided by the SIPRI database. As mentioned above, the method at hand is most suitable for analysing a small to medium number of cases. Therefore, in order to ensure an appropriate application of the method, the number of cases is limited to 20. Theoretically this number could be further extended, yet, this normally leads to more complex and less parsimonious results, which is in contrast to the aim of the applied analysis. Together, the selected cases constitute the top 20 arms exporting states in the world. It is assumed that this way the states with the highest arms transfer capabilities are selected. The aim is to investigate the underlying conditions of states with arms transfer capabilities that have transgressed an arms embargo⁵ as opposed to states with similar capabilities that have upheld all arms embargoes. Therefore, selecting cases with low or no arms transfer capabilities does not suit the analysis at hand.

(B) Data Sources

Data from five different data sources is employed for the analysis at hand: Stockholm International Peace Research Institute (SIPRI) arms transfers database, Freedom House Freedom in the World 2008 survey, KOF index dataset⁶, Worldwide Governance Indicators (WGI) dataset and the Transparency International Corruption Perception Index dataset. All data, except from the SIPRI database, is taken from the year 2008⁷ under the assumption and after careful scrutiny of each state to ensure that the respective scores did not change since the violation has occurred as to have an impact on the set membership of a case. This way, lack of data problems and inconsistencies can be avoided that can arise when a country violates various embargoes at different points in time. A comprehensive description of each individual data source can be found in the appendix under “data sources”.

(C) Conditions

As described above, this paper uses the Qualitative Comparative Analysis (QCA) in order to investigate the causal conditions that are positively related to UN arms embargo violations. The respectively employed conditions are: *Electoral Democracy*, *Global Integration*, *Major Power*, *Rule of Law* and *Corruption*. Their relationship to the outcome and their coding is elaborated in the following section.

⁵ A state with no arms supplying capabilities cannot directly transgress an arms embargo

⁶ Original dataset by Dreher (2006); updated dataset as used in this analysis by Dreher, Gaston and Martens (2008)

⁷ The KOF index is only available until 2007, hence values from 2007 were used in the analysis

Democracy

When determining the role of law in interstate relations, the regime type of the respective states constitutes an important factor (Slaughter, 1995). Simmons (1998) argues that distinctive features of democratic regimes bind the states into a “zone of law” when engaging into foreign relations and therefore are more likely to comply with international obligations. Democratic regimes seem to depend on the rule of law in their external relations, because they share certain norms with regard to limited government and respect for judicial processes (Dixon, 1993).

Yet, the literature shows contrasting findings with regard to the relationship between democracies and compliance with international commitments. On the one hand, research has shown that democracies increase the propensity to uphold commitments with regard to trade (Mansfield, Milner and Rosendorff, 2002), investment (Schultz & Weingast, 2003; Jensen 2003), environment (Raustiala & Victor, 1998; Neumayer, 2002), monetary policies (Broz, 2002) and security alliances (Gaubatz, 1996; Smith, 1996). On the other hand, there are incidences where the opposite seems to hold true. For instance, Bush & Reinhardt (2002) find that democracies less often adhere to GATT rulings. Simons (2000) shows that democracies less often comply with Article VIII of the International Monetary Fund. However, with regard to human rights treaties, democracies exhibit a higher level of compliance (Helfer & Slaughter, 1997; Hathaway, 2002). In fact, Davenport (1999) and Hofferbert & Cingranelli (1996) stress the importance of democratic regimes with regard to the promotion of human rights. Yet, the various dimensions of a democracy vary in their importance in this regard. Bueno De Mesquita, Downs and Smith (2005) find that participation in multiparty competition and accountability are positively related to reducing human rights abuses. If accountability is limited, little improvements in human rights can be expected to occur.

Normally, democracy is defined as a system in which the citizens of a state choose leaders through competitive and regular elections (Powell, 2000). The main reasoning behind the relationship between democracies and the compliance with international agreements is that constituents are able to punish leaders through regular elections and are therefore constrained in their behaviour (Young, 1979; Schachter, 1992; Fearon, 1994). The fear of such punishment can discourage a leader from breaching international agreements. Yet, as described above, compliance with international agreements is not uniform and only occurs under certain conditions. The relationship between the leaders and their constituency does in fact exist. However, it is not always in the constituent’s interest that the state does comply with a certain international agreement. In this regard Putnam (1988, p. 460) introduces a ‘two-level game theory approach’ in order to recognize “that central decision-makers strive to reconcile domestic and international imperatives simultaneously”. For instance, Tomz (2002) shows how the domestic audiences in Argentina have at first prevented their government to default on the state’s external debt. Then, two years later, the interests of the domestic audiences changed, which induced the government to eventually default on that state debt. In fact, Dai (2006, p. 2) finds, by applying a game theoretic concept to investigate under which conditions democratic institutions enhance a state’s compliance with international commitments, that compliance “[...] depends on the political attributes of competing interests. The more regularly competitive elections are held or the more election results bind the policymaker’s fate of staying

in power, the more the compliance policy is biased towards the group with more political leverage and informational advantage”.

Multiparty competition, accountability and the political attributes of competing interests appear to be the most important aspects of democracies with regard to human rights and compliance with international agreements. As described above, the interests of the domestic audience under a democratic regime are rather uniformly in favour of promoting human rights and therefore upholding an UN-arms embargo. Hence, it can be assumed that a state under a democratic regime is more likely to uphold an embargo.

Global Integration

The degree of global integration is an important determinant when considering the likelihood of a state upholding an international agreement. In line with increasing global integration, external factors have a significant impact on shaping a state's domestic policy preferences and perceived costs and benefits. Under the rationalist assumption, an increasing degree of global integration changes the incentives for governments, which creates new policy preferences (Falkner, 2006). For instance, an advanced degree of global integration implies a high level of transnational economic linkages, mostly based on cross-border trade, which results in greater interdependencies: “Global interconnectedness also takes place among governments that regulate economic activities, which positively affect bilateral trade, reducing transaction costs, and promoting the adoption of international standards that support international trade” (Erez & Gati, 2004, p. 593). This can have a direct impact on domestic policy preferences (Rogowski, 1989). For instance, Falkner describes how international economic and political pressure induces China to change its domestic policy concerning the utilization of Genetically Modified Organisms (GMO's). Further, states perceive membership in international organizations as means to achieve greater international political power (Falkner, 2006). However, this also exposes them to higher international scrutiny concerning the implementation of international obligations that come with international organization membership.

Under the constructivist assumption, states with a high level of global integration are embedded into a framework of norms and institutions, which can change the preferences of domestic actors (Checkel, 1997) and has a direct influence on the willingness to comply with international agreements (Simmons, 1998). Global integration “[...] enhances cross-cultural alliances, knowledge sharing, and technology transfer. Cross-cultural alliances are formed at all levels: inter-governmental organisations (IGOs), multinational corporations, and multi-national teams. These global networks facilitate adherence to common procedures and rules” (Erez & Gati, 2004, p. 592).

Hence, the perceived normative costs of violating an embargo can rise with increased global integration. In fact, foreign influences have already played an important role in non-proliferation policies. For instance, Gill & Medeiros (2000) describe how China has signed three main international arms control treaties, namely the Nuclear Non-proliferation Treaty, the Chemical Weapons Convention and the Comprehensive Test Ban Treaty. All treaties were signed mainly because of multilateral and bilateral

pressures to adhere to international norms and agreements with regard to arms control and non-proliferation.

As a result of the various global pressures, the perceived political, normative and economic costs of non-compliance rise with increasing global integration. In other words, the perceived costs of 'upsetting' partners, e.g. by not honouring international commitments, as for instance upholding an UN-arms embargo, are highest for the most globally integrated states.

Major Power

It appears that major powers have a higher propensity to uphold international commitments, because they perceive higher costs with regard to a violation.

In investigating why major powers uphold international commitments, reputational concerns have significant explanatory power (Simmons, 2000). They are the central mechanism in securing international compliance: states trade higher costs in the long run for the immediate gain from not complying with an international commitment in the short run (Keohane, 1984; Schachter, 1994). A failure to honour an international commitment will reduce a state's reputation, because it signals that the state will break future international commitments (Guzman, 2002). A direct consequence might be the loss of benefits, which the state derived from the respective arrangement. However, the repercussions may even affect other agreements through reputational spill-over effects: Non-compliance with an agreement will send a signal to other states which will be much less inclined to engage into other agreements with the former state.

The costs arising from a loss in reputation appears to be high for major powers. On the one hand, states that want to achieve a high power status perceive membership in international organizations as prerequisite (Falkner, 2006). Constantly violating the associated commitment could lead to exclusion from international organizations and eventually to isolation from the international community. On the other hand, major states benefit more from international agreements and hence have more to lose if they do not comply: Mulligan & Shleifer (2008) argue that larger and richer states should be parties to more agreements because they benefit more from cooperation. The high fixed costs from agreement making can be spread over a larger population, which makes participation in international agreements cheaper. Also, major states can retaliate more effectively if a partner violates an agreement. Finally, large states can reap higher net benefits of scale and therefore enter into more agreements (Miles & Posner (2008).

Yet, a major power can also have a higher degree of autonomy by choice. Unlike minor powers, which can be very dependent on other states, a major power ultimately has a free choice in breaching international commitments if it perceives it to be beneficial. Nevertheless, major powers often choose to honour international commitments or act through formal international organizations. For instance, when the United States decided to counter the Iraqi invasion of Kuwait, it turned to the United Nations Security Council and did not act unilaterally (Abbott & Snidal, 2005).

Hence, as the discussion above suggests, costs attached to breaking international agreements could potentially be higher than the costs attached to upholding them, which appears to be more common with regard to major powers.

Corruption

Corruption, defined as misuse of public office for private gains (Treisman, 2000) is deeply rooted in the arms trade industry, as it acts as the centre of the procurement decision making (Roeber, 2005). In fact, it is one of the most corrupt industries worldwide: according to the US Department of Commerce, total transactions in the arms trade, which are only 1% of the global trade volume, account for ca. 50% of all global corrupt transactions (Courtney, 2002). In other words, every second corrupt transaction occurs in the arms trade industry. Corruption in arms trade is even prevalent within governments of developed states. For instance, the UK government at highest levels chose to ignore the issue of corruption in the arms industry, allowing publicly-owned companies to distribute bribes. For example, Sandline International, a UK based company, was involved into covered arms transfers to the Sierra Leone government in 1997. Government officials knew about these transfers and condoned them (Bondi, 2002). According to Gilby (p. 30), “the documentary evidence so far uncovered shows the UK Government knew all along that the arms industry was riddled with corruption; concealed this knowledge from Parliament and the public; [...] underwriting it with UK taxpayers money and paying public officials to promote it”.

As discussed by Wood (2006), one key problem for the verification of compliance with UN arms embargoes is the lack of national controls, which enables private international arms dealers to engage into illicit arms proliferation from the respective states. In this regard, the state is supposed to prevent corruption and bribery in the arms industry, which is less likely to occur when it itself is corrupt. Since corruption is prevalent in total arms trade (including legal and illegal arms transfers), it seems to be a prerequisite for arm transfers to embargoed countries. Hence, it can be assumed that countries with a high level of corruption are more inclined to engage into embargo violating activities, yet not necessarily for sole strategic reasons.

Rule of Law

The degree to which the government of a state is based on the rule of law and how independent the judicial branch is, appears to be a significant predictor for the probability of a state to comply with international commitments (Simmons, 2000). Also, with regard to illicit arms proliferation, “the scope and effectiveness of such national laws and regulations is an indicator of such commitment [...] [to uphold decisions by the UN Sanctions Committees] (Wood, 2006, p. 2). Having domestic experience, states with independent judiciaries have a higher propensity to trust and respect international judicial processes, and therefore also respect embargoes which were enacted by the United Nations (Simmons, 1998).

However, national control systems are not very consistent with existing international law and embargo-violating countries appear to have low levels of rule of law in general. In fact, many states do not consider an UN embargo violation as a violation

of their domestic law, which effectively makes arms proliferation to embargoed countries a legitimate practice from their point of view (Wood, 2006). There is usually no adequate system of law and administrative procedures to control the illicit imports and exports of arms. As a result, private military corporations together with suppliers and brokers readily engage into embargo breaching activities, at times even on behalf of the government, which can remain concealed and take influence through its invisible hand (Bondi, 2002). Also, state officials constantly cover up arms transfers when providing information to the United Nations and even if the state is not averse to combating illicit arms proliferation, a lack of rule of law gives private arms brokers free hand in shipping arms to embargoed countries (Control Arms, 2006). Ergo, in order to prevent arms embargo violation, it is essential to design effective legal and regulatory domestic standards that are aimed at preventing illegal trafficking of arms (Wood, 2006). If there is a lack thereof, a state should be more prone to engaging into arms embargo violations. In that regard, a low score in rule of law could even be a necessary condition for an UN-arms embargo violation.

(D) Coding

In order to apply the crisp-set technique, the respective conditions and the outcome have to be present in dichotomized form, so that each variable takes on the Boolean form. That is, each variable can only take on one of two values: 0 or 1. In order to ensure a minimum of time-consistency among the conditions, data from the year 2008 is employed whenever available⁸. In line with the guidelines set out by Rihoux & De Meur (2009), the variables are coded as follows:

The data for the variable *Electoral Democracy* is taken from the Freedom House Freedom in the world 2008 survey. As described in detail in the appendix, special focus is set to multiparty competition and accountability. Since the variable ‘electoral democracies’ entails these requirements in the minimum criteria, it is an ideal measurement for the analysis at hand. The condition already comes in dichotomized form so that no transformation is necessary. In the analysis, the value 1 is assigned to the electoral democracies and the value 0 to those states that are non-democracies, because they do not meet the minimum criteria, as described above.

The variable Global Integration originates from the KOF index dataset, more specifically the *KOF Index of Globalization*. It captures the political, normative and economic dimensions of globalization that are important for the analysis at hand, as further described in the appendix. Since this index contains values ranging from 1 to 100 in its original form, a cut-off value needs to be determined upon which the variable can be dichotomized. In previous research the variable was cut off at the median of the index (value equals 50), as for instance done by Norris & Inglehart (2009). However, for the analysis at hand, the threshold that defines what constitutes a globally integrated state is set at a higher level to account for the states that encounter the highest costs. As described above, an increasing level of global integration goes hand in hand with increasing costs with regard to international agreement violations. Therefore, the threshold level for this analysis is set at 75 (Figure 2, in the appendix). As a result, every state with a score above this threshold is

⁸ Only in case of “Global Integration” data from 2007 is employed, because data from 2008 is not available

regarded a member of the set “globally integrated states” and therefore assigned the value 1. All other states obtain the value zero for this variable.

The variable *Major Power* is based on the membership information of the “Group of Twenty Finance Ministers and Central Bank Governors” (G-20). Yet, for instance, Chan (2003) chose the permanent members of the United Nations Security Council to constitute major powers. However, this analysis considers the G-20 member states as major powers, because the member states jointly account for 85% of the global gross national product. This way, relatively more weight is attached to the economic dimension in determining the major powers. If a state is a member of the G-20, it is “fully in” and therefore assigned the value 1. Vice versa, a non-member state is “fully out” of this set and therefore assigned a 0 for this variable.

Rule of Law originates from the *Worldwide Governance Indicators dataset*. It is constructed from the sub-index *Rule of Law*. However, since the original index is not of dichotomous nature, it needs to be re-coded. In line with Kogut & Ragin (2006) and Cameron, Blararu and Burns (2005a; 2005b; 2006), the analysis distinguishes between high rule of law and low rule of law. Since the value of 0 constitutes a neutral point in the original scale, as described above, it is used as cut-off point for the dichotomization of this variable (Figure 3, in the appendix). Every state with a score equal to 0 or higher is regarded to have high rule of law and every state below 0 is considered to have low rule of law.

The variable *Corruption* is based on the Transparency International CPI, taken from the Transparency International CPI dataset. The index ranges from 0 to 10 and can therefore not be employed for the crisp-set analysis without transformation into a dichotomous variable. While a state with a score higher than 5.0 is considered incorrupt, it is considered corrupt with a score below 5.0 (Ledeneva, 2005; Coppier & Piga, 2006). Hence, the value 5.0 is considered to be the borderline figure between corrupt and incorrupt states (Figure 4, in the appendix). This analysis will use the same value as cut-off point for the dichotomization of this variable. States with a score above or equal to 5.0 will be considered incorrupt and therefore assigned the value 1. In contrast, states with a score below 5.0 will be considered corrupt and thus assigned the value 0.

Finally, the outcome *Compliance* is constructed with data from the SIPRI arms transfer database and from information about UN-embargoes as reported in Fruchart et al. (2007). The SIPRI arms transfer data base makes trend indicator values (TIVs) available for each country. If for a recipient state in a given year the TIV is greater than 0, then this respective state has obtained arms from outside during that specific year, i.e. an arms transfer to that state has occurred. Since the data set also reports every supplier of those transferred arms, it is possible to construct a variable that reports UN-embargo violations. A violation occurs if the TIV of the recipient country is greater than 1 in a year when an embargo is in place on that specific state. However, the number violations that has occurred in reality may be higher than the number reported in the analysis. First, as described above, the database may not capture all arms transfers, because information is not available. Further, in constructing the variable *Compliance*, the first and last year of each embargo had to be cut off. This is, because embargoes are occasionally in place for a part of a year and the SIPRI database only reports TIVs on per year basis, not per month. Hence, in

order to avoid errors in terms of whether a violation has occurred or not, the first and last year of an embargo is omitted. If an embargo is only in place for one year, it is completely omitted from the analysis for the same reason. As a result, the analysis probably includes less violations than have occurred in reality.

In case a TIV greater than 1 is reported for the embargoed state during an embargo year, the respective supplier state will be assigned a 0 for the variable *Compliance*. Vice versa, if the reported TIV from a supplier state to the embargoed state is equal to 0 during the embargo year, the respective supplier state will be assigned a 1, because a violation has not occurred. The variable is coded as ‘compliance’ instead of ‘violation’ for reasons of coding consistency in terms of correct direction, as outlined by Rihoux & De Meur (2009).

The original values and coded crisp-set membership scores of the conditions and the outcome after dichotomization are presented in Table 1.

(III) Results

There are several configurations of the causal conditions that lead to the violation of an UN arms embargo. In order to arrive at those configurations, a truth table needs to be constructed, which displays all combinations of conditions that are associated with an outcome (Rihoux & De Meur, 2009). Table 2 displays all 10 configurations that are hypothesized to be related to the decision of a state to violate or uphold an UN arms embargo. Figure 1 visualizes the combinations in form of a Venn Diagram. It graphically displays the combinations stated in the truth table which lead to the presence of the outcome or, on opposite, to its absence.

Table 2 and Figure 1 show that an embargo violation has resulted from three configurations of the five conditions, as stated in equation 1⁹:

(1)

DEMOCRACY [0] * GLOBAL INTEGRATION [0] * MAJOR POWER [1] * RULE OF LAW [0] *

CORRUPTION [0]

CASES WITH SET-MEMBERSHIP: RUSSIA, CHINA)

+

DEMOCRACY [1] * GLOBAL INTEGRATION [0] * MAJOR POWER [0] * RULE OF LAW [0] *

CORRUPTION [0]

(CASE WITH SET-MEMBERSHIP: UKRAINE)

+

DEMOCRACY [0] * GLOBAL INTEGRATION [0] * MAJOR POWER [0] * RULE OF LAW [0] *

CORRUPTION [0]

(CASE WITH SET-MEMBERSHIP: BELARUS)

⁹ Please note that in Boolean techniques a ‘+’ represents the meaning of a logical ‘OR’ and ‘*’ indicates a logical ‘AND’. A [1] behind a condition denotes its presence and a [0] denotes its absence.

Equation 1 suggests that a violation can occur under alternative circumstances. All together, four UN-arms embargo violations can be observed among the cases in the dataset. As expected, a violation has occurred in the case where all investigated conditions were absent. Belarus is such a case, being an undemocratic, globally unintegrated and corrupt minor power with low rule of law. However, this is not the only circumstance that has produced that outcome. Interestingly, the combination in which the state is a major power is represented by most cases, namely Russia and China. This suggests that even though the cost to violate international agreements may be high for major powers, they still reserve a certain degree of autonomy when engaging into external relations. However, this is only observable in states that are not democratic, are not globally integrated, are corrupt and are not based on the rule of law, which is especially true for Russia.

The equation in its present form is rather complex and can be further simplified through Boolean minimization. The results of this minimization process is captured by equation 2, which is equation 1 expressed in a more parsimonious form:

(2)

$$\begin{aligned}
 & \text{DEMOCRACY [0] * GLOBAL INTEGRATION [0] * RULE OF LAW [0] * CORRUPTION [0]} \\
 & \quad \text{(CASES WITH SET-MEMBERSHIP: RUSSIA, CHINA, BELARUS)} \\
 & + \\
 & \text{GLOBAL INTEGRATION [0] * MAJOR POWER [0] * RULE OF LAW [0] * CORRUPTION [0]} \\
 & \quad \text{(CASES WITH SET-MEMBERSHIP: UKRAINE, BELARUS)}
 \end{aligned}$$

In order to allow for easier interpretation, equation 2 can be rewritten in a more structured form (equation 3), as suggested by Rihoux & De Meur (2009):

(3)

$$\text{GLOBAL INTEGRATION [0] * RULE OF LAW [0] * CORRUPTION [0] * } \left\{ \begin{array}{l} \text{MAJOR POWER [0]} \\ \text{DEMOCRACY [0]} \end{array} \right.$$

Equation 3 shows that in all violation cases the respective states are characterised by low global integration, low rule of law and high corruption. There is no outcome in form of a violation where these three conditions are not present in this specific configuration. As a result, the absence of rule of law together with high levels of corruption and low levels of global integration can together be regarded as necessary

conditions with regard to embargo violations. Especially, the combination between low rule of law and a high level of corruption seems to be logical when taking the theoretical literature into account. A state that is not based on the rule of law is much less likely to respect international laws or commitments. This, together with a high level of corruption enables private arms brokers to operate from that state and transfer arms to embargoed states, which then results in an embargo violation.

Yet, intersecting those three conditions is not sufficient to lead to an embargo violation. In order to arrive at sufficiency, the three necessary conditions need to be present in a state that is either a minor power or based on a non-democratic regime. This means, that if the necessary conditions are present and, in addition, the respective state is a non-democracy, it becomes irrelevant whether the state is a major power or not. That is, under this specific combination of conditions, major and minor powers appear to be equally prone to violating UN arms embargoes. However, this also indicates that a major power has only violated an UN arms embargo if it was not a democratic state.

Further, if the state is a minor power and the three other necessary conditions are present, then the regime type of the state becomes irrelevant: democratic states that are regarded as electoral democracy appear to engage into embargo violating activities in the same way as non-democracies, as shown by the case of Ukraine. This finding is in contrast to the previously described theory, which suggests that democratic states are more likely to uphold international commitments. It highlights the fact that a democratic regime alone is not a sufficient predictor of whether a state will respect and uphold international commitments. In this regard, it appears to be of great importance that the democratic regime is based on the rule of law. This finding will be further investigated in the negation part of the analysis in the following section.

By negating the conditions that characterise a state that engages into embargo violating activities, the conditions that are associated with embargo compliance can be established. Looking at the truth table, seven different configurations of the conditions appear to be existent with regard to upholding UN-arms embargo commitments. These configurations are displayed by equation 4:

(4)

**DEMOCRACY [1] * GLOBAL INTEGRATION [1] * MAJOR POWER [1] * RULE OF LAW [1] *
CORRUPTION [1]**

(CASES WITH SET-MEMBERSHIP: USA, GERMANY, FRANCE, UK, CANADA)

+

**DEMOCRACY [1] * GLOBAL INTEGRATION [1] * MAJOR POWER [0] * RULE OF LAW [1] *
CORRUPTION [1]**

(CASES WITH SET-MEMBERSHIP: NETHERLANDS, SPAIN, SWITZERLAND, BELGIUM,
FINLAND)

+

$$\begin{aligned}
& \text{DEMOCRACY [1] * GLOBAL INTEGRATION [1] * MAJOR POWER [1] * RULE OF LAW [1] *} \\
& \quad \text{CORRUPTION [0]} \\
& \quad \text{(CASE WITH SET-MEMBERSHIP: ITALY)} \\
& \quad + \\
& \text{DEMOCRACY [1] * GLOBAL INTEGRATION [0] * MAJOR POWER [0] * RULE OF LAW [1] *} \\
& \quad \text{CORRUPTION [1]} \\
& \quad \text{CASES WITH SET-MEMBERSHIP: ISRAEL)} \\
& \quad + \\
& \text{DEMOCRACY [1] * GLOBAL INTEGRATION [0] * MAJOR POWER [1] * RULE OF LAW [1] *} \\
& \quad \text{CORRUPTION [0]} \\
& \quad \text{(CASE WITH SET-MEMBERSHIP: SOUTH AFRICA)} \\
& \quad + \\
& \text{DEMOCRACY [1] * GLOBAL INTEGRATION [0] * MAJOR POWER [1] * RULE OF LAW [1] *} \\
& \quad \text{CORRUPTION [1]} \\
& \quad \text{(CASE WITH SET-MEMBERSHIP: SOUTH KOREA)} \\
& \quad + \\
& \text{DEMOCRACY [1] * GLOBAL INTEGRATION [1] * MAJOR POWER [0] * RULE OF LAW [1] *} \\
& \quad \text{CORRUPTION [0]} \\
& \quad \text{(CASE WITH SET-MEMBERSHIP: POLAND)}
\end{aligned}$$

Equation 4 suggests that states prone to honouring embargo obligations share a greater variety of alternative characteristics than states that tend to violate embargoes. As expected, the configuration in which states are democratic, based on the rule of law and are regarded as a major power, globally integrated and non-corrupt is represented by second most cases, namely by the US, Germany, France, UK and Canada. However, the configuration with the same conditions, except that the state is regarded as minor power, is represented by most cases, namely by the Netherlands, Spain, Sweden, Switzerland, Belgium and Finland. As suggested above, this indicates that the major and minor condition seems to be of lower importance with regard to honouring international commitments. Major and minor powers alike respect UN arms embargoes and, vice versa, also engage into transferring arms into embargoed countries, depending on the nature of the other present conditions. On the one hand, it appears to be true that major powers face significant costs when violating international agreements. On the other hand, they reserve a certain degree of autonomy and act independently from the international community in order to promote their strategic interests, because they have a sufficiently large power base to do so¹⁰. The behaviour of such a state then depends on the configuration of the other conditions. This again highlights the fact that not single factors, but the combination thereof generally leads to a certain outcome.

Being even more complex than equation 1, equation 4 can also be reduced through Boolean minimization in order to arrive at a simpler, more parsimonious form. The result of the minimization is presented in equation 5:

¹⁰ The case of China and Sudan serves as illustrative example.

(5)

$$\begin{aligned} & \text{DEMOCRACY [1] * GLOBAL INTEGRATION [1] * RULE OF LAW [1]} \\ & \text{(CASES WITH SET-MEMBERSHIP: USA, GERMANY, FRANCE, UK, CANADA, NETHERLANDS,} \\ & \quad \text{SPAIN, SWEDEN, SWITZERLAND, BELGIUM, FINLAND, ITALY, POLAND)} \\ & + \\ & \text{DEMOCRACY [1] * RULE OF LAW [1] * CORRUPTION [1]} \\ & \text{(CASES WITH SET-MEMBERSHIP: USA, GERMANY, FRANCE, UK, CANADA, NETHERLANDS,} \\ & \quad \text{SPAIN, SWEDEN, SWITZERLAND, BELGIUM, FINLAND, ISRAEL, SOUTH KOREA)} \\ & + \\ & \text{DEMOCRACY [1] * MAJOR POWER [1] * RULE OF LAW [1]} \\ & \text{(CASES WITH SET-MEMBERSHIP: USA, GERMANY, FRANCE, UK, CANADA, ITALY, SOUTH} \\ & \quad \text{AFRICA, SOUTH KOREA)} \end{aligned}$$

Rewriting equation 5 into a more structured form results in equation 6:

(6)

$$\text{DEMOCRACY [1] * RULE OF LAW [1] * } \left\{ \begin{array}{l} \text{GLOBAL INTEGRATION [1]} \\ \text{CORRUPTION [1]} \\ \text{MAJOR POWER [1]} \end{array} \right.$$

As suspected in the section above, equation 6 underlines the importance of the conjuncture between democracy and rule of law when considering the propensity to uphold international commitments, or, more specifically, UN arms embargoes. States that upheld UN arms embargoes have a democratic regime based on the rule of law. This is true for all positive outcome¹¹ cases, which means that the presence of a democratic regime based on the rule of law becomes a necessary condition. Yet, in order to arrive at a sufficient configuration, the interaction with one of three remaining conditions is necessary. A democratic state based on the rule of law together with a high level of global integration is such a sufficient configuration. In this specific case it becomes irrelevant whether the state is corrupt or whether or not it is regarded as a major power. Yet, if the respective democratic and lawful state is not plagued by corruption, the level of global integration and the degree of power become extraneous with regard to the outcome. In line with the result concerning the necessary conditions for an embargo violation, there is no case in the dataset that is characterized by a combination of low rule of law and high corruption that does not

¹¹ i.e. compliance

violate an UN arms embargo. This underlines the detrimental compound effect this certain combination of factors, namely low rule of law together with a high level of corruption, has on the perseverance of an UN arms embargo. Finally, if the two necessary conditions are present and the state is a major power, it will be more likely to uphold an embargo. The fact that the intersection of the condition major power with the two necessary conditions leads to sufficiency is in line with the theoretic assumption that major powers perceive high costs with regard to embargo violations, as outlined in the section above. Yet when explaining the violation outcome, as done in the previous section, the configuration represented by most cases assumes that the state is regarded as a major power. As a result, the condition major power appears to have contradicting effects with regard to embargo violations. Being a major power leads to sufficiency in both directions: embargo compliance and embargo violation. In order to resolve the tension between a major power behaving more autonomous on the one hand and perceiving higher costs with regard to international agreement violations on the other hand, a non-linear relationship can be suggested. Depending on the circumstances, a major power will be more prone to transgress¹² an UN arms embargo, because it can be independent from the international community based on its absolute power base, or it will be more inclined to uphold¹³ an UN arms embargo, because the perceived costs of violation are high for major powers, as suggested by the theory.

Equation 3 and equation 6 can be further simplified through the *inclusion of residuals*. The analysis selects the logical remainders that are useful for obtaining a more simplified formula, adds them to the observed cases and makes simplifying assumptions with regard to these logical remainders (Rihoux & De Meur, 2009). For the analysis at hand, this means that all unobserved combinations that fall in the area of low rule of law are assumed to be violating cases and, vice versa, all combinations that fall in the area of high rule of law are assumed to be cases that comply with an UN arms embargo, as observable in the respective Venn Diagramms (Figure 5; Figure 6, in the appendix). While there are no contradictory simplifying assumptions in the analysis at hand when including residuals, the absolute plausibility assumptions remains questionable and the result should therefore be regarded critically. Yet, the inclusion of residuals can provide useful insights about the employed conditions.

Including the residuals for both outcomes results in equation 7 for violation and equation 8 for compliance:

(7)

RULE OF LAW [0]

(CASES WITH SET-MEMBERSHIP: RUSSIA, CHINA, UKRAINE, BELARUS)

(8)

¹² Global Integration [0] * Rule of Law [0] * Corruption [0]

¹³ Democracy [1] * Rule of Law [1]

RULE OF LAW [1]

(CASES WITH SET-MEMBERSHIP: USA, GERMANY, FRANCE, UK, CANADA, NETHERLANDS, SPAIN, SWEDEN, SWITZERLAND, BELGIUM, FINLAND, ITALY, ISRAEL, SOUTH AFRICA, SOUTH KOREA, POLAND)

The condition rule of law divides the entire dataset into violating states and non-violating states. Looking at the Venn Diagram (Figure 1) of the analysis, one can observe that all violating cases are allocated outside the zone of strong rule of law, while all other cases are situated inside. It explains the UN-arms embargo violation and non-violation across all cases that were included in the analysis. As a result, the causal condition rule of law becomes the prime condition, because it alone is necessary and sufficient with regard to UN arms embargoes and compliance. It appears that when a state is not based on the rule of law, it will be more prone to violating international commitments, such as UN arms embargoes, regardless of its other characteristics. Vice versa, if the respective state is characterised strong rule of law, it will be adverse to embargo violations. Hence, the extent of rule of law in a state and the resulting respect for international jurisdiction and international agreements seems to be the dominant relationship in explaining embargo violations and compliance. Yet, this result shall be regarded under the surmise that the simplifying assumptions about the historically unobserved combinations are plausible. Also, it has to be recognized that the condition rule of law is correlated with other employed conditions and the presence of the former generally implies a certain constellation of the latter. For instance, a democratic state is usually based on the rule of law. Even so, the remaining conditions from the previous results still capture different facets and shall therefore not be disregarded, but much rather considered as important elements of configurations that explain embargo violations.

3. Conclusion

In the last decade every UN arms embargo has been violated. This paper has investigated under what conditions a state chooses to transgress an UN arms embargo and therefore violate an international commitment, as specified in the Charter of the United Nations.

In doing so, a crisp-set analysis has been employed, including five conditions that are believed to be of causal nature. It has been established that a low level of global integration together with weak rule of law and a high level of corruption form the necessary combination of conditions for an embargo violation to occur. Among the analysed cases, there is no violating state in which this specific configuration is not present. In order to arrive at sufficiency, the respective state either has to be a minor power or a non-democracy. *Vive versa*, the necessary combination for upholding an UN arms embargo is the presence of a democratic regime that is based on strong rule of law. The sufficient configuration is achieved if, in addition to the necessary conditions, the state is either globally integrated, a major power or incorrupt. Including residuals for the analysis, the presence or absence of rule of law emerges as the most important condition, being alone necessary and sufficient for compliance and violation.

The results of the analysis at hand have important implications for potential improvements of arms embargoes. Given the right circumstances, focusing on the individual conditions themselves can add to embargo effectiveness. For example, global integration appears to be an effective tool to ensure compliance with arms embargoes. The promotion of the rule of law even appears to improve embargo compliance regardless of the circumstances. Furthermore, arms supplier states could be analysed in terms of the previously described factor combinations in a given embargo situation. This could lead to an a-priori identification of potential violators, which would enable the international community to take a very focused and proactive approach towards embargo compliance. However, it has to be recognized that the results of the analysis can only serve as an indicator and should by no means be regarded as predictor of embargo violators. Also, the kind and number of conditions included in the analysis is not exhaustive and may be enhanced in future research.

Above all, this paper emphasises the importance of applying a stronger focus on the supplier side of embargo violations. It is crucial to understand under which conditions an arms supplier state is more likely to break its international commitment. The aim of the international community has to be set at undermining or changing these conditions so that an embargo violation is perceived as less beneficial, helping to ensure embargo compliance. This will help maintain peace and possibly save the lives of many.

4. References

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5. Appendix

Table 1 - A Typological Overview

		Number of Cases (C)				
		1	2	Small (l)	Large (m)	(n)
Number of Variables (V)	(k)	World-systems				
	Large (j)	Description C_1V_j	Paired Comparison C_2V_j	Comparative Method C_lV_j	Statistical Method C_mV_i	C_nV_k
	Small (i)					
	2			Bivariate Descriptive Classification		
	1	World-systems	Classification			
		C_1V_1				

Source: Berg-Schlösser, De Meur, Rihoux and Ragin, 2009, p.5.

Table 2 – Original Values and the Crisp-Set Membership Scores of the Conditions and the Outcome after Dichotomization

Supplier States	Electoral Democracy		Global Integration		Major Power		Corruption		Rule of Law		Compliance (Outcome)
	Raw	<i>Crisp</i>	Raw	<i>Crisp</i>	Raw	<i>Crisp</i>	Raw	<i>Crisp</i>	Raw	<i>Crisp</i>	
USA	1	<i>1</i>	78,80	<i>1</i>	1	<i>1</i>	7,3	<i>1</i>	1,65	<i>1</i>	1
Russia	0	<i>0</i>	68,91	<i>0</i>	1	<i>1</i>	2,1	<i>0</i>	-0,91	<i>0</i>	0
Germany	1	<i>1</i>	84,16	<i>1</i>	1	<i>1</i>	7,9	<i>1</i>	1,72	<i>1</i>	1
France	1	<i>1</i>	86,18	<i>1</i>	1	<i>1</i>	6,9	<i>1</i>	1,4	<i>1</i>	1
UK	1	<i>1</i>	80,18	<i>1</i>	1	<i>1</i>	7,7	<i>1</i>	1,68	<i>1</i>	1
Netherlands	1	<i>1</i>	91,90	<i>1</i>	0	<i>0</i>	8,9	<i>1</i>	1,76	<i>1</i>	1
Italy	1	<i>1</i>	92,26	<i>1</i>	1	<i>1</i>	4,8	<i>0</i>	0,43	<i>1</i>	1
Spain	1	<i>1</i>	85,71	<i>1</i>	0	<i>0</i>	6,5	<i>1</i>	1,16	<i>1</i>	1
China	0	<i>0</i>	62,68	<i>0</i>	1	<i>1</i>	3,6	<i>0</i>	-0,33	<i>0</i>	0
Sweden	1	<i>1</i>	89,75	<i>1</i>	0	<i>0</i>	9,3	<i>1</i>	1,9	<i>1</i>	1
Ukraine	1	<i>1</i>	68,15	<i>0</i>	0	<i>0</i>	2,5	<i>0</i>	-0,62	<i>0</i>	0
Israel	1	<i>1</i>	71,58	<i>0</i>	0	<i>0</i>	6,0	<i>1</i>	0,88	<i>1</i>	1
Switzerland	1	<i>1</i>	90,55	<i>1</i>	0	<i>0</i>	9,0	<i>1</i>	1,86	<i>1</i>	1
Canada	1	<i>1</i>	88,24	<i>1</i>	1	<i>1</i>	8,7	<i>1</i>	1,81	<i>1</i>	1
Belgium	1	<i>1</i>	92,95	<i>1</i>	0	<i>0</i>	7,3	<i>1</i>	1,38	<i>1</i>	1
South Africa	1	<i>1</i>	65,60	<i>0</i>	1	<i>1</i>	4,9	<i>0</i>	0,12	<i>1</i>	1
South Korea	1	<i>1</i>	64,73	<i>0</i>	1	<i>1</i>	5,6	<i>1</i>	0,79	<i>1</i>	1
Poland	1	<i>1</i>	81,26	<i>1</i>	0	<i>0</i>	4,6	<i>0</i>	0,49	<i>1</i>	1
Belarus	0	<i>0</i>	51,88	<i>0</i>	0	<i>0</i>	2,0	<i>0</i>	-1	<i>0</i>	0
Finland	1	<i>1</i>	87,31	<i>1</i>	0	<i>0</i>	9,0	<i>1</i>	1,87	<i>1</i>	1

Note to Table 1: Electoral Democracy: 1 denotes presence of electoral democracy, 0 the absence. Global Integration: 1 denotes high global integration, 0 low. Major Power: 1 denotes that state is major power, 0 minor power. Corruption: 1 denotes low level of corruption, 0 high level. Rule of Law: 1 denotes strong rule of law, 0 weak. Compliance: 1 denotes compliance with the respective UN arms embargo, 0 denotes violation.

Table 3 – Truth Table depicting the distribution of cases across 10 configurations

Electoral Democracy	Index of Globalisation	G-20	Rule of Law	Corruption	Compliance (Outcome)	Number of Cases
1	1	1	1	1	1	5
0	0	1	0	0	0	2
1	1	0	1	1	1	6
1	1	1	1	0	1	1
1	0	0	0	0	0	1
1	0	0	1	1	1	1
1	0	1	1	0	1	1
1	0	1	1	1	1	1
1	1	0	1	0	1	1
0	0	0	0	0	0	1

Table 4 - Composition of KOF Index of Globalization

2010 KOF Index of Globalization

Indices and Variables	Weights
A. Economic Globalization	[37%]
i) Actual Flows	(50%)
Trade (percent of GDP)	(19%)
Foreign Direct Investment, flows (percent of GDP)	(20%)
Foreign Direct Investment, stocks (percent of GDP)	(24%)
Portfolio Investment (percent of GDP)	(17%)
Income Payments to Foreign Nationals (percent of GDP)	(20%)
ii) Restrictions	(50%)
Hidden Import Barriers	(22%)
Mean Tariff Rate	(28%)
Taxes on International Trade (percent of current revenue)	(27%)
Capital Account Restrictions	(22%)
B. Social Globalization	[39%]
i) Data on Personal Contact	(33%)
Telephone Traffic	(26%)
Transfers (percent of GDP)	(3%)
International Tourism	(26%)
Foreign Population (percent of total population)	(20%)
International letters (per capita)	(25%)
ii) Data on Information Flows	(36%)
Internet Users (per 1000 people)	(36%)
Television (per 1000 people)	(36%)
Trade in Newspapers (percent of GDP)	(28%)
iii) Data on Cultural Proximity	(31%)
Number of McDonald's Restaurants (per capita)	(43%)
Number of Ikea (per capita)	(44%)
Trade in books (percent of GDP)	(12%)
C. Political Globalization	[25%]
Embassies in Country	(25%)
Membership in International Organizations	(28%)
Participation in U.N. Security Council Missions	(22%)
International Treaties	(25%)

Source: Dreher, A. (2006). Does Globalization Affect Growth? Empirical Evidence from a new Index. *Applied Economics*, 38(10), pp. 1091 – 1110.

Figure 1 - Venn Diagram

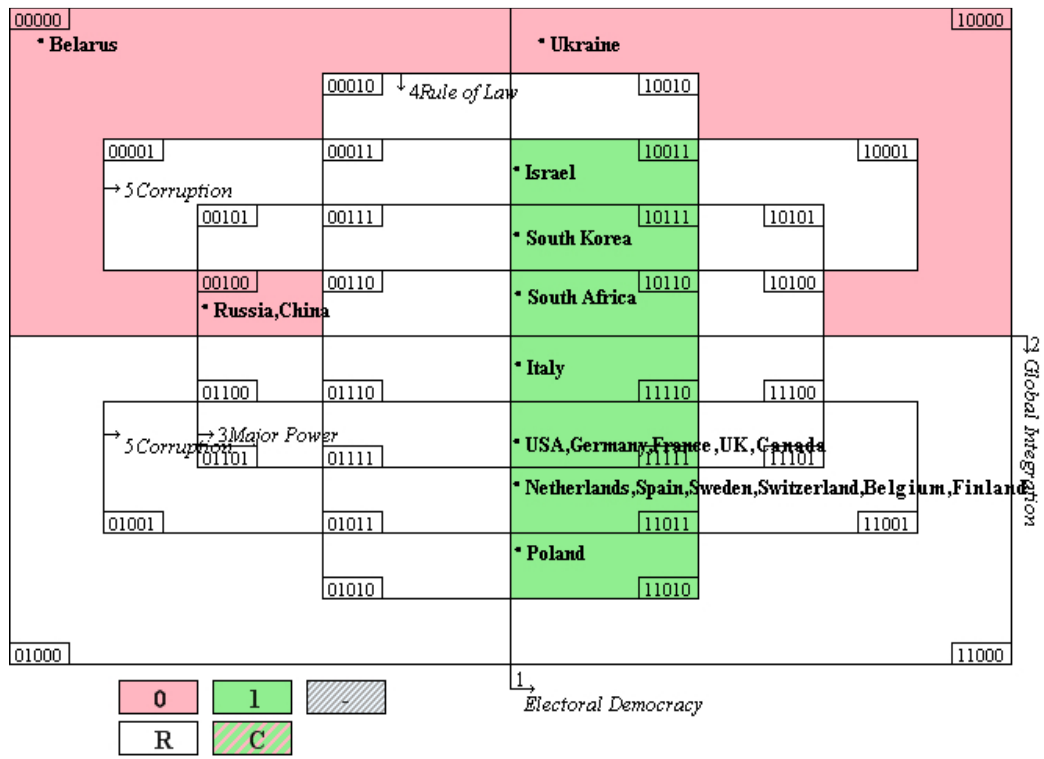


Figure 2 - Threshold for Global Integration at 75

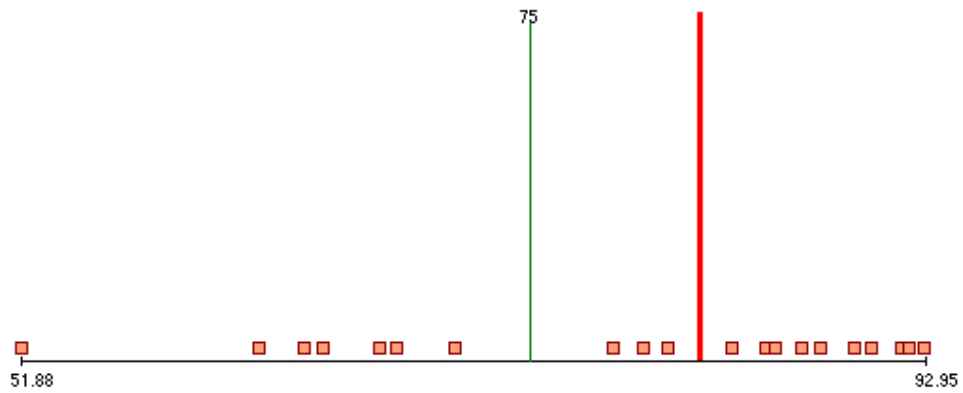


Figure 3 - Threshold for Rule Of Law at 0

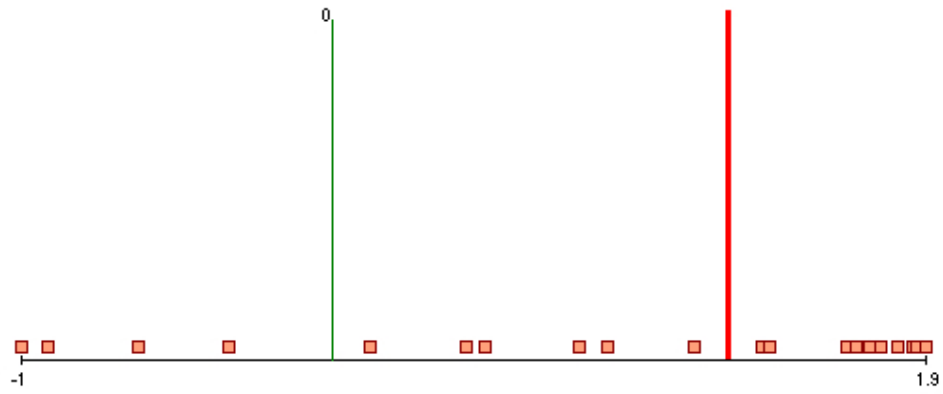


Figure 4 - Threshold for Corruption at 5

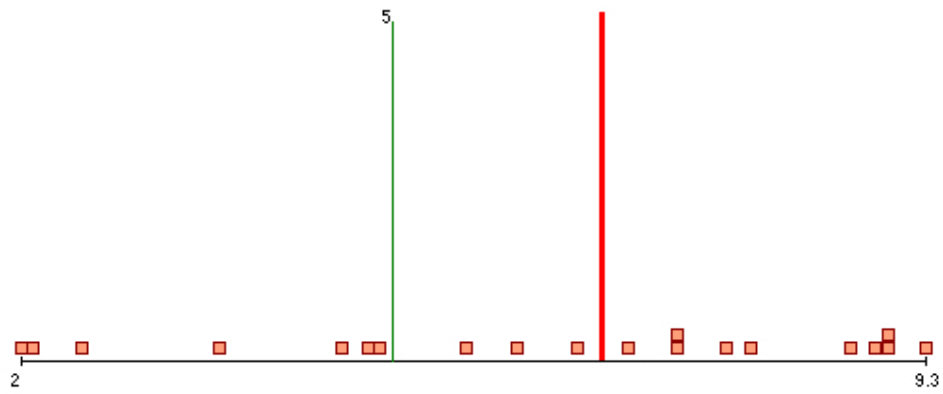


Figure 5 - Simplifying Assumptions for violation

Simplifying Assumptions:

Electoral Democracy{0}Global Integration{0}Major Power{0}Rule of Law{0}Corruption{1} +
 Electoral Democracy{0}Global Integration{0}Major Power{1}Rule of Law{0}Corruption{1} +
 Electoral Democracy{0}Global Integration{1}Major Power{0}Rule of Law{0}Corruption{0} +
 Electoral Democracy{0}Global Integration{1}Major Power{0}Rule of Law{0}Corruption{1} +
 Electoral Democracy{0}Global Integration{1}Major Power{1}Rule of Law{0}Corruption{0} +
 Electoral Democracy{0}Global Integration{1}Major Power{1}Rule of Law{0}Corruption{1} +
 Electoral Democracy{1}Global Integration{0}Major Power{0}Rule of Law{0}Corruption{1} +
 Electoral Democracy{1}Global Integration{0}Major Power{1}Rule of Law{0}Corruption{0} +
 Electoral Democracy{1}Global Integration{0}Major Power{1}Rule of Law{0}Corruption{1} +
 Electoral Democracy{1}Global Integration{1}Major Power{0}Rule of Law{0}Corruption{0} +
 Electoral Democracy{1}Global Integration{1}Major Power{0}Rule of Law{0}Corruption{1} +
 Electoral Democracy{1}Global Integration{1}Major Power{1}Rule of Law{0}Corruption{0} +
 Electoral Democracy{1}Global Integration{1}Major Power{1}Rule of Law{0}Corruption{1}

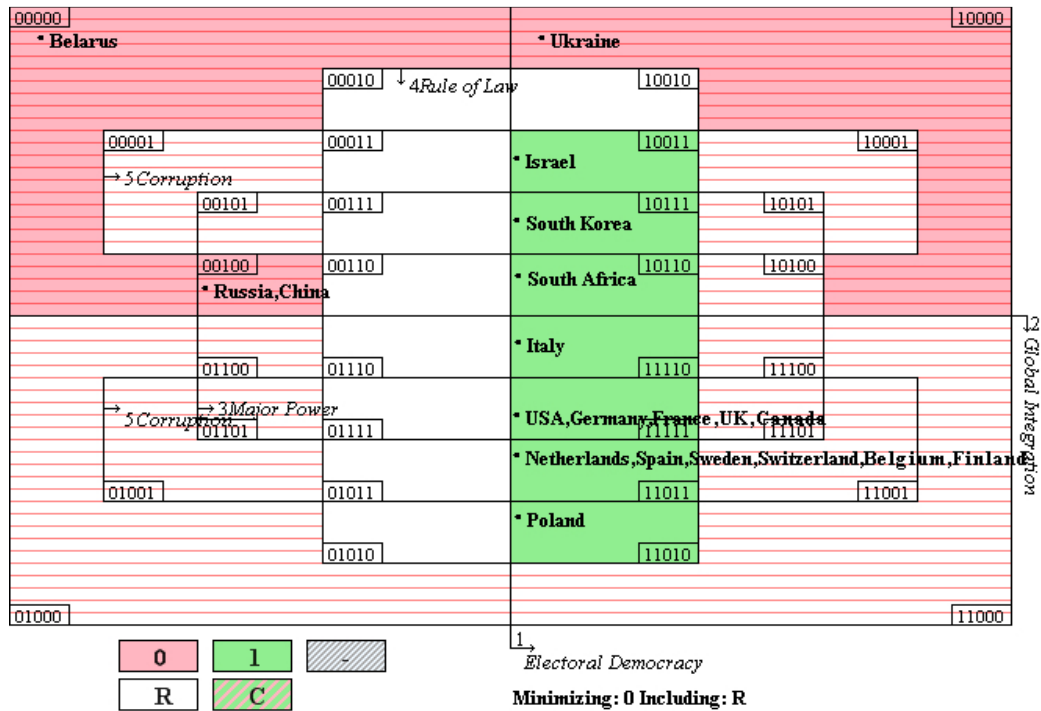
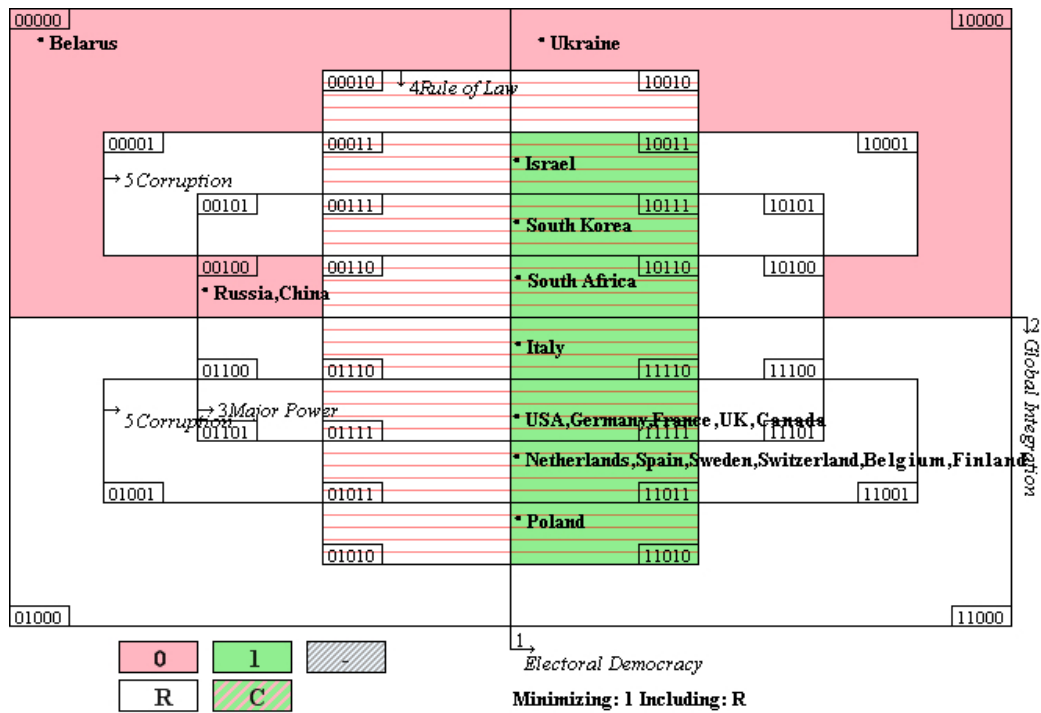


Figure 6 - Simplifying assumptions for compliance

Simplifying Assumptions:

Electoral Democracy{0}Global Integration{0}Major Power{0}Rule of Law{1}Corruption{0} +
 Electoral Democracy{0}Global Integration{0}Major Power{0}Rule of Law{1}Corruption{1} +
 Electoral Democracy{0}Global Integration{0}Major Power{1}Rule of Law{1}Corruption{0} +
 Electoral Democracy{0}Global Integration{0}Major Power{1}Rule of Law{1}Corruption{1} +
 Electoral Democracy{0}Global Integration{1}Major Power{0}Rule of Law{1}Corruption{0} +
 Electoral Democracy{0}Global Integration{1}Major Power{0}Rule of Law{1}Corruption{1} +
 Electoral Democracy{0}Global Integration{1}Major Power{1}Rule of Law{1}Corruption{0} +
 Electoral Democracy{0}Global Integration{1}Major Power{1}Rule of Law{1}Corruption{1} +
 Electoral Democracy{1}Global Integration{0}Major Power{0}Rule of Law{1}Corruption{0}



Data Sources

The *SIPRI arms transfer database*¹⁴ is the most comprehensive database with regard to arms transfers. According to Laurance (1992) & Sanjian (1999), the database is a close approximation of the arms trade flows that occur in reality. Receiving exact numbers with regard to arms transfers is difficult, since governments rarely disclose these. The values of the transfers are therefore mostly obtained through public sources and only occasionally through governmental publications (SIPRI, 2010a).

The arms transfers are measured in form of trend indicator values (TIV), which are expressed in mio. of US\$ at constant 1990 prices (SIPRI, 2010b). Even though transfers are expressed in US\$, the TIVs do not capture the monetary value of the arms transfers. Instead, they measure the value of the transfer in terms of military resource by evaluating the technical parameters of the respective weapons. This way the TIVs are able to capture the military capability that is transferred to a country. Following weapon categories are covered in the TIVs: Aircraft, armoured vehicles, artillery, sensors, air defence systems, missiles, ships, engines and other¹⁵ (SIPRI, 2010c). Excluded items are small arms and light weapons, man-portable air defence systems (MANPADS), categories of anti-tank missiles, trucks, artillery under 100-mm calibre, ammunition, components (other than radars and engines) and support services.

The *Freedom House Freedom in the World 2008 survey*¹⁶ is a widely used dataset with regard to democracy measures. It provides an annual evaluation of the freedom in the world, as experienced by individuals. Next to the numerical ratings, the data set contains the designation “electoral democracy”. It is awarded to countries that meet certain minimum criteria, which are listed below (Freedom House, 2010):

1. A competitive, multiparty political system;
2. Universal adult suffrage for all citizens (with exceptions for restrictions that states may legitimately place on citizens as sanctions for criminal offenses);
3. Regularly contested elections conducted in conditions of ballot secrecy, reasonable ballot security, and in the absence of massive voter fraud, and that yield results that are representative of the public will;
4. Significant public access of major political parties to the electorate through the media and through generally open political campaigning.

A country cannot be designated electoral democracy if decision-making authority resides with an unelected power. Also, if the last national elections failed to meet the criteria as listed above, a country is delisted from the electoral democracies (Freedom House).

The *KOF index dataset*¹⁷ contains the KOF Index of Globalisation, as introduced by Dreher (2006) and updated by Dreher, Gaston and Martens (2008). The dataset

¹⁴ For more information please see <http://www.sipri.org/databases/armstransfers>

¹⁵ All turrets fitted with a gun for armoured vehicles of at least 20-mm calibre, all turrets fitted with a gun for ships of at least 57-mm calibre, all turrets for ships fitted with multiple guns with a combined calibre of at least 57-mm

¹⁶ For more information please see <http://www.freedomhouse.org/template.cfm?page=15>

¹⁷ For more information please see <http://globalization.kof.ethz.ch/>

includes yearly globalisation scores of 208 countries over the period 1970 – 2007. In line with Clark (2000), Norris (2000) and Keohane & Nye (2000), the index uses following definition for globalisation: “The process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows including people, information and ideas, capital and goods. Globalization is conceptualized as a process that erodes national boundaries, integrates national economies, cultures, technologies and governance and produces complex relations of mutual interdependence” (KOF, 2010a, p. 1). In order to arrive at a comprehensive measure of globalization, the index incorporates three dimensions: economic globalization, political globalization and social globalization. The three dimensions are defined as follows¹⁸ (KOF, p.1):

1. *economic globalization*, characterized as long distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges;
2. *political globalization*, characterized by a diffusion of government policies;
3. *social globalization*, expressed as the spread of ideas, information, images and people

The overall index score is calculated from the three above described variables with following weights attached¹⁹(Dreher, 2006):

1. Economic Globalization 37%
2. Social Globalization 39%
3. Political Globalization 25%

The resulting overall index ranges on a scale from 1 to 100, where the former is the maximum score and the latter the minimum score. Hence, a score close to 100 means that the respective country is highly globalized.

The *Worldwide Governance Indicators (WGI) dataset*²⁰ encompasses aggregate and individual governance indicators for 212 countries²¹ and territories over the time period 1996 – 2008. The WGI measures governance based on following definition: “The traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them” (Kaufmann, Kraay and Mastruzzi, 2009, p. 5). In line with the definition of governance, the aggregate indicator is constructed from following main subcategories, which are available individual governance indicators (Kaufmann et al., p. 6):

1. Voice and Accountability (VA) – capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

¹⁸ For a more detailed description please refer to KOF (2010a) or Dreher (2006)

¹⁹ For a more detailed decomposition of the index please refer to Table 3 in the appendix

²⁰ Additional documentation and research employing this data-set is available on following website: www.worldbank.org/wbi/governance

²¹ Depending on the governance component, the indicators cover between 208 and 212 countries for the year 2008

2. Political Stability and Absence of Violence (PV) – capturing perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.
3. Government Effectiveness (GE) – capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
4. Regulatory Quality (RQ) – capturing perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
5. Rule of Law (RL) – capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
6. Control of Corruption (CC) – capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

Overall, the WGI of 2008 is constructed from 441 individual variables that are obtained from 35 different sources from 33 organizations. These sources are mostly composed from surveys of firms and individuals, assessments of think tanks, non-government organizations, risk rating agencies, aid agencies and other public sector organizations (Kaufmann et al.). This ensures a diverse variety of sources, improving the measurement accuracy of the index. Yet, in order to avoid a bias in the measurements in face of the great number of sources, specific attention is paid that the sources are independent from each other. This means that no source is used that was based on one of the already employed sources (Kaufmann, Kraay and Mastruzzi, 2006). The final aggregate index and the main sub-indices range from -2.5 (very poor record) via 0 (neutral) to 2.5 (very good record).

The *Transparency International Corruption Perception Index dataset*²² contains the Corruption Perception Index (CPI) scores of 2008 for perceived levels of corruption of 180 countries (Lambsdorff, 2008). The CPI is one of the most widely employed corruption indices and it is the main one of the various indices that are provided by Transparency International. It is an aggregate indicator that provides the perceived degree of corruption among public officials and politicians. The sources from which the index is calculated can be distinguished in terms of peer reviewed expert opinions and surveys of business people. The 2008 version is calculated from 13 sources originating from 11 independent institutions over the time period of the last two years for survey sources and the most recent year for expert opinions (Lambsdorff, 2008). That is, the survey component of the 2008 CPI is calculated from surveys from 2007 and 2008, while the expert opinion is taken only from 2008. The resulting aggregate index ranges from zero to ten, with ten representing no corruption and zero extremely high corruption.

²² For more information please refer to Lambsdorff (2008) or http://www.transparency.org/policy_research/surveys_indices/cpi/2008