WORLD DEVELOPMENT REPORT 2017

BACKGROUND PAPER

GOVERNANCE *and* THE LAW

Governance and Violence

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Background paper for the 2017 World Development Report

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This background paper addresses four questions. They may seem to be independent, but I hope to show they are closely connected. The questions are:

1) What did Weber say when he defined the modern state as the organization with a monopoly on the legitimate use of violence?

2) What conceptual framework might we bring to understand the dynamics of stability and growth in developing countries? Why do developing countries seem to be so susceptible to shocks and reversals?

3) What is the empirical evidence on economic shrinking (short run declines in annual per capita income), economic growing (short run increases in annual per capita income), and economic performance over the long run as measured by per capita income?

4) Is there a trade-off between security and growth, and how should we think about such a trade-off?

All four points address in one way or another stability, instability, and social order. Weber may seem to be the least connected, but given the widespread use of his definition of the state and the focus on "a monopoly of violence" in the social science literature surrounding the political economy of development, it is the right place to start.

I. What Did Weber Write?

Weber's essay "Politics as a Vocation" is among the most famous passages in the theory of the state:

Today, however, we have to say that a state is a human community that (successfully) claims the *monopoly of the legitimate use of physical force* within a given territory. Note that 'territory' is one of the characteristics of the state. Specifically, at the present time, the right to use physical force is ascribed to other institutions or to individuals only to the extent that the state permits it. The state is considered the sole source of the 'right' to use violence. Hence, politics for us means striving to share power or striving to influence the distribution of power, either among states or among groups within a state. (Max Weber, from "Politics as a Vocation").[1]

Think about what Weber wrote, rather perhaps than what he meant. The state does not exercise a monopoly on violence, it is not the only organization that uses violence. Instead "the right to use

[1] **Error! Main Document Only.**The quotation is from Weber, 1948, pp. 77-78. A slightly different translation is available in Weber, 1994, p. 315. There are several other places where Weber provides similar definitions of the state, some more succinct and others expanded. One is in *Economy and Society*, 1968, pp. 56, which is usefully located since it follows Weber's definition of organizations and other sociological terms on pages 50-56.

physical force is ascribed to other institutions or to individuals only to the extent that the state permits it. The state is considered the sole source of the 'right' to use violence."

Recasting slightly what Weber wrote, the "state" is the organization that "signifies" or announces a collective agreement that determines who can use violence under what circumstances. The "right" to use violence in self-defense, for example, is covered by the agreement. The right of the police to use physical force is covered in the agreement. The right of private organizations to employ security guards who may use physical force is covered in the agreement. In a "modern" state, the different uses of violence are completely covered by the agreement, signified by the government, this doesn't mean that people will not use violence in ways that are not sanctioned by the agreement, but that such uses will result in consequences enforced by the government under the agreement.

"Security" in these societies is neither the absence of violence, the use of physical force, or coercion, the threat of violence. Security results from a set of social arrangements in which the use of violence, the penalties for the misuse of violence, and the means to enforce the agreement are understood. "Legitimate" carries an internal meaning: legitimate agreements are ones recognized by everyone, even if many people do not, in any formal sense, give their consent to an explicit agreement. Even when an agreement exists, the behavior of some individuals and groups is probabilistic and remains uncertain in the future. Most developing countries do not have "modern" states because they do not have credible agreements about the use of violence and coercion that exhaust the possibilities for how and by whom violence can be used.

When the government announces an agreement, or changes to the existing agreement, there is no necessary implication that the agreement or the changes will be "legitimate" in the sense that people will abide by the agreement. Legitimacy is a problem for modern societies with high capacity governments, just as it is for non-modern societies with low capacity governments, because legitimacy is a feature of agreements rather than governments.

If it seems cavalier to focus on what Weber said rather than what he meant, it is because Weber was much more concerned with leading and following than he was about the organization of violence and coercion. "Politics as a Vocation" continues on to describe how modern states develop in terms of the interest of the prince, and much less in terms of the interests to the parties to the agreement, i.e. the powerful organizations and individuals who must abide by the agreement to make it legitimate (and credible.) A modern corollary is Mancur Olson's "stationary bandit" who, by assumption, has the ability to coerce anyone: a monopoly on the *use* of violence. As a theoretical simplification Olson's approach has some merit, but the simplification becomes problematic when the WDR contains sentences like "a monopoly on violence is a prerequisite for secure property rights and good institutions." What monopoly are we talking about?

Hobbes was the first to articulate clearly a logic that showed how every individual in society could find it in his interest to concede a monopoly on violence to the leviathan/leader, and how those interests depended on there only being one leader capable of enforcing rules (laws) against everyone but himself through his coercive power. While Hobbes was a philosopher concerned with finding the "best" form of government and Weber was a social scientist concerned with developing the best conceptual tools for understanding how societies work, it is striking that so many of the leading ways of thinking about the state and development explicitly use a

leviathan/single actor framework for conceptualizing government. North's (1981) revenue maximizing monarch, Olson's (199?) stationary bandit, Levi's *Of Rules and Revenue*, Bates' *Prosperity and Violence* and *When Things Fall Apart* as well as his paper with Greif and Singh (2002) essay on "Organizing Violence," Tilly's *Coercion, Capital and European States 990-1990*, Grief's recent work on legitimacy, all invoke a single actor state in conceptual terms and define that state in terms of coercive capacity. Implicitly or explicitly all of these approaches assume that the willingness of powerful individuals to follow the rules is based on the threat of coercive punishment by the government, rather than the value of coordination to the individuals and organizations.

II. Agreements, Rules, and Identities: The problem of stability in Identity rule societies

A world development report on Governance and Law must come to grips with what states or governments are conceptually. If we begin by assuming that all societies, or all good societies, must have a government with a monopoly on coercion and thus the ability to enforce laws against anyone, no matter how powerful, because coercion is necessary for rule enforcement, then we start with a particular bias. In this section I offer an alternative framework that begins with the assumption that the value of governments to societies rests primarily in the role of governments as coordinators, even though governments possess some coercive power.

All societies have some agreements about the use of violence and many other things as well. The rules that make up these agreements provide the basics of a societies institutions: the rules of the game and the means of enforcement (North, 1990). So what are these agreements, where do they come from and how are they made credible? Let's begin with a tautology: powerful individuals and organizations with the ability to use violence, will only forbear using violence and coercion if it is in their interest to do so. North, Wallis, and Weingast (2009, hereafter NWW) described a social order, the natural state, in which powerful organized interests created a network of economic privileges. The privileges are created by limiting the ability of individuals to form organizations for various purposes and thereby creating rents for those who possessed the privileges and, by virtue of being organized, were also potentially powerful and violent. If the rents created by the privileges are adversely affected by an outbreak of violence, then the privileged organizations could, under the right and almost certainly fragile circumstances, credibly believe that other powerful organizations would not use violence. Thus a credible agreement between elite organizations could limit violence. In essence, the political process manipulates the economy to create rents for powerful organizations, then uses those rents to coordinate the coalition of powerful organizations. Some of the powerful organizations will be government organizations and some will be private organizations, and they will be connected through what we can call a dominant network.

A key to the agreements underlying a natural state society is not just that they treat people unequally, but as you go higher in the hierarchy of powerful organizations, they treat people more uniquely. Not all elites are treated the same even if they are all privileged. In an example that follows I will assume that elite identity exists on a single dimension that can be represented by a number identifying an individual's rank, but want to emphasize that elite social identity (as all human social identities) makes up an extremely complicated multi-dimensional social matrix. The

fact that elite identities are complicated and uncertain only makes the problems of stability and instability that we will talk about shortly even worse, and enhances the advantages that societies capable of enforcing impersonal rules that treat everyone the same all the more powerful.

The structure of the argument begins with a society in which the distribution of economic privileges is an integral part of the political agreement that provides incentives that limit the use of violence by powerful organizations. The agreements are not perfect equilibriums, these societies always live in the shadow of violence. Power is not determined solely by violence capacity (in contrast to Cox, North, and Weingast). As Mann argues, social power has many dimensions, and the allocation of social power determines the structure of rents that holds the dominant network together.

Next, ask a set of questions. Why would powerful organizations be willing to agree to some minimum set of rules governing their relationships? How can we can we conceptualizes the gains from such rules? And, critically, how can those rules be credibly enforced? We take the questions in reverse order, beginning with credible enforcement.

North (1990) defines institutions as the rules of the game and the means of enforcement. I will try to be explicit when talking about rules and enforcement, but unless I explicitly distinguish the form of a rule from its enforcement, conceptually rules always include their means of enforcement. Some rules, as a result, are not credible because the cost of enforcing the rule exceeds the benefits of enforcement. We begin by assuming that elites agree to form a court (chosen by some rules or personal identities) that enforces rules using a very simple rule: the court always rules in favor of the most powerful person. Enforcement is partially credible because the court always rules in favor of the person with more social power and thus, theoretically, capable of enforcing the court decision through direct action of his own. Looking forward in time, private enforcement is always probabilistic and usually problematic because it is not jut the social power of individuals that matters, but the organizations and coalitions of organizations they belong to if it comes to social conflict (violent or not).

Why would elites in general be willing to support such a court and set of rules and biased enforcement? A very simple economic example uses a business relationship and a promissory note. The example applies much more widely, to almost any relationships with asymmetric information. Imagine two elite individuals planning to start a cooperative venture, elite A and elite B. Both partners contribute capital to buy equipment, buildings, and material. It is more efficient for one partner A to undertake some activities on a regular basis that cannot be observed by partner B, like effort. How can elite B be sure that elite A expends effort according to their agreement, a typical problem in the theory of the firm? [2] One option is a form of bonding. Elite A might sign a promissory note in favor of B, which B can execute at any time. The promissory note must be for an amount large enough to ensure that the gains to A from shirking are smaller than the value of the note, but not so large that B has incentives to end the relationship by calling the loan. If the note is for $50,000, then the value to B of continuing the business relationship must be greater than $50,000 and the cost to A of performing his tasks must be less than $50,000. In that case,

[2] The "passive" partner need not be passive, in the sense of a silent partner. The active partner performs a task, per the agreement between the partners, which the other partner cannot observe. The specific form of information asymmetry or, more generally, transaction costs is not important to the point of the example.

their incentives align correctly. The existence of the promissory note creates incentives such that the agreement between elite A and elite B is credible to both sides.[3] The promissory note creates an outside option within the relationship that sustains a credible relationship between the partners. The expectation by both A and B is that the promissory note will never be executed. Functionally, A is not borrowing money from B. The arrangement and agreement between A and B has nothing to do with a credit arrangement. Nonetheless, access to a promissory note can widen and deepen the kinds of arrangements that A and B can credibly sustain.

When the willingness of the court to enforce a promissory note depends on the identity of the persons involved, individuals with higher status or a more powerful identity are better able to have a note enforced against a lower status person. Both A and B have access to the court, as they are both elites, but a bias exists at court that is well understood by both parties. The court always rules in favor of the more powerful elite. As a result, in promissory note contracts between elites the more powerful elite will tend to be the "creditor," because the more powerful elite has better and biased access to third party enforcement of the contract.

Why would elites in general be willing to agree the establishment a court to unequally enforce promissory note agreements? The appropriate counterfactual is not a court that enforces the rules equally, it is no court at all. We have to compare a court with biased rule enforcement to a society without any courts. In the absence of courts or public rule enforcement, there will still be relationships between powerful individuals and organizations. The logic of the natural state supplies the logic necessary to see how elites could form credible relationships with one another. But in the absence of some third party enforced rules, all elite relationships must be sustained by the value of the relationship. In the promissory note example, there will be times when the relationship breaks down, how can the rules possibly benefit elites? Figure 1 includes six elites, assumes each elite can be identified by their rank (1 is most powerful), and in the absence of third party based court enforcement, no rule based relationships are possible.

Figure 2 shows the number of rule based elite relationships that can be sustained under identity rules, rules whose enforcement depend on the social identity of the parties involved. Since the most powerful elite always prevails if a case goes to court, and cases only go to court if the value of the relationship has declined enough to lead the promissory note to be invoked, a less powerful elite will never accept a promissory note from a more powerful elite. In Figure 2, the row player writes the note and the column player holds the note. There are no sustainable rule based agreements (or contracts) above the diagonal. Nonetheless, despite biased enforcement the number of rule based agreements has gone from zero, in Figure1, to 15 in Figure 2. This is Smithian economic growth: an improvement in economic performance attributable to greater specialization, division of labor, and gains from comparative advantage. Perhaps it need not be said that relationships between elites in powerful organizations, in general, will be critical determinates of the size of the sustainable market. Elites in general will be located at the nodes of exchange that make greater specialization and division of labor possible.

[3] There are a wealth of examples of this kind of contractual arrangements in the theory of the firm literature. Giving the promissory note follows the logic of hostage giving, it follows the logic of how asset specific investments can be used to secure relationships in Williamson (1985), or how non-salvageable assets can be used to secure the delivery of higher quality goods in Klein and Leffler (1981). Many situations in which the parties have asymmetric information on one dimension may be helped by a contractual arrangement on another dimension.

Because the rules are enforced in Figure 2 in a thoroughly corrupt way, the more powerful elite always prevails, the comparison of developing and developed countries if often, implicitly, between Figure 2 and a full matrix with impersonally enforced rules where enforcement is unbiased, a situation I'll consider in a few paragraphs. Unfortunately, Figure 2 is not the worst outcome, Figure 1 is. The matrix of elite relationships in Figure 2 maps a network of relationships that, in a real society, are networks of coalitions. Within societies groups of elites are connected through organizations and relationships into coalitions and networks. The identity and importance of those coalitions is continuously in flux. Figures 1 and 2 are extreme cases of relationships supported by rule-based agreements under identity rules. Between these two extremes, it is possible to envisage coalitions of elites, such as the Guelphs and Ghibellines in medieval Italy. The two factions fought each other when there was no external threat, but came together when faced with an external enemy. When Guelphs and Ghibellines were at peace with each other, courts could enforce rules across groups. But if the two elites were fighting each other, Guelph courts could only enforce agreements between Guelphs and Ghibelline courts could only enforce agreements between Ghibellines. These two possibilities are illustrated in Figures 3 and 4, respectively.

Figure 3 sets out the elite matrix with intra- and inter-coalition trade. Here, elites belong either to coalition A or to coalition B. While the two coalitions are at peace, the full set of identity rule relationships is possible. An X indicates inter-coalition trade and the A's and B's in the matrix indicate intra-coalition trade. Some members of coalition A are more powerful than some members of coalition B, and this is recognized in all courts. Figure 4, by contrast, sets out the elite matrix when inter-coalition relationships between the As and Bs breakdown and only intra-coalition arrangements are sustainable. When the two coalitions are fighting, the set of agreements sustainable in an identity rule regime shrinks. Agreements can only be sustained between members of the same coalition.

Figure 5 brings together the 3 identity rule matrices. Smithian growth occurs as we move down the figure, while Smithian shrinking occurs as we move up the figure. Anything that causes changes in the ordering within the elite hierarchy, can move societies up and down the figures. Uncertainty about the ordering of elites in the future can move societies up and down the figures. Significant disruptive competition between elite coalitions is a prominent feature of the less developed world today, and was also important in the past in today's rich countries. Uncertainty about the structure of elite networks and the disposition of coalitions and groups within those networks is endemic in the developing world.

In contrast, Figure 6 represents a society capable of creating and enforcing impersonal rules, rules that treat everyone the same. Three features of Figure 6 matter. First, Smithian growth results from expanding the number of sustainable elite relationships. Second, while elites still exist in impersonal rule societies, not everyone is the same, in an impersonal rule society a core of rules are enforced impersonally. Changes in elite identity do not affect the sustainability of rule based elite relationships. Impersonal rules should exhibit different dynamics through time than identity rule societies, the subject of the next section. Third, elite relationships in an impersonal rule society still matter, but elite rents created by identity rules are considerably reduced. Impersonal rule societies can allow much wider economic and political entry, further expanding Smithian growth. Larger, more open, and more inclusive societies better support Schumpeterian

creative destruction and Solow growth through technological change and factor accumulation (a central argument of Acemoglu and Robinson, 2012).

While the notion of identity and relationships in the elite matrix/promissory note example is simple, the basic ideas that it possible for elites to achieve more and more valuable relationships by using rules, even if those rules are biased, is an important aspect of all societies. If rules and rule enforcement depend on identities, and identities are subject to change, which they are in all societies, then identity rule societies will be less stable than impersonal rule societies. Finally, while equality, justice, and other normative values and associated with impersonal rules and "treating everyone the same," identity rules are a way of providing for social order. Within the orbit of identity rules are widely varying economic and social outcomes, the difference between Figure 1 and 3. There is much to be done improve outcomes with identity rule regimes without moving to an impersonal rule regime.

III. Shrink Theory: Economic Performance in the Long and Short Run

One of the clear implications of the elite matrix is that societies with identity rules should shrink more than impersonal rule societies. It is not just that the variance of per capita income will be higher, it is that identity rule societies should have more frequent negative growth (shrinking) experiences. The fluctuations in measures of economic performance, for example in per capita income, that arise because of shifting or uncertain elite identities should be mitigated in impersonal rule societies. To the extent that shrinking is caused by break downs in sustainable elite relationships, and it is possible in the future to reformulate those relationships under new elite agreements, then identity rule societies should exhibit more "catch up" growth than impersonal rule societies. Growing rates (the rate of growth when economies are growing) and shrinking rates (the rate of shrinking when economies are shrinking) should both be higher in identity rule that in impersonal rule societies.

Empirically, this boils down to three implications. First, since through human history until very recently all societies were identity rule societies, both growing rates and shrinking rates should have been higher in the past, say before 1800 (depending on the society), even in today's developed impersonal rule societies. Second, the onset of modern growth should be associated with declines in growing rates, shrinking rates, and the frequency with which economies shrink (the shrinking frequency is 1 – the growing frequency so there are only three independent variables.) Third, that across countries in the contemporary world, 1950 to 1016, the rate and frequency of shrinking should dominate the relative economic performance of countries over time, specifically that the comparison between rich and poor countries should show a greater difference on the shrinking side than on the growing side.

As a way of characterize growing and shrinking we use the following measures:

Contribution of Growing = Growing Rate*Growing Frequency

Contribution of Shrinking = Shrinking Rate*Shrinking Frequency

We know that today's high income countries have had a better long run economic performance than today's low income countries since at least the early nineteenth century (Maddison, 2001; 2010). That fact is the essential motivation for growth theory, with its focus on

the rate of growing. On closer examination, however, high income countries do not grow faster during their episodes of positive growth than poor countries grow during their episodes of positive growth. This can be demonstrated using information from the Penn World Table (PWT) for the period 1950-2011 (Feenstra et al., 2015). Table 1 from PWT 8.0 provides evidence on long run economic performance across groups of countries, broken down by level of income, and using the identity set out in the introduction. The sample underlying the table includes 141 countries, with all included countries having data available from at least 1970 onwards. The data are arranged in five groups, ranging from high income countries with per capita incomes in the year 2000 greater than $20,000 (in constant 2005 dollars), to poor countries with per capita incomes of less than $2,000.

In Table 1, we see from the second column that the frequency of growing during this period has been higher for countries with higher levels of per capita income. The richest countries grew in approximately 84 per cent of years, while the poorest countries grew in just 62 per cent of years. Since the frequency of shrinking is one minus the frequency of growing, the frequency of shrinking has to be higher for poorer countries: the poorest countries shrank in almost 38 per cent of years, while the richest countries shrank in just 16 per cent of years. So poor countries have grown less frequently than rich countries. However, the third column shows that poor countries have not grown less rapidly than rich countries when they have been growing. Indeed, the average growing rate has actually been higher for poorer countries than richer countries. Similarly, we can see in the final column that the average shrinking rate has also been higher for poorer countries.

Table 2 shows the contributions of growing and shrinking to long run economic performance. The contribution of growing to long run economic performance is the growing rate multiplied by the frequency of growing years. We see that most poorer countries had a stronger contribution from growing than economies with per capita incomes above $20,000, since the higher average growing rate of poorer countries more than offset the lower frequency of growing years. The only exception to this was the poorest category of countries with per capita incomes below $2,000. These very poor countries had a weaker contribution of growing than the richest group of countries, but this was due to their lower frequency of growing years rather than to a lower growing rate. The contribution of shrinking to long run economic performance is the shrinking rate multiplied by the frequency of shrinking years. All poorer economies had a bigger negative contribution from shrinking than economies with per capita incomes above $20,000. This was due to both the higher frequency of shrinking among poorer countries and higher shrinking rates.

Long run economic performance is measured by the net rate of change in per capita incomes in the final column of Table 2. Poorer economies did not have a significantly better long run economic performance than the richest group of countries, which means that there was no systematic catching-up over the period as a whole. Middle income countries increased their per capita incomes at about the same rate as the rich countries, but poor countries increased their per capita incomes substantially more slowly, so that there was unconditional divergence rather than convergence as the poorest countries fell increasingly behind (Pritchett, 1997). The key result to take from the tables is that the lack of long run convergence is explained by differences between countries in the contribution of shrinking rather than growing. Rich countries are rich not because they grow faster when they grow, but because they shrink less frequently and at a slower rate than poor countries.

What about the longer term? The final version of the Maddison Data Base contains annual data on 14 European countries starting between 1820 and 1870 and 4 New World economies starting in 1870. Annual data for most other economies begin only in the twentieth century, and in many cases after 1950 (Maddison, 2010). Table 3 shows data on the frequency of growing and shrinking for four European countries for which we have data back to the thirteenth or fourteenth century (the United Kingdom, the Netherlands, Italy and Spain) and for the United States in the New World, together with summary data for these regional groupings. The frequency of growing has increased very sharply in the period since 1950 in this group of rich countries in Europe and the New World, or to state it the other way round, there has been a sharp reduction in the frequency of shrinking.

Table 4 shows the average growth rate in all years, growing years and shrinking years, i.e. long run economic performance, the growing rate and the shrinking rate. Since 1950, the growth rate across all years has increased sharply in both Europe and the New World, and this has happened despite the fact that the growing rate (i.e. the growth rate in growing years) has actually fallen substantially almost everywhere.[2] The reason for the improvement in long run economic performance despite a reduction in the growing rate is the even sharper decline in the shrinking rate.

It should also be noted from Table 4 that during the period 1910-1950, covering the two World Wars and the Great Depression, the growing rate increased almost everywhere, in many cases substantially so.[3] However, this did not lead to any significant improvement in long run economic performance because there was an equally sharp increase in the shrinking rate. These changes in long run economic performance could be attributed simply to exogenous volatility due to war and financial crisis, if it were not for the fact that wars and financial crises are a manifestation of break downs in elite relationships.

Table 5 shows how the frequency of growing and shrinking interacted with the growing and shrinking rates to produce the contributions of growing and shrinking to long run economic performance, as measured by the average rate of change of per capita income in all years. This makes clear that the improvement in economic performance during 1950-2008 compared with earlier periods can be attributed mainly to a reduction in the contribution of shrinking, since the contribution of growing either stagnated or actually declined slightly in most countries. The only real exception amongst these eighteen countries was Spain, where the growing contribution did increase, but the shrinking contribution also declined sharply.

Recent work in historical national accounting has extended annual estimates of GDP per capita as far back as the thirteenth or fourteenth century for a number of European countries (Broadberry, 2013; Fouquet and Broadberry, 2015). In this paper we also analyze this Very Long Run Data Base for Britain, the Netherlands, Italy and Spain (Broadberry et al., 2015; van Zanden and van Leeuwen, 2012; Malanima, 2011; Álvarez Nogal and Prados de la Escosura, 2013).

Tables 6 to 8 show the frequency, rates and contributions of growing and shrinking to long run economic performance over periods of roughly fifty years. The first thing to note from Table

[2] The one exception among this sample of 18 countries is Spain, which experienced a faster growing rate during recovery from the catastrophic effects of the Civil War.
[3] Again the exception is Spain, as a result of the Civil War.

6 is that all of the economies considered here grew and shrank in roughly equal proportions of years before the nineteenth century. Shrinking was therefore just as important for long run economic performance as growing. Second, turning to Table 7, we see that growing and shrinking rates tended to move together, so that high rates of growing were accompanied by high rates of shrinking and low rates of growing were accompanied by low rates of shrinking. Third, in the first economy to make the transition to modern economic growth during this period, Britain, the growing and shrinking rates were substantially lower in the nineteenth century than they had been before the arrival of the Black Death in the mid-fourteenth century, although the reduction was not monotonic. Fourth, Table 8 shows the contributions of growing (the frequency of growing multiplied by the growing rate) and shrinking (the frequency of shrinking multiplied by the shrinking rate) to long run economic performance (the average rate of change of per capita income in all years). Again, the contributions of both growing and shrinking are lower at the end of the period than at the beginning for Britain.

Table 9 explores further the information set out in Tables 6 to 8 by examining the correlations between growing frequencies, growing and shrinking rates and long run economic performance. The first thing to note from this table is that for all four economies, the correlation between growing rates and long run economic performance is very low. Variations in the average rate of growing had surprisingly little effect on long run economic performance, with the correlation coefficient R ranging from 0.26 in the case of Spain to just 0.12 in the case of Britain and even a negative correlation of -0.09 in the case of the Netherlands. Second, for all four countries, long run economic performance was more correlated with the frequency of growing than with the rate of growing. This means that reducing the frequency of years of negative growth was more important for improving long run economic performance than increasing the average rate of growing. Third, the highest correlation was between the rates of growing and shrinking. High rates of growing tended to be offset by high rates of shrinking, so that there was little relationship between growing rates and long run economic performance. As a result, it was possible to have improved long run economic performance despite a reduction in the average rate of growing.

Summary of the empirical results: the main empirical results, which a framework for understanding long run economic performance needs to be able to explain:

(1) Growing rates and shrinking rates have been high and variable throughout most of history and remain high and variable in less developed economies today

(2) Improving long run economic performance has occurred because the frequency and rate of shrinking have both declined, rather than because the growing rate has increased

(3) The rate of growing has typically declined rather than increased as long run economic performance has improved

IV . Thinking about the trade-off between security and growth

The empirical results just presented provide a new background for thinking about the relationship between security in a society and the rate of economic performance over the long run.

An old idea is that a repressive regime may be better for growth than a more liberal regime if the repressive regime is able to limit violence and enhance social order. I don't think the argument is strong or very cogent, and it certainly runs against the long term vs short term questions raised by shrink theory. I will talk more about this below. The more important issue was raised by NWW in several places, and more generally in the work that I have been doing over the last ten years or so. In a natural state society, the idea of moving toward open access and impersonal rules immediately raised the possibility that security will be compromised in the future, perhaps the near future. If the creation of rents for privileged elites holds the social order together by providing incentives for powerful organizations to limit the use of violence, what will happen if the privileges are eroded?

On the surface the difficulties in convincing powerful organizations and groups that they would be better off if they gave up their privileged position seems like a matter of persuasion, of rhetoric, of making the right argument. There will, it appears from the early work and drafts I have seen, a considerable element of that in this WDR. Such an approach, however, seems exactly the opposite of what we need to be thinking about. When transitions from natural states to open access occur historically, when societies move from identity rule to impersonal rule regimes, elites are not dragged kicking and screaming into an open access future, the elites lead the way. Pritchett and Werker (2012) summarize the problem this way: "This question poses an obvious puzzle: built into the *very definitions* of development and inclusive development are, at best, an erosion of elite privileges (e.g. extension of equal treatment) and at worst the elimination of a previous elite in favor of a new one (e.g. landowners for industrialists, hereditary power for democracy). The puzzle is not just why would an existing elite ever *allow* that to happen, but why might an elite be *committed to* it happening?" p. 3.

In light of the shrink theory evidence about the sources of long-term growth, it seems clear that conciliating a dictator or a repressive regime for a short period of time (perhaps as long as 20 years), might produce a short-term increase in economic performance as order is restored and catch up growth occurs. It is unlikely, however, to actually produce growth in the long-term in the absence of more fundamental changes in institutions and technologies. One of the key implications of the shrink theory evidence is that we must look at economic performance over significant periods of time as short term gains are so often reversed. The appropriate period is at least 40 and preferably 50 years or longer. The problem is magnified by the high growing rates when poor and less developed societies are growing. High rates of growing in the short run, does not reflect long-term improvements in economic performance but short term catching up.

Nonetheless, if a society is facing the prospect of civil war, then moving to economic arrangements that coordinate rents with powerful organizations, if those rents are adversely affected by outbreaks of violence, may produce an increase in stability at the cost of economic performance in the long-term. Whether the "lost growth" actually would have been realized is problematic, but it is not surprising that societies faced with a break down in social order often move towards more explicit elite privileges. Kenya in 2007 would appear to be an example, Turkey may be one over the last few years, and Syria would be much better off today with a set of stabilizing elite privileges. For the most part, the uncertainty created by the Arab Spring, as refreshing and hopeful as the events of 2011 were, do not seem to have moved many societies in the region forward, but backwards towards more limited access and creation of elite privileges.

This is why development is such a difficult process. Imagine that each society is moving down a road through time. On the left side of the road is insecurity, uncertainty, and at the extreme civil war and social breakdown; on the right side of the road are stable identity rule relationships between elites.[4] Figures 1 and 2 are simplistic characterizations of conditions on the two sides of the road. When shocks occur, shrinking results, and societies move toward left side of the road. Uncertainty increases, economic performance declines as the degree of specialization and labor falls and the extent of sustainable elite relationships shrinks, and in the face of rising uncertainty within the elite the likelihood that economic rents will be manipulated to secure political stability rises (perhaps at the expense of economic efficiency: the tradeoff). When the integuments of the rule of law in these societies depend on identity rules, they are doubly sensitive to changing relationships within the elite.

On the right hand side of the road, in societies that have established more stable elite relationships and where elites can begin to see the potential benefits from a move to impersonal rules, the shift from Figure 2 to Figure 6, there is no trade-off between security and growth. Indeed, moving to open access for organizations and impersonal rules will reduce the frequency and severity of shrinking episodes, increase the rate of economic performance, and by enabling economic and political competition will change the social dynamics of how politics and economics interact (what NWW call the double balance). On the right hand side of the road, increasing security increases economic performance.

Here is the rub: do elites automatically decide to willingly *commit* to reducing elite privileges when they get close to the right side? Unfortunately, the answer appears to be no. The reasons are not so much about elites being unwilling to give up their certain privileges for uncertain, but higher, wealth in an open access society (and the elites in Britain and the US did enormously well in the 19th century). Naomi Lamoreaux and I are editing a forthcoming NBER book *Organizations, Civil Society, and the Roots of Economic Development* (University of Chicago Press, 2017), that looks carefully at the emergence of the institutional capacity (rules and enforcement) that enable any citizen to form an organization for a wide variety of purposes: businesses, churches, schools, charitable organizations, municipal governments and the like.[5] We focus on the US, with essays on Britain, France and Germany. The key finding that emerges from the volume is that moving to open access was not easy in any of the countries. Even in the United States, which moved to open access rapidly and decisively in the 1840s, just at the same time that the UK began moving, as late as the 1880's charitable organizations that were not well connected to well established elite groups had difficulty obtaining legal recognition to exist, usually in the form of a charter (Bloch and Lamoreaux, 2017). In each society, the obstacle in the way of open access to organizations was not protection of existing elite organizations, although that surely played a role. Even after significant numbers, perhaps even a majority, of elites expressed a clear preference for moving toward impersonal rules on some dimensions (all men are created equal, for example), it took a long time for a widespread commitment to impersonal rules to appear. In

[4] I am not completely happy with the analogy, and am still working on it. The right side of the road should not be confused with a society that has reached the doorstep conditions in NWW, which require much more than stable elite relationships.

[5] Most of the papers in the volume are currently available as NBER working papers.

the United States it was not until the 1840s at the earliest.[6] The reason was fears about the effect of eliminating privilege on stability of the social order.

Germany was unable to sustain the movement to impersonal rules and open access until after World War II, despite considerable and repeated attempts to do so in the late 19th and early 20th century. The band of European countries running from the southeast (Spain) to the north east (Italy, Austria, and Germany among the prominent ones) all experienced internal disorder and a backward movement toward severely restricted identity rules in the 1920s and 1930s, resulting in the onset of World War II. There was nothing easy about this transition.

Montesquieu's *Spirit of the Laws*, a classic liberal argument for Republican limited government treatise if there ever was one, surprised me when I was directed to reread it in light of the *corps intermédiaires*: those levels of society between the King and the masses.[7] Although Montesquieu understood than many of these aristocrats served little or no economic productive function, nonetheless he believed they were an irreplaceable bulwark against royal power. Montesquieu saw an interlocking set of elite interests, a good natural state as it were, as the only way to sustain a liberal republic. As late as the 1770s, even the most progressive of the western thinkers not only had no inkling of what open access would mean or would bring about, they positively feared that eliminating elite privileges would fundamentally erode the foundations of social order.

If Germans in the 1880s were worrying that enabling impersonal rules for the formation of organizations would undermine social order, how difficult must it be for modern developing societies not to feel the same way? Almost every (and perhaps every) World Bank client country lives in the shadow of violence, in a circumstance where part of what holds society together are the networks of elites and their relationships. Break downs in those relationships are frequent (Figures 1-5) and expensive (Tables 1-9). If an integral part of what prevents breakdowns is the web of economic privileges and rents, then every society will resist the movement to impersonal rules and open access on the scale of the developed world. Perhaps those societies will not resist openly in the face of conditional grants from the World Bank, but they will do so nonetheless. To open access threatens the possibility of instability, insecurity, and violence. Calls for justice and equity, while true and well motivated, are unlikely to be persuasive.

[6] Lamoreaux and Wallis, "States, Not Nation" (working paper) provides a succinct summary of the evidence.
[7] See Jacob Levy's paper in the *Organizations* volume as well as in his book *Rationalism, Pluralism, and Freedom*, Oxford, 2015.

Table 1: Penn World Table 8.0: Growing and shrinking, 1950-2011

Per capita income in 2000	Frequency of growing years	Average growing rate	Frequency of shrinking years	Average shrinking rate
Over $20,000	83.86%	3.85%	16.14%	-2.22%
$10,000 to $20,000	79.64%	4.85%	20.21%	-4.25%
$5,000 to $10,000	77.74%	5.15%	22.26%	-4.89%
$2,000 to $5,000	71.74%	4.72%	28.26%	-4.29%
Less than $2,000	62.16%	3.99%	37.74%	-4.32%

Sources and notes: Penn World Table 8.0, http://www.rug.nl/research/ggdc/data/pwt/pwt-8.0. The "Real GDP per capita (Constant Prices: Chain series)" and their calculated annual growth rates for that series "Growth rate of Real GDP per capita (Constant Prices: Chain series)" were used to construct this table. Countries were first sorted into income categories based on their income in 2000, measured in 2005 dollars. Average annual positive and negative growth rates are the simple arithmetic average for all of the years and all of the countries in the income category without any weighting. The Penn World Table includes information on 167 countries. The sample runs from 1950 to 2011, although information is not available for every country in every year.

Table 2: Penn World Table 8.0: The contribution of growing and shrinking to the economic performance of countries by income categories, 1950-2011

Per capita income in 2000	Contribution of growing (frequency*rate)	Contribution of shrinking (frequency*rate)	Net rate of change of per capita income
Over $20,000	3.23%	-0.39%	2.84%
$10,000 to $20,000	3.82%	-0.88%	2.94%
$5,000 to $10,000	4.00%	-1.13%	2.87%
$2,000 to $5,000	3.30%	-1.27%	2.03%
Less than $2,000	2.47%	-1.16%	0.82%

Source: Penn World Table 8.0, http://www.rug.nl/research/ggdc/data/pwt/pwt-8.0.

Table 3: Maddison Data Base: Frequency of growing and shrinking, 1820-2008

		1820-2008	1820-1870	1870-1910	1910-1950	1950-2008
UK						
	Growing	73.60%	72.50%	60.00%	70.00%	86.21%
	Shrinking	26.40%	27.50%	40.00%	30.00%	13.79%
Netherlands						
	Growing	74.47%	72.00%	70.00%	62.50%	87.93%
	Shrinking	25.53%	28.00%	30.00%	37.50%	12.07%
Italy						
	Growing	74.15%	77.78%	62.50%	57.50%	93.10%
	Shrinking	25.85%	22.22%	37.50%	42.50%	6.90%
Spain						
	Growing	72.15%	70.00%	57.50%	57.50%	93.10%
	Shrinking	27.85%	30.00%	42.50%	42.50%	6.90%
14 European						
countries	Growing	74.72%	68.28%	68.21%	66.25%	89.29%
	Shrinking	25.28%	31.72%	31.79%	33.75%	10.71%
USA						
	Growing	71.74%		65.00%	62.50%	82.76%
	Shrinking	28.26%		35.00%	37.50%	17.24%
4 New World						
countries	Growing	70.09%		64.38%	60.00%	81.90%
	Shrinking	29.91%		35.63%	40.00%	18.10%
18 European						
& New World	Growing	73.79%	65.98%	67.36%	64.86%	87.64%
countries	Shrinking	26.21%	34.02%	32.64%	35.14%	12.36%

Source: Derived from Maddison (2010).

Table 4: Maddison Data Base: Average rate of change of per capita income in all years, growing years and shrinking years

		1820-2008	1820-1870	1870-1910	1910-1950	1950-2008
UK	All years	1.47%	1.50%	0.92%	1.02%	2.12%
	Growing	2.71%	2.72%	2.37%	3.17%	2.61%
	Shrinking	-2.00%	-1.70%	-1.25%	-3.99%	-0.96%
Netherlands	All years	1.38%	0.81%	0.79%	1.15%	2.44%
	Growing	3.11%	1.70%	2.28%	6.47%	2.92%
	Shrinking	-3.67%	-1.48%	-2.67%	-7.72%	-1.06%
Italy	All years	1.78%	0.39%	1.10%	1.02%	3.00%
	Growing	3.92%	2.22%	3.54%	6.27%	3.31%
	Shrinking	-4.34%	-6.00%	-2.95%	-6.09%	-1.27%
Spain	All years	1.84%	0.56%	1.13%	0.36%	3.79%
	Growing	3.85%	2.32%	4.25%	3.60%	4.18%
	Shrinking	-3.37%	-3.55%	-3.10%	-4.03%	-1.46%
14 European	All years	1.75%	1.22%	1.23%	1.26%	2.70%
countries	Growing	3.58%	3.51%	2.83%	5.35%	3.18%
	Shrinking	-3.63%	-2.80%	-1.94%	-6.78%	-1.18%
USA	All years	1.84%		1.77%	1.64%	2.04%
	Growing	4.11%		4.30%	6.49%	2.77%
	Shrinking	-3.91%		-2.93%	-6.44%	-1.49%
4 New World	All years	1.79%		1.62%	1.29%	1.92%
countries	Growing	4.27%		4.67%	5.52%	2.73%
	Shrinking	-4.06%		-3.88%	-5.20%	-1.68%
18 European	All years	1.80%	1.40%	1.31%	1.23%	2.55%
& New World	Growing	3.65%	3.88%	3.16%	5.20%	3.06%
countries	Shrinking	-3.65%	-3.04%	-2.30%	-6.10%	-1.23%

Source: Derived from Maddison (2010).

Table 5: Maddison Data Base: Contributions of growing (frequency*rate) and shrinking (frequency*rate) to long run economic performance (average rate of change of per capita income in all years)

		1820-2008	1820-1870	1870-1910	1910-1950	1950-2008
UK	All years	1.47%	1.50%	0.92%	1.02%	2.12%
	Growing	1.99%	1.97%	1.42%	2.22%	2.25%
	Shrinking	-0.53%	-0.47%	-0.50%	-1.20%	-0.13%
Netherlands	All years	1.38%	0.81%	0.79%	1.15%	2.44%
	Growing	2.32%	1.23%	1.59%	4.04%	2.57%
	Shrinking	-0.94%	-0.42%	-0.80%	-2.90%	-0.13%
Italy	All years	1.78%	0.39%	1.10%	1.02%	3.00%
	Growing	2.91%	1.73%	2.21%	3.61%	3.08%
	Shrinking	-1.12%	-1.33%	-1.11%	-2.59%	-0.09%
Spain	All years	1.84%	0.56%	1.13%	0.36%	3.79%
	Growing	2.78%	1.63%	2.45%	2.07%	3.89%
	Shrinking	-0.94%	-1.07%	-1.32%	-1.71%	-0.10%
14 European	All years	1.75%	1.22%	1.23%	1.26%	2.70%
countries	Growing	2.67%	2.22%	1.88%	3.49%	2.84%
	Shrinking	-0.91%	-1.00%	-0.65%	-2.24%	-0.14%
USA	All years	1.84%		1.77%	1.64%	2.04%
	Growing	2.95%		2.80%	4.05%	2.29%
	Shrinking	-1.11%		-1.03%	-2.42%	-0.26%
New World	All years	1.79%		1.62%	1.29%	1.92%
	Growing	2.99%	5.77%	3.01%	3.31%	2.24%
	Shrinking	-1.20%	-2.08%	-1.39%	-2.03%	-0.32%
18 European	All years	1.80%	1.40%	1.31%	1.23%	2.55%
& New World	Growing	2.72%	2.47%	2.10%	3.33%	2.72%
countries	Shrinking	-0.92%	-1.08%	-0.79%	-2.09%	-0.16%

Source: Derived from Maddison (2010).

Table 6: Very Long Run Data Base: The Frequency of Growing and Shrinking

		1270-1348	1348-1400	1400-1450	1450-1500	1500-1550	1550-1600	1600-1650	1650-1700	1700-1750	1750-1800	1800-1870
GB												
	Growing	0.58	0.50	0.58	0.54	0.56	0.42	0.50	0.56	0.50	0.54	0.61
	Shrinking	0.42	0.50	0.42	0.46	0.44	0.58	0.50	0.44	0.50	0.46	0.39
NL												
	Growing		0.58	0.64	0.50	0.62	0.62	0.46	0.46	0.54	0.56	0.66
	Shrinking		0.42	0.36	0.50	0.38	0.38	0.54	0.54	0.46	0.44	0.34
Italy												
	Growing	0.58	0.56	0.42	0.50	0.50	0.52	0.54	0.60	0.54	0.50	0.59
	Shrinking	0.42	0.44	0.58	0.50	0.50	0.48	0.46	0.40	0.46	0.50	0.59
Spain												
	Growing	0.66	0.56	0.50	0.46	0.48	0.46	0.46	0.56	0.48	0.52	0.66
	Shrinking	0.34	0.44	0.50	0.54	0.52	0.54	0.54	0.44	0.52	0.48	0.34

Sources: Derived from Broadberry et al. (2015a); van Zanden and van Leeuwen (2012); Malanima (2011); Álvarez-Nogal and Prados de la Escosura (2013).

Table 7: Very Long Run Data Base: Average rate of change of per capita income in all years, growing years and shrinking years

		1270-1348	1348-1400	1400-1450	1450-1500	1500-1550	1550-1600	1600-1650	1650-1700	1700-1750	1750-1800	1800-1870
GB	All years	0.04	0.64	-0.04	0.02	-0.05	0.04	-0.31	1.07	0.23	0.43	0.79
	Growing	4.29	6.45	4.15	3.02	2.48	9.31	5.92	7.23	4.76	2.47	3.00
	Shrinking	-5.76	-5.16	-5.83	-3.51	-3.28	-6.66	-6.54	-6.77	-4.31	-1.98	-2.73
NL	All years		0.60	0.28	0.12	0.42	0.78	0.02	-0.49	0.22	0.21	0.46
	Growing		3.96	3.80	2.09	5.39	8.65	11.93	5.87	5.27	4.77	2.49
	Shrinking		-3.98	-5.99	-1.86	-7.68	-12.05	-10.13	-5.91	-5.70	-5.61	-3.43
Italy	All years	-0.18	0.28	0.08	-0.35	-0.14	-0.10	0.05	0.11	0.08	-0.23	0.23
	Growing	2.44	6.09	7.77	3.39	4.29	3.05	2.68	1.70	1.90	1.76	2.23
	Shrinking	-3.78	-7.05	-5.43	-4.08	-4.56	-3.51	-3.04	-2.28	-2.06	-2.23	-2.60
Spain	All years	0.10	-0.20	0.03	0.03	0.10	0.00	-0.52	0.34	-0.08	0.31	0.39
	Growing	1.35	1.30	1.72	2.80	5.14	3.58	3.55	5.40	3.52	4.18	2.65
	Shrinking	-2.35	-2.09	-1.66	-2.32	-4.54	-3.04	-3.99	-6.11	-3.40	-3.87	-3.93

Sources: Derived from Broadberry et al. (2015a); van Zanden and van Leeuwen (2012); Malanima (2011); Álvarez-Nogal and Prados de la Escosura (2013).

Table 8: Very Long Run Data Base: Contributions of growing (frequency*rate) and shrinking (frequency*rate) to long run economic performance (average rate of change of per capita income in all years)

		1270-1348	1348-1400	1400-1450	1450-1500	1500-1550	1550-1600	1600-1650	1650-1700	1700-1750	1750-1800	1800-1870
GB	All years	0.04	0.64	-0.04	0.02	-0.05	0.04	-0.31	1.07	0.23	0.43	0.79
	Growing	2.48	3.22	2.41	1.63	1.39	3.91	2.96	4.05	2.38	1.34	1.85
	Shrinking	-2.44	-2.58	-2.45	-1.62	-1.44	-3.87	-3.27	-2.98	-2.15	-0.91	-1.05
NL	All years		0.60	0.28	0.12	0.42	0.78	0.02	-0.49	0.22	0.21	0.46
	Growing		2.28	2.43	1.05	3.34	5.36	5.49	2.70	2.85	2.67	1.64
	Shrinking		-1.69	-2.16	-0.93	-2.92	-4.58	-5.47	-3.19	-2.62	-2.47	-1.18
Italy	All years	-0.18	0.28	0.08	-0.35	-0.14	-0.10	0.05	0.11	0.08	-0.23	0.23
	Growing	1.41	3.40	3.23	1.69	2.14	1.59	1.45	1.02	1.02	0.88	1.31
	Shrinking	-1.59	-3.12	-3.15	-2.04	-2.28	-1.69	-1.40	-0.91	-0.95	-1.12	-1.08
Spain	All years	0.10	-0.20	0.03	0.03	0.10	0.00	-0.52	0.34	-0.08	0.31	0.39
	Growing	0.89	0.72	0.86	1.29	2.47	1.65	1.63	3.03	1.69	2.17	1.74
	Shrinking	-0.79	-0.92	-0.83	-1.25	-2.36	-1.64	-2.15	-2.69	-1.77	-1.86	-1.35

Sources: Derived from Broadberry et al. (2015a); van Zanden and van Leeuwen (2012); Malanima (2011); Álvarez-Nogal and Prados de la Escosura (2013).

TABLE 9: Very Long Run Data Base: Correlations between growing frequencies, growing and shrinking rates and long run economic performance

Variable 1	Variable 2	R
Great Britain		
Growing rate	Long run performance	0.12
Growing frequency	Long run performance	0.29
Growing rate	Shrinking rate	0.82
Netherlands		
Growing rate	Long run performance	-0.09
Growing frequency	Long run performance	0.77
Growing rate	Shrinking rate	0.88
Italy		
Growing rate	Long run performance	0.25
Growing frequency	Long run performance	0.34
Growing rate	Shrinking rate	0.88
Spain		
Growing rate	Long run performance	0.26
Growing frequency	Long run performance	0.50
Growing rate	Shrinking rate	0.88

Figure 1: Elite matrix with no courts:

Rule Based agreements that can be sustained.

	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

Figure 2: Elite matrix with identity rules:

Rule Based agreements that can be sustained.

	1	2	3	4	5	6
1						
2	X					
3	X	X				
4	X	X	X			
5	X	X	X	X		
6	X	X	X	X	X	

Figure 3: Elite matrix with intra- and inter-coalition trade

	1A	2B	3A	4B	5A	6B
1A						
2B	X					
3A	A	X				
4B	X	B	X			
5A	A	X	A	X		
6B	X	B	X	B	X	

Figure 4: Elite matrix with only intra-coalition trade

	1A	2B	3A	4B	5A	6B
1A						
2B						
3A	A					
4B		B				
5A	A		A			
6B		B		B		

Figure 5: Smithian growth in the elite matrix

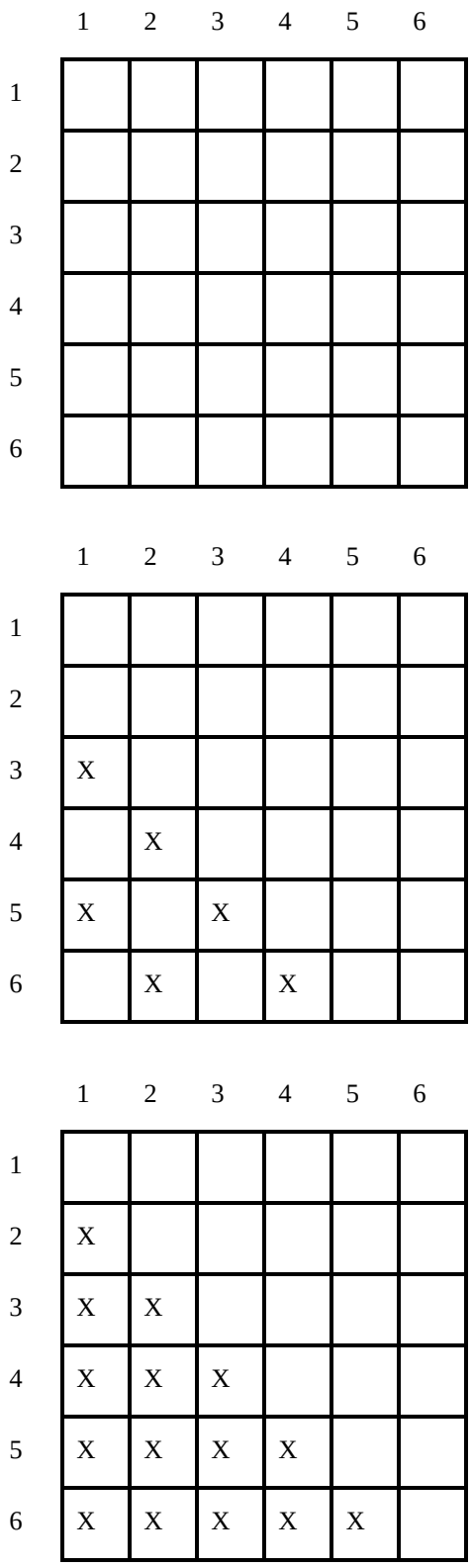

Figure 6: Elite matrix with impersonal rules:

Rule Based agreements that can be sustained.

	1	2	3	4	5	6
1		1	1	1	1	1
2	X		X	X	X	X
3	X	X		X	X	X
4	X	X	X		X	X
5	X	X	X	X		X
6	X	X	X	X	X	

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