Institutional Tension

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Abstract
Acemoglu et all (2001/2002) use an instrumental variable approach to show that the general institutional set up within a country, as determined by its colonial history, has an impact on the country’s prosperity. Their work suggests that imposing the right set of formal institutions will eventually lead to economic prosperity. We build on the previous work in the “getting the institutions right” literature as well as theoretical work by Boettke et al. (2008), Hayek (1960;1973), and Wagner (2007) to show empirically that when an institutional framework lacks the ability to stick it is likely to also have a negative impact on growth, i.e. when formal institutions don’t match the underlying local informal institutions they result in negative consequences for prosperity.

Keywords: Institutions, Development, Culture, Crime
1 Introduction

The “getting the institutions right” literature in development economics suggests that formal as well as informal institutions within countries impact economic development and prosperity. Acemoglu et al (2001/2002) use an instrumental variable approach to show that the general institutional set up within a country, as determined by its colonial history, has an impact on the countries economic performance. Their work suggests that imposing the right set of formal institutions will eventually lead to economic prosperity. Glaeser et al. (2004, 274) on the other hand point out that “The Europeans who settled in the new world may have brought with them not so much their institutions, but themselves, that is, their human capital” suggesting that formal institutions as such will not be sufficient to achieve the desired outcome of economic prosperity.

On a similar note Tabellini (2005) and Knack and Keefer (1997) highlight the importance of informal institutions and culture for economic performance, and Williamson and Kerekes (working paper) isolate the impact of formal versus informal institutions on property rights, suggesting that codification of property rights is not necessary for prosperity. They define informal institutions as follows:

Institutions that are not part of a written legal framework and include private mechanisms that guide everyday transactions. These institutions can be defined as social norms, customs, attitudes, and beliefs that define a way of life within a given region. This includes religion, ideas about right and wrong, and rules on enforcement. In order to correctly be identified as an institution, it needs to be somewhat persistent over time to show depth and durability.

While suggesting that formal institutions don’t tell the whole story, the empirical evidence on whether formal institutions are necessary for economic performance is indecisive and detail on the interaction between formal and informal institutions is sparse. Boettke et al. (2008) use the Regression theorem as developed by Mises (1912) to provide a framework for
institutional stickiness, i.e. the ability of new institutional arrangements to take hold. They argue that for formal institutions to stick, they have to match the underlying informal norms and customs.

In this paper we build on the previous work as outlined above as well as theoretical work by Hayek (1960;1973) as well as Wagner (2007) to show empirically that when an institutional framework lacks the ability to stick it is likely to also have a negative impact on growth, i.e. when formal institutions don’t match the underlying local informal institutions they result in negative consequences for prosperity. More specifically Wagner (2007, XX) suggests that there is a difference between conjunctive political economy, where “an exogenous state intervenes into the market-generated arrangements”, and disjunctive political economy, “of governmental activity as emergent from within a society”. Building on Hayek (1960;1973), he points out the distorting effects policy and legislation can have on economic performance and cooperation within a society generally.

2. Institutional Tension: Theory and Empirics

In this paper we argue that imposition of a set of formal institutions, which have not evolved based on local informal institutions, lead to institutional tension, which similar to distortive policy and legislation as described by Wagner, has a negative effect on prosperity and the level of cooperation within a society. We design a measure of institutional tension, i.e. the divergence between formal and informal institutions, and estimate its impact on GDP per capita. In addition we use data on corruption, victimization, reported crime and prison statistics as indirect measures for institutional tension. The intuition behind our choice of these statistics as measures for institutional tension is that with the imposition of a set of formal institutions, which are not indigenous, legislation is created making some interactions between economic agents illegal, which by the standards of the local informal institutions are
permissible. This push of whole chunks of societal interactions into illegality is measurable through crime statistics, victimization and corruption.

An example of illegal informal institutions are for instance Hawala networks in India or the Middle East, these networks provide financial intermediation functions, which are historically rooted in the local customs and culture, yet are illegal within the modern nations states, shaped by formal western institutions. Their illegality mainly stems from the inability of government agencies to monitor Hawala transactions and impose taxes, furthermore they subvert monetary restrictions by enabling individuals to send money, particularly remittances, around the world and exchange between currencies at black market rates for currencies that otherwise might have a fixed or regulated exchange rate. Evidence for the existence of Hawala networks reaches back as far as the 11th century and they emerged specifically where formal enforcement of internal transactions was absent (Schaeffer working paper).

In their investigation of institutional stickiness, Boettke et all (2008) distinguish between foreign-introduced exogenous (FEX), indigenously-introduces exogenous (IEX), and indigenously-introduced endogenous (IEN) institutions to describe the origin of institutional arrangements within a society. They point out that even FEX institutions have the ability to stick if they are corresponding to the underlying skills, culture, norms and conventions within a country. They add however, that stickiness is not a measure of the efficiency or the ability of the institutional arrangement to generate prosperity.

Boettke et all give an example of a mismatch between formal and informal institutions citing Robert Blewett’s (1995) study of the pastoral policy of the Maasai in Kenya:

Pre-colonization, the Maasai followed a practice of communal ownership governed by tacit norms of restricted access. This practice evolved as a method to reduce the transaction costs associated with the collective action necessary for cooperation, including pastoral coordination and environmental risk management. British colonial rule, however, substituted explicit contracts for the tacit norms governing land usage in practice. Explicit contracts did not codify an existing IEX or IEN institution, but instead were created in direct conflict with existing underlying mètis about land usage. As a result, the
complex IEN institutional land structure of the Maasai was disrupted, and the long-term viability of the common land was destroyed. According to Blewett, this destruction undermined the existing Maasai social structure that enabled cooperative agriculture and created a situation of rampant conflict among formerly cooperative agents that manifested itself in the form of rent-seeking activities.

This example suggests that tension between a set of formal institutions and the underlying informal institutions results in conflict and individual behavior that is not conducive to growth. As our example of the Hawala networks illustrates, institutional tension can even result in criminalizing behavior, which based solely on the informal norms and customs would not be considered divergent.

Tension should accordingly result in an increase in observable criminal behavior. The literature on crime and development (Soares 2004) shows that crime decreases with economic development; we propose, extending on this observation, that crime is an indicator of institutional tension and that institutional tension is what prevents economic prosperity and the evolution of an efficient set of local formal institutions.

3 Data and Empirical Strategy

Institutional Tension

Data from the International Country Risk Guide (see for example Acemoglu et al. 2002) is used in the development literature as a proxy for formal institutions. Glaeser et al. (2004) argue however that it is merely a measure of short-term policy rather than formal institutions. They instead use constitutional constraints on the executive as a measure of formal institutions. More specifically they use electoral rules (Plurality and Proportional Representation ¹) and judicial checks (judiciary independence and judicial review) to proxy formal institutions.

¹ Plurality captures if a legislator is elected with a winner take all strategy, where as proportional representation measures if a legislator is elected to parliament in a proportional representative system.
We integrate these two approaches and measure formal institutions as an aggregate of a country's Political Risk score in the International Country Risk Guide (2002), its score in the Fraser Economic Freedom Index in the category of judicial independence, as well as the two measures of electoral rules (Plurality and Proportional Representation) as used by Glaeser et al., as proxies for constraints on the executive.

For our measure of informal institutions we follow Tabellini (2005), who proxies for informal institutions using data on culture, and in constructing his measure of culture builds on an existing literature in sociology, which has identified four specific cultural traits that are especially conducive to economic development. More specifically his measure of culture is composed of scores from the World Value Survey for trust, respect, individual self-determination, and obedience within a country. Whereas trust, respect, and self-determination are interpreted as being conducive to market production and entrepreneurship, obedience is expected to have a negative effect on economic development because it encourages subordination to authority and parentalism.²

We construct our measure of institutional tension, by subtracting each country’s formal institutions score from its informal institutions score. The resulting measure of institutional tension is negative for countries in which the informal institutions, as rooted in the countries' culture, are less conducive to development and prosperity than the countries' set of formal institutions. The measure is positive for countries in which the informal institutions are more conducive to development and prosperity than the formal institutions. Our intuition suggests that in each case the less conducive of the two categories of institutions is binding, i.e. if informal institutions don’t support individual property rights, cooperation, and trade, prosperity will not be achieved even if the formal institutions protect property rights and constrain the executive. Similarly where institutions are supportive of individual property

² Buchanan defines parentalism as the demand for paternalistic policy by a population.
rights, cooperation, and trade, but constitutional constraints on the executive do not exist or the political system is very unstable, prosperity will be hard to achieve as well.

For our indirect measures of institutional tension we use data on crime, victimization, and corruption from the United Nations Interregional Crime and Justice Research Institute (UNICRI). Our prison population statistics were obtained from Centre of Prison Studies at King’s College (London). We obtained GDP statistics from the United Nations Common Database.

**Empirical Set-up**

To test our hypothesis of institutional tension hampering economic prosperity we propose the following relationship:

\[ Y = F(I,X) \]

Where \( Y \) is a measure of economic performance, \( I \) is our measure of informal institutions and \( X \) our measure of formal institutions. The interaction between \( I \) and \( X \) determines the degree of institutional tension, which in turn has an impact on economic performance.

Furthermore we propose that the existence of institutional tension leads to directly observable behavior which is captured by corruption, crime and victimization statistics. This connection between institutional tension and these indirect measures of institutional tension can be represented as follows:

\[ F(I,X) = C, V, R \]

Where \( F(I,X) \) is our measure of institutional tension between formal and informal institutions, \( C \) is the amount of reported crime, \( V \) is the percentage of the population which has been victimized, and \( R \) is a measure of perceived corruption within a society.
These indirect measures of institutional tension also have a direct effect on economic performance, which can be expressed as follows:

\[ Y = F(C,V,R) \]

### 4 Results

The data used in this regression is a panel composed of 70 countries over the period from 1991-2007. Table 1 below, reports the estimated coefficients obtained in simple OLS regressions of our measure of tension, as well as the indirect measures of tension on per capita GDP. As can be seen all of the estimated coefficients are statistically significant. Our tension measure ranges from –1, indicating that formal institutions exceed formal institutions in their conduciveness to growth, to +1 indicating that informal institutions exceed formal institutions in their supportiveness of growth. Accordingly its impact on GDP per capita as estimated is positive, i.e. as institutional tension decreases or as the measure becomes less negative, per capita increases. This supports the assumption that negative institutional tension, i.e. informal institutions that are relatively unsupportive of growth, has a negative effect on prosperity. However, it does not support the hypothesis that formal institutional constraints are binding when informal institutions are relatively more supportive of growth. Instead what seems to be going on here is that informal institutions drive the result, i.e. they are more important for development than informal institutions. This can also be seen in Figure 1.
Figure 1: Scatter plot of our tension measure and GDP per capita. The trend line indicates that as tension becomes positive GDP increases.

At the first glance our indirect measures of tension seem to support our hypothesis only partially. While victimization statistic, prison population, and perceived corruption all have negative effects on prosperity, the coefficient on property crime is positive, suggesting that as property crime increases, GDP increases. However, Soares (2004) suggests that reporting behavior differs across countries, and more specifically, that reporting of crime is usually lower in less developed nations. Accounting for reporting behavior he finds that recorded crime decreases with development. Assuming that this is also the reason for our positive coefficient on reported property crime, we conclude that the result actually supports our theory of increased tension resulting in less prosperity.

Soares theory is substantiated by our estimated effect of victimization on prosperity. The victimization percentage measures the percentage of a country's population, which has been a victim of a certain criminal act, irrespective of the crime being reported to the police (this statistic is based on survey data). The estimated coefficient of the victimization rate for car theft on GDP per capita is negative, which indicates that as car theft increases GDP per capita decreases (see appendix for scatter plot of car theft victimization and GDP).
Table 1: Tension Measure, Indicators of tension and their impact on GDP per capita

<table>
<thead>
<tr>
<th>Tension Measure</th>
<th>20,168.28</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(4.69)</td>
</tr>
<tr>
<td>Property Crime per Capita</td>
<td>36,2993.6</td>
</tr>
<tr>
<td></td>
<td>(15.19)</td>
</tr>
<tr>
<td>Car theft victimization</td>
<td>-2,206.961</td>
</tr>
<tr>
<td></td>
<td>(-9.8)</td>
</tr>
<tr>
<td>Inmates per 100K population</td>
<td>-16.25201</td>
</tr>
<tr>
<td></td>
<td>(-2.41)</td>
</tr>
<tr>
<td>Perceived Corruption*</td>
<td>4,371.057</td>
</tr>
<tr>
<td></td>
<td>(34.99)</td>
</tr>
</tbody>
</table>

*Perceived Corruption based on survey data, scale from 0-10, where 0 = “totally corrupt” and 10 = “totally clean”

Similarly the coefficient of prison population per 100,000 citizens is also negative, indicating that GDP decreases with an increase in a country’s prison population. More specifically an increase in the rate of inmates per 100,000 inhabitants by 1 prisoner leads to a decrease in per capita GDP of $16. Given the large differences in the rate of inmates per 100,000 inhabitants between the countries in our dataset, it seems that this variable can have a significant impact on GDP per capita. The difference between the countries with the highest and the lowest rate of inmates per 100,000 is fairly large with 729 inmates more per 100,000 inhabitants. This difference would, according to our results, imply a difference in per capita GDP of $11,646 per year.

The coefficient on perceived corruption is positive. Since perceived corruption is measured on a scale from 0 to 10, 0 representing “totally corrupt” and 10 representing “totally clean”, this result also supports our hypothesis, i.e. as corruption decreases (increasing index score) GDP per capita increases (see appendix for scatter plot of perceived corruption index and GDP).

None of our results establish a direction of causality between institutional tension and prosperity since we are using a simple OLS specification to test our hypothesis. However, we
believe that our results give a useful first impression of how important and wide-spread the effects of a divergence between the underlying cultural norms and values and a formal institutional framework can be. Further research should focus on establishing causality between institutional tension and economic development by using other empirical tools.

5 Conclusion

As Boettke et al. (2008) suggest, imposing a set of formal institutions is not a panacea for the developing world and an evolutionary approach to institutions, while requiring patients and non-intervention, seems much more promising. Our results substantiate this theoretical insight, which can be traced back to Hayek (1962) and furthermore suggest that imposing exogenous formal institutions might actually hamper growth and divert development and economic activity into inefficient activities, such as rent seeking, corruption, and the general circumvention of obsolete formal constraints. While economic entrepreneurs might be able to find ways around these exogenous constraints, they certainly result in a sub-optimal level of economic development and prosperity. Development policy as prescribed by international institutions might actually harm developing nations.
References


Schaeffer, Emily. Working paper. Hawala Networks: Self-Enforcing Exchange on an International Scale


Appendix

Figure 2: Scatter plot of car theft victimization rate and GDP per capita. The trend line indicates that as the percentage of the population, which has been a victim of car theft increases, GDP per capita decreases.

Figure 3: Scatter plot of corruption and GDP per capita. The trend line indicates that as corruption decreases (increasing score) GDP increases.