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# Which mechanisms support the fulfillment of sales agreements? Asking decision-makers in firms

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## Abstract

A new methodology measures the importance of different mechanisms for supporting agreements. Romanian company directors were surveyed on a full complement of mechanisms. Bilateralism is preponderant and law used extensively, with third parties less important. These three are non-complementary.

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## 1. Introduction

An isolated agreement between a buyer and seller is usually not self-enforcing. Fulfillment usually rests on some factor lying outside the single interaction, for example repeated interaction, personal trust, third-party intervention, or the force of law. This paper presents a methodology for empirically assessing the relative importance of different mechanisms for supporting agreements.

There are diverse views on which mechanisms are most used. While Williamson (2000, p. 599) emphasizes bilateral private ordering, North (1991, p. 100) stresses the importance of formal legalities. However, bilateralism and law are only two ends of a spectrum. There are also mechanisms that involve third parties but fall short of legal formalities. Greif (1997) highlights collectivist (third-party) as well as individualistic (bilateral) informal enforcement; social networks are all important in the sociological literature (Granovetter, 1985; Uzzi, 1996). In transition countries, criminal groups are said to enforce agreements (Volkov, 1999).

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The crucial element missing from this picture is a sense of the relative, aggregate importance of each mechanism. To judge aggregate importance, empirical work must satisfy three criteria. First, it should cover the full complement of mechanisms, producing comparable data on each. Second, the data must cover a wide swathe of an economy, not a niche activity. Third, results must reflect amount of use, rather than only establish existence of a mechanism, as often occurs in econometric or case studies.

This paper presents a methodology that simultaneously satisfies these three criteria. It describes an application to Romania, the results of which bear on some popular hypotheses current in the literature.

## 2. Asking companies how agreements are supported

Facts on the methods a company uses to support agreements are hidden within a welter of company decisions. No company official could go to records and obtain the information that we seek. But behavior reflects a choice among strategies for enforcing agreements. Company officials must be influenced by past experience gained in using different strategies. Why not ask these officials what they know?<sup>1</sup>

Following the literature, we identify six conceptually distinct, general methods of supporting agreements. They are summarized in Table 1, which provides an English translation of the questions posed to Romanian company officials. The questions' phrasing reflects many compromises dictated by the nature of the information to be collected, by the data-collection method (a questionnaire), and by the types of respondents (company directors). The need for compromise is transparent. The justification for nevertheless proceeding is that the question generates data that fills gaps in the existing evidence by satisfying the three criteria listed in the Introduction.

In the second quarter of 2001, the question in Table 1 was presented to officials of 254 companies located in 12 different Romanian cities.<sup>2</sup> The question was one element of a closed-ended questionnaire administered in face-to-face interviews with company general directors.<sup>3</sup> The respondents could view and study the question. The conceptual nature of the question posed no obstacle for respondents, perhaps because of high levels of education, 81% being university graduates and 25% having done postgraduate studies.

## 3. Responses from Romanian companies

Let  $X_{ij}$  be the score given by company  $j$  to the  $i$ th of the methods listed in Table 1. These  $X_{ij}$  are essentially efficiency-weighted levels of inputs into the production of an output, the support of agreements. Patterns in usage become clearer after normalizing the  $X_{ij}$  by the total of a firm's  $X_{ij}$ ,

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<sup>1</sup>See Blinder (1994, p. 118): "... the theories share one aspect in common: each traces a chain of reasoning that allegedly leads the decision maker to conclude that [doing some particular thing is in the] firm's best interests. It struck me that if a particular [decision-maker] actually follows such a chain of reasoning, *he might just know it.*"

<sup>2</sup>The requirements of the overall project meant that the smallest (less than 50 employees) companies were excluded and that the firms were confined to the industrial, construction, transportation, and wholesale sectors.

<sup>3</sup>Where necessary a substitute was used who was close to the General Director and had a good overall knowledge of the operations of the enterprise. In 81.5% of firms, the general director responded.

Table 1

The question posed to company directors: All over the world, businesses confront problems when developing trading relations, negotiating agreements, and transacting with suppliers and customers. Lawyers and economists often identify six different methods that businesses use when constructing viable trading relations and when preventing or resolving problems that arise when implementing transactions. These six methods are defined in the table below. Familiarize yourself with the definitions in the table. These definitions are somewhat complicated, so please make sure you are comfortable with them all, before going ahead and giving your responses. Please rate the importance of each of the following methods for your firm. Your rating should reflect both frequency of use and effectiveness. Please use a scale from 0 to 10: '0' means that either you never use the method or the method is totally ineffective; '10' means that you use the method in a very large percentage of transactions and it is very valuable to your business

| Method   | Description  | Respondent's rating on a scale from 0 to 10 |
|--|--|---|
| (1) Personal relationships and trust             | When supplier and customer trust each other to fulfill an agreement and to resolve problems in mutually beneficial ways. This trust can be the result of long-standing business relationships or because of personal ties that have developed outside business   |   |
| (2) Relying on each other's own incentives       | When supplier and customer know that each other will fulfill an agreement or will resolve a dispute in mutually beneficial ways because it is in the business interests of both to keep trading smoothly with each other in the future   |   |
| (3) Third-party social or business relationships | When supplier or customer can use (or threaten to use) the intervention of third-party firms or private individuals to prevent or resolve transactional problems. Such help might be obtained from other firms (e.g. members of a trade association, other suppliers or customers) or from important members of the community (e.g. community business leaders, leaders of social organizations) |   |
| (4) Using private dispute resolution services    | When supplier or customer can pay for privately provided dispute resolution or enforcement (or threaten to use these). Such provision can be done by arbitration courts, legally registered security firms, or even criminal groupings   |   |
| (5) Government                                   | When supplier or customer can use (or threaten to use) the help of government officials in preventing or resolving transactional problems  |   |
| (6) The legal system                             | When supplier or customer frame their agreements so that they can easily file suit in court (or threaten to file suit) if disputes do arise  |   |

generating  $Y_{ij} = 100 \cdot X_{ij} / \sum_{k=1}^6 X_{kj}$ . This is analogous to focusing on cost shares or input–output coefficients. Use of these relative measures could also reduce the subjective element in responses since different respondents might have different subjective interpretations of the scale in Table 1.

Aggregate statistics on the  $X_{ij}$  and  $Y_{ij}$  appear in Table 2. Several observations suggest themselves in the light of existing literature. Purely bilateral mechanisms are by far the most important,<sup>4</sup> justifying the emphasis placed on these by Williamson (2000, p. 99), but perhaps falling short of the more extreme implications drawn from Macaulay's (1963) seminal work. North's (1991) focus on formal

<sup>4</sup>Similar conclusions based on less complete evidence appear in Macaulay (1963) on the US, Fafchamps (1996) on Ghana, Hendley et al. (2000) on Russia, and Johnson et al. (2002) on five transition countries. Arrighetti et al. (1997) is an exception to this conclusion.

Table 2

The mechanisms that Romanian companies use to support their agreements with customers and suppliers

| Method of supporting agreements                  | Means of responses from 254 companies    |   |
|--|--|---|
|  | Responses on the 0–10 scale ( $X_{ij}$ ) | Responses normalized to total 100 for each company ( $Y_{ij}$ ) |
| (1) Personal relationships and trust             | 8.27<br>(2.14)                           | 27.27<br>(9.60)   |
| (2) Relying on each other's own incentives       | 8.57<br>(1.91)                           | 28.20<br>(9.37)   |
| (3) Third-party social or business relationships | 3.83<br>(3.07)                           | 10.93<br>(8.28)   |
| (4) Using private dispute resolution services    | 2.45<br>(2.97)                           | 6.55<br>(7.57)  |
| (5) Government                                   | 2.37<br>(2.94)                           | 6.35<br>(7.68)  |
| (6) The legal system                             | 6.59<br>(3.14)                           | 20.70<br>(11.44)  |

Standard errors of responses in parentheses.

legal mechanisms does receive some support even in this inhospitable transition environment. Bilateralism and formal legal tools supply the bulk of the support for agreements in Romania, over 75% if one is willing to accept these numerical scores at face value.

The minor role of middle-range mechanisms is striking, especially in the transition environment where economic turbulence hinders the repeated interactions that foster bilateralism and where legal systems suffer the lasting effects of neglect under communism. In contrast, the transition literature emphasizes the survival of old networks (method 3), the role of criminal groups (method 4), and the interventionism of governmental administrations (method 5). Yet, despite this fertile ground, the three middle-range mechanisms together account for only as much support of agreements as the supposedly ineffective legal system. These results suggest an over-emphasis in the literature in recent years on networks (Granovetter, 1985; Uzzi, 1996), criminal groups (Volkov, 1999), and other informal third-party mechanisms. The reason for this, we suggest, is that much of the interest in these mechanisms derives from fascinating case studies of highly specific activities rather than from measures of aggregate importance.

#### 4. Patterns in the data

Table 3 presents the correlation matrix for the six  $Y_{ij}$ . Responses on the two bilateral methods are positively correlated with each other but negatively correlated with all others. Responses for the legal system are negatively correlated with all others. Thus, there is no evidence to support the conclusion of Arrighetti et al. (1997, p. 171) that law and bilateral cooperation go hand in glove. Also, these correlations do not support the claim that there is more complementarity between the legal system and

Table 3

Patterns in the use of mechanisms to support agreements: correlation coefficients between the normalized company responses ( $Y_{ij}$ )

|   | (1)<br>Personal<br>relationships<br>and trust | (2)<br>Relying on<br>each other's<br>own<br>incentives | (3)<br>Third-party<br>social or<br>business<br>relationships | (4)<br>Private<br>dispute<br>resolution<br>services | (5)<br>Government |
|---|---|--|--|---|-------------------|
| (2) Relying on each<br>other's own incentives       | 0.49<br>(0.0001)                              |  |  |   |                   |
| (3) Third-party social or<br>business relationships | -0.33<br>(0.0001)                             | -0.37<br>(0.0001)                                      |  |   |                   |
| (4) Using private dispute<br>resolution services    | -0.44<br>(0.0001)                             | -0.37<br>(0.0001)                                      | 0.12<br>(0.0609)   |   |                   |
| (5) Government                                      | -0.51<br>(0.0001)                             | -0.49<br>(0.0001)                                      | 0.09<br>(0.1483)   | 0.22<br>(0.0004)                                    |                   |
| (6) The legal system                                | -0.36<br>(0.0001)                             | -0.38<br>(0.0001)                                      | -0.28<br>(0.0001)  | -0.22<br>(0.0005)                                   | -0.05<br>(0.4407) |

Probability levels on tests of null hypotheses that coefficients equal zero in parentheses.

second-party sanctions than between the legal system and third-party sanctions (Greif, 1997, pp. 251 and 253).

Responses on the three non-bilateral, non-legal-system mechanisms (3, 4, and 5) are positively correlated with each other and negatively correlated with all others. These correlations suggest the presence of three distinct strategies: bilateral, legal, and resort to other parties. A striking feature of these results is that use of the legal system seems to be a distinct approach, apparently not complementary with anything else.

## 5. Conclusions

The ability to assess the importance of the various mechanisms of supporting transactions is crucial in understanding the role of law in economic development and the ways in which legal reforms should be pursued. Yet, to date, there exists no methodology that generates an aggregate picture of the relative importance of the full complement of mechanisms. In this paper we have proposed such a methodology, shown its feasibility, and demonstrated its usefulness in producing data that bear on standard hypotheses in the literature.

Of course, our method is not without problems. The exact elements to be included in Table 1 are debatable. A natural metric would be better than our arbitrary numerical scale. Our decision to conflate intensity of use and effectiveness might not have been the right one when choosing between simplicity of question and interpretability of answers. However, in the final analysis, the justification for this methodology is that it allows us to shed some light into a dark corner of inter-firm relationships, producing new information that bears on questions that have previously elicited much interest in the literature, but led to little systematic data collection.

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