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Bid-rigging networks and state-corporate crime in the construction industry

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ABSTRACT

This study highlights the symbiotic relationship that may arise between political and business actors in conspiracies organized around public construction bids. Based on a core-periphery social network analysis, the study tracks the emergence of such a conspiracy in the city of Laval (Canada) by illustrating the evolution of bid-rigging networks revolving around suspected and persistent acts of corruption, bid-rigging, and bribery. To assess this process, the study monitors irregular bidding indicators across a data set compiled from more than 7000 public construction tenders that were processed by the city from 1966 to 2013. Findings reveal that firms suspected of bid-rigging activities were perennial core participants largely as a result of a state-corporate crime system that served as the guiding force for agreements between the main construction entrepreneurs.

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As a result of state dependency (Gobert and Punch, 2007), large flows of money (Kenny, 2007), inelastic demand (Abrantes-Metz and Bajari, 2009; Porter and Zona, 1992), and a highly-competitive environment (Goldstock et al., 1989), the public construction market is often considered to be one of the most criminally-inclined industries on the international scene. Various forms of bid-rigging, price-fixing, corruption, and organized crime intrusion have been investigated in Italy (Savona, 2009; Varese, 2011), the Netherlands (Den Heuvel, 2005; Dorée, 2004), China (Ding, 2001; Zou, 2006; Weishaar, 2013), Japan (Hill, 2003; McCormack, 1995; Weishaar, 2013), Australia (Zarkada-Fraser and Skitmore, 2000), and the United States (Goldstock et al., 1989; Gupta, 2001). One of the main criminal problems that emerges in construction industries is bid-rigging, a process by which competing actors cooperate with each other by establishing their own price-fixing mechanisms in order to breach a public procurement system. Private and public entities involved in contracting processes are the primary victims of successful bid-rigging schemes, since cooperating bidders are generally in a position to raise the costs of contracts to above market rates (Brockmann, 2009). When a collusive system becomes successful over an extended period of time and across regular tenders, a small group of construction firms (a cartel) may take turns

in winning contracts in a rotational bidding format. Many strategies can be put into place by such collusive actors to prevent both detection by authorities and defection by cartel members. Agreements specifying that losing firms will submit phantom bids can be established between firms, which would instill a false impression of competition in the bidding process. Subsequently, losing firms often receive subcontracts from the winning firm. Portions of winning firms' profits can also be allotted to losing firms in the form of kickbacks (Goldstock et al., 1989).

The current study addresses the network patterns that underlie the making and sustainment of bid-rigging conspiracies. The proposed framework is designed to track bid-rigging patterns as a social-network construct. Data was compiled through archival research in which information on all construction contracts awarded by public procurement in the history (from 1965 to 2013) of what appeared to be one of Canada's most corrupt and rigged municipalities (Laval, the 13th largest city in the country) were collected. Based on a core-periphery social network analysis of how firms compete against one another, the study's main goal is to assess the structural evolution of suspected bid-rigging networks both within three distinct construction sectors (paving, sewer and lighting) and across a large-scale conspiracy that also involved corruption and bribery activities. By placing Laval's bid-rigging activities within its larger criminal ecosystem, the study challenges two dominant assumptions of the bid-rigging phenomenon.

First, if antitrust activities (including bid-rigging) have traditionally been conceived as illegal arrangements between private business competitors at the expense of the contract-giving party

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(Benson and Simpson, 2009; Canada's Competition Bureau, 2016), this study highlights the symbiotic relationships that may also arise between political (the authority) and business actors (the bidders) within such general schemes. In sectors where corruption, bribery, and bid-rigging are endemic, offenders find themselves in a larger deviant network that transcends organizations and industries. In such contexts, politics and bid-rigging activities do not follow trends of their own, but become inexorably linked to one another, both in terms of structural opportunities and generated motivations. This rationale is consistent with Kramer and Michalowski's (2006) concept of state-corporate crime, an integrated framework that links government entities with business crimes. By encompassing illegal schemes "that occur when one or more institutions of political governance pursue a goal in direct cooperation with one or more institutions of economic production and distribution" (Kramer et al., 2002, p. 263), the state-corporate crime concept centres on the rise of criminal systems fuelled by misbehaviour at the intersection of private and public interests. Linking this concept with the bid-rigging phenomenon will provide scholars with an alternative understanding of the many forms such conspiracies can take, offering a unique and key addition to this field of research's body of knowledge.

Second, insisting on the role of public and elected officials in facilitating bid-rigging conspiracies challenges a dominant assertion amongst industrial economists, namely that "cartels are inherently unstable" (Weishaar, 2013: 33). In a state-corporate crime context, there is a strong likelihood that bid-rigging schemes will be assisted by civil servants and elected officials that help collusive players in their quest to obtain sensitive information (e.g. the price of contract estimates; the list of firms accessing tender documents) which can, in turn, facilitate both the organization and sustenance of conspiracies (CEIC final report, 2015, volume 2: 111, 420; Den Heuvel, 2005). In such environments, private firms and political actors can eventually consolidate their dominant position in their respective sectors across regular mutual (illegal) exchanges, thus securing a historical level of stability absent in most bid-rigging schemes.

Block and Chambliss' (1981) organizing crime concept, which can be conceived as essential to the state-corporate crime phenomenon, provides useful insights into this process. The concept refers to the features under which "organizing crime—the processes that result in organized crimes—is going on constantly and ceaselessly" (Block and Chambliss, 1981: 13). Brodeur (1998) summarized three steps in the organizing crime process. First, conspirators are generally in an organizing mode due to constantly being influenced by evolving illegal opportunities in a given market setting. Second, criminal groups are later in a more advanced organizing mode as they begin to develop alliances with public administration officials who both facilitate, and offer impunity for, their actions. Third, with each passing successful irregular transaction, criminal patterns become increasingly structured within legitimate structures, ultimately reaching a point in which a well-organized conspiracy transcends private and public spheres.

These steps are coherent with Morselli et al. (2012) observations, based on a review of international experiences with construction-related corruption and collusion. They found that in many flawed regulatory environments, sophisticated bid-rigging construction-based schemes could fall under the long-lasting control of a more centralized group of business and political actors. These actors would then be in a position to corner available legal and illegal opportunities to seize and profit from the many vulnerabilities found in this industry. Analyzing bid-rigging networks across an organizing state-corporate crime framework could therefore provide insights into various cartel mechanisms on which research has yet to be conducted (Faulkner et al., 2003).

1. Too close for comfort

Research in the field of bid-rigging can be grouped into three general approaches: 1) industrial economists and auction theorists concentrate on the market and procurement dynamics that underlie bid-rigging schemes, while also generating indicators to improve cartel detection (Abrantes-Metz and Bajari, 2009; Bajari and Summers, 2002; Bajari and Ye, 2003; Harrington, 2008; Porter and Zona, 1992; Weishaar, 2013); 2) criminologists and sociologists are often more concerned with the underlying institutional and structural forces that are responsible for the emergence and persistence of antitrust offenses within private organizations and industries (Baker and Faulkner, 1993; Barlow, 2001; Faulkner et al., 2003; Geis, 1967; Sonnenfeld and Lawrence, 1978); and 3) political scientists focus on illegal public contracting and regulatory mechanisms underlying the corrupted act itself (Bull and Newell, 1997; Della Porta and Vannucci, 1999). The first two approaches are of particular interest for the construction of a social-network model through which Laval's bid-rigging activities could be traced, with the goal of monitoring the evolution of the bid-rigging networks found within this suspected conspiracy.

Keeping track of conspiracies involving systemic illegal exchanges between private and public actors is not an easy task. Conspiracies can occur for years and even decades before being detected. Public or elected officials might also be in a position to limit or terminate external threats of detection. When such detection occurs, it is generally the result of extensive media scrutiny, whistleblowing, or lengthy enforcement efforts to prosecute participants. Most illicit exchanges are conducted behind closed doors, making it practically impossible for researchers or authorities to monitor such behaviour. With direct-observation options largely inaccessible, many researchers have turned to public forms of data, with the creation of several innovative collusion indicators as the end result.

Most models developed to detect collusive activities rely on features such as price and cost asymmetries among competitors, with attention given to variations in the price/cost ratio across time (Bajari and Ye, 2003; Porter and Zona, 1992). Fluctuations in these measures are often considered an indication of the shape of competition within an industry. Irregular patterns are often detected by their stability and consistency. Similarities in bids have consistently been observed in various collusive settings. For example, long-lasting stability and low variance around winning bids have been raised as major flags (Abrantes-Metz and Bajari, 2009; Bajari and Summers 2002). Past research has suggested that flags should be raised when the coefficient of variation for bidders' submitted prices for a contract falls below the seven percent range (Abrantes-Metz et al., 2005; Chassin and Joanis, 2010; Messick et al., 2011; Porter and Zona 1992). Investigating whether market shares are equally or similarly split amongst dominant firms can also be used to screen for potential collusive agreements. Collusive activities could be suspected when winning firms' market shares remain too stable over an extensive period of time or when shares tend to be distributed rather evenly between competitors across time (Abrantes-Metz and Bajari, 2009). In short, when such patterns become too consistently similar, competition has become too close for comfort, and problems are quite likely present.

Another approach to studying whether various features of a construction industry are too similar is to examine interactions between competitors. Bid-rigging requires cooperative arrangements between actors that are supposed to be in competition. However, in the area of bid-rigging studies, there is little research on the networks underlying such conspiracies. If we were to expand past research to include a wider range of bid-rigging schemes, Baker and Faulkner's (1993) study of price-fixing in Tennessee's heavy electrical industry during the 1950s constitutes a useful guide.

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