SUPER-CORRUPTION AND ITS IMPLICATIONS FOR CRIMINAL PROSECUTION

SUPER CORRUPÇÃO E SUAS IMPLICAÇÕES PARA O PROCESSO CRIMINAL

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> SUMÁRIO: Introdução; 1 The "Lava Jato" Network; 1.1 The "Lava Jato Brazil" Network; 1.2 The "Lava Jato Peru" Network; 2 The "Lava Jato" Super-structure; 3 Final discussion: Super-Corruption and its Implications; Bibliography.

RESUMO: Ao aplicar a análise criminal de redes, é possível identificar características complexas das redes de super-corrupção. O objetivo deste artigo é discutir as implicações dessa complexidade no processo criminal de super-corrupção, discutindo a super-rede "Lava Jato". O artigo possui quatro partes. Após a introdução, a segunda parte apresenta as características das redes "*Lava Jato Brazil*" e "*Lava Jato Peru*". A terceira parte apresenta a super-rede de corrupção "*Lava Jato Brazil and Peru*". Na quarta parte, são discutidas as implicações para o processo criminal.

PALAVRAS-CHAVE: Análise Criminal de Redes. Super-corrupção; Lava Jato Brasil. Lava Jato Peru. Persecução Penal.

ABSTRACT: Applying Criminal Networks Analysis, it is possible to analyze complex characteristics of super-corruption networks. The objective of this article is to discuss implications of that complexity in prosecution of super-corruption, by discussing "Lava Jato" supernetwork. The article consists of four parts. After the introduction, in the second part the characteristics of the networks "Lava Jato Brazil" and "Lava Jato Peru" are presented. In the third part it is presented the super-network of corruption "Lava Jato Brazil and Peru". In the fourth part the implications for prosecution are discussed.

KEYWORDS: Criminal Network Analysis; Super-Corruption; Lava Jato Brazil. Lava Jato Peru. Criminal Prosecution.

INTRODUCTION

Although prosecution and sanction of crimes are conducted through *cases*, systemic corruption (Klitgaard, 1998), the most harmful type of corruption, is a process and not a collection of cases. Types of systemic corruption -such as *grand corruption* (Rose-Ackerman, 2002) or *macro-corruption*, and *institutional co-optation* (Garay Salamanca, Salcedo-Albarán, & Macías, 2018)- are systems and continuums of individuals and social groups that interact across time. Therefore, for instance, Chayes (2017) describes corruption observed in Honduras as an *operating system*.

Systems consists of interacting parts, and social systems consist of interacting social agents. Even when a *case* of systemic corruption finishes through a judicial sentence, it is naïve to expect that every component of the system stops operating and that no further political, social and economic repercussions happen, especially when the system is complex. Therefore, even when a defendant involved in a case of systemic corruption is convicted, the corrupt system continues operating. This systematicity, sometimes acknowledged in the analysis of crime as "multinational systemic crime" (Wang & Wang, 2009), has been particularly registered in corruption in Latin America (Rotberg, 2019).

Although the concept of *organized crime* doesn't imply the dynamism of criminal *systems*, it is commonly used to refer criminal phenomena that "involves the pursuit of profit through illegal activities by an organized hierarchy that shows continuity over time" (Varese, 2017, p. 28). However, the hierarchical continuity implied by the *organized crime* concept is practically non-existent in social reality; as a dynamic phenomenon, systemic corruption is better understood through the conceptual lens of *connections, networks* and *systems*, than through concepts referring to stationary organization and hierarchy. This explains why the concept of *network* "entered a (still limited) number of definitions of organized crime" since the nineties (Varese, 2017, p. 35).

A *network*, defined as a set of nodes, permanently changes across time, especially when it is social. When nodes that represent social agents connect and disconnect, the size and structure of social networks change; therefore, in practical terms social networks don't remain in permanent stasis (Csermely, 2006). Since networks of systemic corruption are complex, they are dynamic, composed by changing entities and changing hierarchies.

To analyze the complexity and dynamicity of systemic corruption, in the last decade various theoretical and methodological approaches have been proposed. For instance, Garay *et al* (2008) defined *Co-opted State Reconfiguration* as an ulterior stage of systemic corruption that involves private and public agents interacting in lawful and unlawful social sectors, not only through bribery. Subsequently, by applying the methodological approach of *criminal networks analysis* it has been empirically observed that networks of Co-opted State Reconfiguration sometimes involve hundreds or even thousands of interacting social agents.

The methodological framework of *criminal networks analysis* used in this paper allows "understanding individual and group characteristics of natural and juridical agents, as well as their types of interaction" (Garay-Salamanca, Salcedo-Albarán, & Macías, 2018a). Criminal networks analysis is based on Social Networks Analysis concepts and methodologies (Degenne & Forsé, 1999; Carrington, Scoot, & Wasserman, 2005; Csermely, 2006; Borgatti, Mehra, Brass, & Labianca, 2009), and it is mainly applied to integrate large datasets of interactions (DoIs), to model and analyze structural characteristics of large-scale illicit networks. Those illicit networks have been observed and analyzed at the local, regional and national levels of countries in Latin America (Garay-Salamanca, Salcedo-Albarán, & Beltrán, 2010b; Garay Salamanca & Salcedo-Albarán, 2012; Garay & Salcedo-Albaran, 2012; Garay-Salamanca, Salcedo-Albarán, & Duarte, Elenopolítica: Reconfiguración cooptada del Estado en Arauca, Colombia, 2017), Africa (Salcedo-Albarán, Goga, & Goredema, 2014; Hübschle, 2017) and Eastern Europe (Petrunov, 2013).

Criminal networks analysis also allows understanding the structural characteristics of interacting nodes referred herein as nodes/agents, considering the agency of natural and juridical persons. Some of the analyzed structural characteristics that can be analyzed are (i) amounts and types of intervening nodes/agents, (ii) amounts and types of interactions established, (iii) the most connected node/ agent, referred as hub and registering the highest indicator of direct centrality, and (iv) the node/agent with the highest capacity for intervening across the routes of the network, referred as structural bridge and having the highest betweenness indicator (Degenne & Forsé, 1999; Carrington, Scoot, & Wasserman, 2005).

Based on the concept of Co-opted State Reconfiguration and the application of criminal networks analysis, Garay et al. (2018) proposed the concept of *macro-corruption and institutional cooptation* to highlight the complexity of networks of systemic corruption and institutional cooptation. These networks that can be defined as *macro* due to its scale and complexity, as networks "that surpass by two-fold the maximum amount of nodes that can be analyzed in a social network" without computational tools (Salcedo-Albarán & Garay-Salamanca, Macro-Criminalidad: Complejidad y Resiliencia de las Redes Criminales, 2016, p. 16), considering that it is impossible for the human brain to remember and understand social networks larger than 300 nodes/agents. Specifically, the concept of macrocorruption and institutional cooptation was proposed to analyze the largest network of corruption known: "*Lava Jato*" (Garay Salamanca, Salcedo-Albarán, & Macías, 2018; Salcedo-Albarán E., Garay-Salamanca, Macías, & Santos, 2018f).

Bearing this in mind, the objective of this paper is to discuss some implications for criminal prosecution, that result of acknowledging the complexity of macro-corruption networks. This discussion will be based on the characteristics of models of the "Lava Jato" network. The paper consists of four sections that include this introduction. In the second section, the characteristics of the networks "Lava Jato Brazil" and "Lava Jato Peru" are presented. In the third section it is discussed the transnational network resulting of analyzing both countries integrally, as the "Lava Jato" super-structure. In the fourth section the implications for public prosecution are analyzed.

1 THE "LAVA JATO" NETWORK

It is important to understand the structural characteristics of the "Lava Jato" network, not only because its scale makes it a novel phenomenon of corruption, but also to better inform policy and decision makers. Considering this, Garay *et al* (2018), Salcedo-Albarán *et al* (2018), and Salcedo-Albarán (2019) modeled and analyzed the characteristics of domestic and transnational dimensions of "Lava Jato" network; some of these characteristics are discussed below.

1.1 THE "LAVA JATO BRAZIL" NETWORK

"Lava Jato" is a good example of a complex domestic network of macro-corruption and institutional cooptation, with transnational dimensions. The first comprehensive model of the "Lava Jato" network, based on judicial information released by the Brazilian Public Ministry, consisted of 906 nodes/agents who established 2.693 interactions (Garay Salamanca, Salcedo-Albarán, & Macías, 2018), as illustrated in the Figure 1. The nodes/agents were grouped under three main categories: "Private" (65%), "public" (19%), "criminal" (11%), and "other" (5%); and interactions were grouped under four categories: "economic" (48%), "logistic" (34%), "other" (11%) and "political" (7%). However, as presented below, the complexity of the network not only results of the large number of nodes/ agents and interactions, but of the high diversity of these elements (Salcedo-Albaran, Garay, Santos, Macias, & Guerra, 2018).

The category of public nodes/agents, for instance, grouped (i) 252 Brazilian companies, (i) 170 businesspersons, (iii) 109 offshore companies used for signing fraudulent contracts with the ultimate goal of channeling bribes to public servants, politicians and political parties, (iv) 21 Brazilian Consortiums composed by legit and façade companies to achieve undue advantages in State tenders, and (v) 15 offshore accounts usually registered under the name of fictious third parties (Salcedo-Albaran, Garay, Santos, Macias, & Guerra, 2018).

The public nodes/agents category included (i) 100 public servants, (ii) 24 former members of the Chamber of Deputies with political influence to nominate delegates for Petrobras' directories, (ii) 16 Brazilian politicians, (iii) 13 political parties, (iv) 9 "Eletronuclear" officials, (v) 8 Government institutions that were massively coopted, and (vi) 7 Petrobras officials mainly in charge of acquiring supplies, coordinating engineering services and hiring international companies. Usually, the public servants involved in the scheme received bribes for influencing in the assignment of millionaire contracts; the bribe varied between 1% and 2% of the value of the influenced contract. Additionally, in Brazil 60% of the bribes paid were used to fund political parties and specific political campaigns (Salcedo-Albarán E., Garay-Salamanca, Macías, & Santos, 2018f; Garay Salamanca, Salcedo-Albarán, & Macías, 2018).

The "criminal" nodes/agents category included (i) 47 third parties who provided their representation of accounts and companies to hide and protect the real beneficiaries of transactions, (ii) 19 doleiros or intermediaries, such as Alberto Youssef and Nelma Kodama, who arranged meetings between companies, advised business associated and officials on creating offshore companies, and controlled front companies to legalize payments through the currencies black market, (iii) 9 bribe operators who oversaw bribe payments, (iv) 8 drug traffickers who laundered profits through the network, (v) 13 money launderers and their accomplices, and (vi) 3 openly illicit associations between legal companies and consortiums, such as "The Club", established with the sole objective of committing fraud through financial crimes and corruption (Salcedo-Albarán E. , Garay-Salamanca, Macías, & Santos, 2018f).

On the other hand, the 2.693 interactions established are also highly diverse. Some main subcategories grouped under the economic category are: (i) 676 interactions for "conducting financial transactions"; (ii) 330 interactions for "paying bribes or undue commissions"; (iii) 107 for "laundering money"; (iv) 105 for "simulating contracts", (v) 41 for "being business partners"; (vi) 22 for "paying undue commissions specifically to stablish contracts"; (vii) 13 for "opening and controlling accounts of front companies"; (viii) 10 for "capital investment"; (ix) 7 "misappropriation of funds for establishing front companies to pay bribes", such as the case in which the firm "Sete Brasil" was constituted partially with misappropriated funds from Petrobras and pension funds such as Petros, Previ, Funcef and Valia (Garay Salamanca, Salcedo-Albarán, & Macías, 2018).

Some logistic interactions (964) consisted of (i) 158 interactions for "participating in the administrative board of a company"; (ii) 75 for "being part of consortiums"; (iii) 132 for "serving as third party to open an accounts or appear as legal representatives of companies" to hide its true beneficiaries, (iv) 118 interactions for "decision-making and (de facto) leadership", that reveal the true beneficiaries of accounts, companies and properties that had an unidentified or false representative; (v) 67 for "modifying an stablished contract" to increase unjustified costs and timeframes of infrastructure projects; (vi) 43 for "planning financial distribution", among the participants of the corrupt scheme; (vii) 39 for "being the representative of" cartelized companies; (viii) 37 for "supporting fraudulent accounting", which revealed accounting arrangements to hide irregular incomes and justify artificial expenses; (ix) 32 for "legal ownership of companies"; and (x) 35 for "serving as intermediary" to request a bribe or an irregular electoral donation in behalf of someone else.

The political interactions category consists of (i) 76 interactions for "benefiting particular interests of", when a political node/agent pushes or makes public investments with the single purpose of benefiting an individual, (ii) 34 interactions consisting of "irregular donations to" political campaigns, (iii) 25 of "official donations to fund political campaigns, (iv) 13 interactions "providing political favors to" specific nodes/agents, (v) 5 interactions for "nominating for public office", and (vi) 2 consisting of "providing political advice to".

The category "other" (11%), consists of (i) 124 interactions for "establishing contracts with State companies or institutions"; (ii) 68 interactions of "networking", describing informal links with key nodes of the network; (iii) 28 cases of "family members", and (iv) 4 interactions for "executing threats and pressure to commit financial crimes" (Salcedo-Albaran, Garay, Santos, Macias, & Guerra, 2018, pág. 29).

As stated in the introduction, another structural characteristics related to macro-corruption consists on identifying two types of relevant nodes/agents: The most connected one, the hub, which is identified throughout the direct centrality indicator; and the node/agent with the highest capacity to intervene in the network' flows, the structural bridge, identified through the betweenness indicator.

In this case, the node/agent with the highest direct centrality indicator is (i) Alberto Youssef, concentrating 3,4% out of the total amount of direct interactions, which means that he is the hub of the network. Other nodes/agents with high direct centrality indicators are: (ii) Paulo Roberto Costa, with 2,6%, as the most connected node/agent in Petrobras, (ii) Petrobras itself with 2,2%, as the company where the corruption scheme focused, (iv) JBS, with an indicator of 1,9%, as a private company involved in several licit and illicit transactions; (v) Joesley Mendonca Batista, an administrative managers at JBS, with an indicator of 1,8%, (vi) "The Clube" as a *cliqué* of firms with a high capacity to obtain advantages on Petrobras' contracts, with 1,7%, (vii) Constructora Norberto Odebrecht with 1,1%, and (viii) Jose Janene, with 1,1%. These eight nodes/agents with the highest direct centrality indicator, which only represents 0,88% of the total amount of nodes/agents, concentrate 29,4% of the network's direct interactions. This means that the network has a low level of resilience because isolating 0,88% of nodes/agents would modify 29,4% of the direct interactions structure.

The node/agent with the highest betweenness indicator is (i) Alberto Youssef, intervening in 9,4% of the network's indirect routes, or flows, which means that Youssef is not only the hub of the network but also the structural bridge as a result of his actions advising businessmen and public servants, as well as coordinating strategies with other intermediaries and doleiros to launder money and to deliver bribe payments. Other nodes/ agents with high betweenness indicators are (ii) Petrobras, intervening in 9,4% of the routes, (iii) Paulo Roberto Costa, a Petrobras official, intervening in 4,9%, and (iv) the company JBS, with 3,7%. This group of four nodes/agents intervene in 27,4% of the routes in the network, which means that isolating these nodes/agents would modify almost 27,4% of the routes structure of the network. This characteristic implies that the network has a relatively lower level of resilience since it is more concentrated than the direct centrality indicator; in fact, isolating just 0,44% of the total amount of nodes/agents, modify almost a third part of the network's structure.

Figure 1. "Lava Jato Brazil" Network (Salcedo-Albaran, Garay, Santos, Macias, & Guerra, 2018).



1.2 THE "LAVA JATO PERU" NETWORK

Some Brazilian companies that participated in the "Lava Jato Brazil" network used similar corrupt practices to obtain millionaire State contracts across Latin America, including Peru, where one of the strongest prosecutions against former presidents and high-profile public officials has happened. In fact, three out of the last four presidents currently face prosecution under charges of corruption related to "Lava Jato" -Alejandro Toledo (2001-2006), Ollanta Humala (2011-2016), and Pedro Pablo Kuczynski (2016-2018)-, while Alan García committed suicide when the prosecution was about to begin. As a result of "Lava Jato" in Peru, eight large infrastructure projects were mainly affected by this scheme: the processing facility "Huachipa", the "Olmos" Project, a hydro energetic project, the yellow line from *Rimac* Park to Rio *Rio Verde*, the hydroelectric project "Alto Piura", the first line of the electric train, the Southern Peru pipeline, the Interoceanic North-South highway, and the highway project *Huaylas–Chacas–San Luis* (Salcedo–Albaran, Garay–Salamanca, Macias, & Pastor, 2019).

Considering that the "Lava Jato" network initially operated in Brazil, the "Lava Jato Peru" is smaller and less complex, consisting of 443 nodes/agents categorized as private (85%), and public servants (15%), as illustrated in the Figure 2.

The lower complexity of "Lava Jato Peru" is reflected with less diversity of its subcategories when compared with "Lava Jato Brazil". For instance, the private nodes/agents category includes (i) 170 private individuals, (ii) 68 Peruvian firms, (iii) 58 foreign companies, (iv) 34 Peruvian consortia, (v) 24 Peruvian businesspeople, and (vi) 8 foreign businesspeople. Among the 66 public servants, there are 20 entities at the national level, including The National Office of Electoral Processes, the General Direction of Government, the National Committee in charge of promoting the auction of lands at the "Olmos" project, the Ministry of Finance, the National Evaluation Committee of technical and economic proposals, and various directive councils of public projects.

The 943 interactions identified in "Lava Jato Perú" consisted of (i) 33% economic interactions, (ii) 30% political, (iii) 30% interactions related to logistics and networking -which included those specifically of oriented to signing contracts-, and (iv) 6% that described the structures among Peruvian corporations. Among the 311 economic interactions, 306 consisted of wire transfers between individuals and corporations. The political category, with 286 interactions, mostly consisted of donations to political parties, including some of the most relevant in Peru.

Regarding the direct centrality indicator, (i) the political movement *Fuerza 2011* registered the highest indicator, concentrating 8,9% of the total amount of direct interactions established in the network, which means that this juridical person is the *hub* of the structure, while (ii) the political movement *Alianza Gana* Peru, registered the second highest direct centrality indicator, with 5,2%. Other nodes/agents with high direct centrality indicators are (iii) Construmaq SAC, with 2%, and (iv) Odebrecht Peru S.A., with 1,6%. In this sense, two political movements, *Fuerza 2011* and *Alianza Gana Peru*, concentrate 14,1% out of the total amount of direct interactions of the network. According to Salcedo-Albarán *et al* (2019), this concentration evidences the relevance of political parties in the operation of "Lava Jato Peru".

The nodes/agents with the highest capacity to intervene in the geodesic routes of the network, identified through the *betweenness* indicator, are (i) Jorge Henrique Simoes Barata, Executive Director of Odebrecht in Peru, who registers an indicator of 12,7%, and therefore is the structural bridge; (ii) Marcelo Odebrecht, intervening in 11.2% of the routes, and (iii) the former President Ollanta Humala, intervening in 10.7%. These three nodes/agents intervened in 34,6% of the geodesic routes of the network; a high percentual concentration considering that these 3 nodes/agents represent the 0,7% of

nodes/agents of the network: isolating 0,7% of the nodes/agents would modify 34,6% of the routes of the network. However, the betweenness indicator in "Lava Jato Peru" is less concentrated than in "Lava Jato Brazil", in which 0,44% of the total amount of nodes/agents intervened in about a third of the network's routes. In this sense, "Lava Jato Peru" would be relatively more resilient than "Lava Jato Brazil".

Figure 2. "Lava Jato Perú" (Salcedo-Albaran, Garay-Salamanca, Macias, & Pastor, 2019).



THE "LAVA JATO" SUPER-STRUCTURE

In order to understand the emerging characteristics of the "Lava Jato" macro-network, Salcedo-Albarán *et al* (2019g) elaborated a model based on the Datasets of Interactions (DoIs) that conformed each model discussed in the previous section. Since "Lava Jato Brazil" and "Lava Jato Peru" were already examples of macro-corruption, Salcedo-Albarán *et al* (2019g) defined the resulting structure as a *super*-network of corruption, or an example of *super*-corruption. The super-structure of corruption "Lava Jato" consists of 1,399 nodes/agents categorized as: (71%) "private", (19%) "public", (3%) "criminal", and (7%) as "other", who established 3,758 interactions, as

illustrated in the Figure 3. As an example of the structure's high diversity, the subcategories of "private" nodes/agents is presented in the Table 1.

Lava Jato Super-structure. Private Nodes/Agents			
Category	Sub-category	%	Quantity
Private	Brazilian Company	25.0	254
	Businessman	17.3	175
	Private / Peruvian national	16.8	170
	Offshore Company	9.2	93
	Peruvian Company	6.7	68
	Foreign company (outside Brazil and Peru)	5.7	58
	Peruvian Consortia	3.4	34
	Peruvian businessman	2.4	24
	Consortia	2.1	21
	Offshore banking account	1.5	15
	Façade Company	1.2	12
	Lawyer	1.1	11
	Foreign businessman (outside Brazil and Peru)	0.8	8
	Money laundering accomplice	0.7	7
	Cash transporter	0.7	7
	Brazilian Doleiro	0.6	6
	Private (undefined citizenship)	0.5	5
	Pensions Fund	0.4	4
	Publicist	0.3	3
	Company (Undefined country)	0.3	3
	Financial Group	0.2	2
	NGO Peru	0.2	2
	Figurehead	0.2	2
	Cartel of private companies	0.2	2
	Peruvian Lawyer	0.2	2
	Architect	0.1	1
	Political advisor	0.1	1
	Civil association	0.1	1
	Bank	0.1	1
	Art collector	0.1	1
	Bank account	0.1	1
	Company employee	0.1	1
	Andrade Gutiérrez Employee	0.1	1
	Investments Fund	0.1	1
	Journalist	0.1	1
	Brazilian Refinery	0.1	1
	Undefined	0.2	2

Regarding the direct centrality indicator, it is found that 9 nodes/agents concentrate 14,5% out of the total amount of direct interactions of the network: (i) Alberto Youssef is the *hub* of the supernetwork, with and indicator of 2,5%, (ii) the Peruvian political movement Fuerza 2011, with 2,2\$, (iii) Paulo Roberto Costa, 1,9%, (iv) Petrobras, 1,6%, (v) IBS, 1,4%, (vi) Joesley Mendoca Batista, 1,3%, (vii) "The Clube", 1,3%, (viii) the political movement *Alianza Gana* Peru, 1,3%, and (ix) Constructora Norberto Odebrecht, with 1%.

The nodes/agents with the highest betweenness indicator are: (i) Marcelo Odebrecht, as the structural bridge of the network, with an indicator of 6,7%, (ii) Constructora Norberto Odebrecht S.A., with 6,6,%, (iii) Alberto Youseff, with 6.1%, (iv) Petrobras, with 6%, (v) Ollanta Moisés Humala, former president of Peru, with 5%, (vi) Alianza Gana Perú, with 3,4%, (vii) Fuerza 2011, with 3,1%, (viii) the National Office of Electoral Processes of Peru, with 3,1%, (ix) Paulo Roberto Costa, with 2,5% and (x) JBS, with 2,1%. These 10 nodes/agents intervene in 44,6% out of the total amount of routes of the network. Additionally, unlike the domestic structures analyzed in the previous section, in the super-structure of "Lava Jato Brazil and Peru", the node/agent Norberto Odebrecht becomes the structural bridge, and the node/agent Constructora Norberto Odebrecht S.A. also becomes highly relevant, being the second node/agent with the highest capacity for intervening in the network's route. Considering that the natural person and juridical person have different institutional capacities, they mutually complement in the operation of the network.

Figure 3. Super-structure "Lava Jato Brazil and Peru" (Salcedo-Albarán & Garay-Salamanca, Súper-estructura Lava Jato en Brasil y Perú, 2019g).



3 FINAL DISCUSSION: SUPER-CORRUPTION AND ITS IMPLICATIONS

The super-corruption network "Lava Jato Brazil and Peru" illustrates two main characteristics that emerge of its complexity and, simultaneously, impose obstacles for its effective control and prosecution: (i) the transnational operation of juridical or legal persons, and (ii) the relevance of transnational money laundering.

The relevance of juridical persons is verified in the business and political spheres of each presented network, through companies and political parties, which requires developing robust judicial, civil, and administrative frameworks for corporate criminal labiality (Green, 2007); a challenge for any "legal system based on individual liability" (Punch, 2011, pág. 110). Although several countries have developed frameworks and adopted laws for addressing crimes committed by corporations, the criteria among countries is still heterogenous, and it is therefore common that a corporation is convicted in one jurisdiction but not in another; a situation aggravated by a common special treatment that benefits large corporations, since "regulators typically come from and eventually return to regulated industries" (Snider & Steven, 2011, pág. 65). In fact, there is not even homogeneous criteria regarding whether corporate crime shall be controlled through civil or criminal actions (Wells, 2011); as a result, prosecution against corporation is commonly disarticulated among blocs of countries. As Punch (2011, pág. 102) points out: "It could even be said that the criminal law has never quite adapted to the rise of modern business corporations (...) and is still somewhat at a loss in coping with complex multinationals with dispersed subsidiaries in diverse jurisdictions within the contemporary global and post-Fordist economy".

The transnational operation of legal persons is closely related to the second identified characteristic: the relevance of transnational money laundering. As a result of the massive amounts of bribes paid and profits generated during the operation of the superstructure "Lava Jato in Brazil and Peru", transnational schemes of money laundering were common. Indeed, hiding, laundering, and channeling bribes for more than USD\$800 million (Watts, 2017), required a complex transnational scheme that involved various layers of real and façade companies worldwide. For instance, a USD\$6,5 million bribe that *Constructora Odrebrecht S.A.* paid to a Vice Minister of Transport in Colombia, required fractioning and channeling the money through several accounts and companies across Panama, the United States, Spain, and Andorra, after returning to Colombia (Salcedo-Albarán & Garay-Salamanca, Lava Jato Colombia, 2019).

The relationship between corruption and money laundering, already identified and especially analyzed (Chaikin & Sharman, 2009), is aggravated by the increasing sophistication of the financial maneuvers, the amounts of countries involved, and the legal limits imposed by domestic jurisdiction during prosecutions. The lack of institutional mechanisms for collaborating and conducting transnational prosecution or sharing information across jurisdictions, is therefore an obstacle for controlling, prosecuting, and sanctioning transnational schemes of money laundering.

Currently, when seeking formal communication and sharing of information between local jurisdictions, Public Ministries and Public Prosecutor Offices sign cooperation agreements that are time-consuming as they involve several bureaucratic procedures and entities; a mechanism that has proven insufficient and ineffective during prosecutions of Lava Jato in most of Latin America. For instance, in 2017 the Peruvian Public Ministry signed 18 requests of collaboration with the Brazilian Public Ministry, while only signed one request, and Colombia three; in 2018, the Peruvian Public Ministry signed 50 requests of collaboration with the Brazilian Public Ministry, while Mexico only signed two, and Colombia five (Angelico, 2019). Without institutional and agile mechanisms for sharing information and facilitating transnational prosecution of money laundering, judicial actions against a super-structure of corruption such as Lava Jato will remain restricted to the domestic political will.

The characteristics and challenges discussed above, are exacerbated by the increasing complementarity between political, corporative, and public agents observed in super-networks of corruption; these traits create complexities that are just being understood in empirical terms, thanks to computational tools. As computational capacities increase, it is likely that more complexities will be revealed; therefore, to face these complexities, juridical frameworks must be revisited and, in some cases, updated.

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