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De jure and de facto institutions – disentangling the interrelationships*

Jacek Lewkowicz[†] and Katarzyna Metelska-Szaniawska[‡]

Abstract: In this paper we contribute to the debate on the nature of institutions and their economic effects by extending the focus to the *de jure – de facto* institutional distinction. Firstly, we define and conceptualize *de facto* institutions, as well as elaborate on their place in the broad institutional system and identification. Then we investigate the possible interrelationships between *de facto* and *de jure* institutions. Finally, we make a link between these interrelationships and economic outcomes. In this way the paper fills an underexploited niche in institutional research, which is a major background for law and economics.

Keywords: new institutional economics, de jure institutions, de facto institutions, formal institutions, informal institutions, institutional interrelationships.

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I. INTRODUCTION

In new institutional economics and related fields there exists a broad body of literature on formal and informal institutions, their role for economic growth and development, as well as their interrelationships (e.g. the interaction thesis – Pejovich, & Colombatto, 2008; Pejovich 2012). However, recent works in law and economics increasingly emphasize the distinction between *de jure* and *de facto* institutions, e.g. in relation to constitutional rights and freedoms (including property rights), judicial independence, central bank independence or the independence of regulatory agencies (e.g. Law & Versteeg, 2013; Melton & Ginsburg, 2014; Voigt et al., 2015; Hanretty & Koop, 2013). Similarly, political economy studies use the *de jure* – *de facto* distinction in reference to political power and its role for economic growth and development (e.g. Acemoglu & Robinson, 2006). Analysis of the interrelationships between *de facto* and *de jure* institutions, beyond studies confined to individual rules, still constitutes an underexploited niche.

In this paper we aim to fill this lacuna and provide a systematic analysis of the relationships between *de facto* and *de jure* institutions from an economic perspective. The topic has already raised some interest from the perspective of measurement of institutions (see Voigt, 2013, as well as replies thereto by Shirley, 2013, and Robinson, 2013). The discussion that arose in this literature (which we summarize further in the paper) demonstrates how much controversy is involved, as well as the misunderstanding among researchers along many dimensions, starting from purely definitional issues. In our contribution we draw on the theoretical and empirical literature in new institutional economics, law and economics, political economy, constitutional economics and other related fields. Firstly, we conceptualize and define *de facto* institutions, differentiating them from the well-known concept of informal institutions. We also touch upon the problem of identification of *de facto* institutions (referring to conceptual apparatus and empirical data pertaining to a given institutional setting). We then analyze the possible interrelations between *de facto* and *de jure* institutions. In particular, we ask the question when these two types of institutions boost and when they inhibit each other. We also investigate the possible crowding-out effect between *de facto* and *de jure* institutions and verify whether it is solely determined by the degree of law enforcement or also linked to other factors. Finally, we elaborate on how the interrelationships between *de jure* and *de facto* institutions shape their economic effects.

II. CONCEPTUALIZING *DE FACTO* INSTITUTIONS

A. Available classifications of institutions

Numerous definitions of institutions have been proposed in the social sciences, also in the works of institutional economists themselves. Most generally, institutions are perceived by this literature as systems of established social rules that structure social interactions (Hodgson, 2006). They constrain behavior and are permanent or stable (Glaeser et al., 2004). In the words of Douglass C. North, institutions are certain 'rules of the game', i.e. "humanly devised constraints that shape interaction" (North 1990, p. 3), encompassing both formal and informal systems, but importantly, also enforcement mechanisms. Voigt (2013) is particularly clear in emphasizing not only the difference between formal and informal rules but also between rules and their enforcement. According to this approach, institutions are "commonly known rules used to structure recurrent interaction situations that are endowed with a sanctioning mechanism" (Voigt 2013, p. 5).

Institutions are introduced to life by organizations or people (Leftwich & Sen, 2010). They provide for a (relatively) predictable structure for economic, social and political life by shaping people's incentives and decisions, but, institutions do not always have to determine social behavior, e.g. because of exogenous factors (Leftwich & Sen, 2010). It is important when one talks about institutions to emphasize that institutions are a dynamic concept – they change over time as a result of being reformed through people's actions (Giddens, 1984), which may be organized top-down (constructivism) or bottom-up (spontaneous action). Additionally, it usually takes time for social actors to adapt to a new institutional environment (Williamson, 2000). For economists it is crucial that institutions cause positive or negative economic effects, in particular with regard to economic development, and the nature of these outcomes depends on the type of behavior that institutions enable to execute, as well as on the allocation of resources in society that they cause (Leftwich & Sen, 2010).

Several classifications of institutions have been proposed by the economic literature, the most popular one distinguishing between formal and informal institutions. Formal institutions are laws (including constitutions), policies, regulations, rights etc. that are enforceable by official authorities (i.e. with respect to them there exists an official sanctioning mechanism). Informal institutions, on the other hand, are social norms, traditions and customs that may also shape social behavior, however are not enforced by any official authority (Berman 2013) but by means of e.g. social control or self-enforcement. While part of the research on institutions and their economic effects tends to prioritize formal institutions and presents informal ones as a separate concept that may be detrimental to development (Unsworth, 2010), many other studies provide

theoretical grounds and empirical evidence of a particularly strong (and not necessarily negative) impact of informal institutions on the economy (e.g. Raiser, 1997; Williamson 2009; Farrell & Héritier, 2003; Greif, 1998).

However, institutions often emerge spontaneously in the course of human interaction and only become formalized (officially sanctioned) as time passes. With this process in mind it is unclear how formalized a rule needs to be to qualify as a formal one (see e.g. Voigt, 2013, p. 6). Other classifications of institutions have also been proposed, in part in response to this important caveat of the formal-informal distinction, e.g. Voigt's (2013) internal and external institutions distinguished based on the underlying enforcement mechanism¹. According to this approach, when sanctioning is privately organized (i.e. by members of the group or society within which the given institution functions) the institution is internal², and when sanctioning is public – it is classified as external. Still a different approach is taken by the literature which distinguishes between political and economic institutions and studies their interrelationships (e.g. Acemoglu & Robinson, 2008). The criterion for this classification is the kind of interaction shaped by the given institution. According to this view, political institutions, which shape constraints and incentives in the political sphere, also determine economic institutions, i.e. the rules for economic actors, so that, in effect, these two kinds of institutions can be regarded as hierarchically structured (Voigt, 2013)³.

In this paper we draw on the scholarship regarding the different classifications of institutions mentioned above; however the main focus is on *de jure* and *de facto* institutions. While this classification of institutions becomes increasingly popular in economics and other social sciences (e.g. in philosophy – Gracia 1999; in economics such distinction is advocated, in particular, by Voigt [2013]), there is no commonly recognizable definition of *de jure* and *de facto* institutions in this literature. The *de jure* and *de facto* distinction may be applied intuitively, however only if it is related to some well-conceptualized occurrence, like independence (e.g. Cukierman, 2007; Hayo & Voigt, 2007). When it comes

¹ This perspective is in line with both economic and legal literature (e.g. Kelsen. 1959; McCormick & Weinberger, 1986).

² Voigt (2013) further distinguishes between four types of internal institutions, depending on the specific kind of private enforcement (conventions, ethical rules, customs, and formal private rules).

³ The distinction between political and economic institutions, though rather clear at first sight, becomes more problematic when specific examples of institutions are to be classified. Voigt (2013) mentions the example of institutions constraining state-owned enterprises. The enabling or constraining nature of institutions, as well as the specificity of sanctions are sometimes mentioned as features allowing to tell these two types of institutions apart, however some authors generally doubt the usefulness of this classification (e.g. Shirley, 2013).

to the broad concept of institutions, the precise meaning of ‘*de jure*’ and ‘*de facto*’ has to be defined. Still, in the literature those types of institutions are just introduced and analyzed without further description (e.g. with reference to property rights – Alston et al., 2009). Therefore, our first goal in this paper is to fill this lacuna, with particular emphasis on *de facto* institutions.

B. De jure and de facto institutions – the conceptualization

De jure stands for a state of affairs that is in accordance with the law. Classical works define the law as a “rule laid down for the guidance of an intelligent being by an intelligent being having power over him” (Austin 1885, p. 86) or a “rule of conduct, prescribed by the supreme power in a state, commanding what is right and prohibiting what is wrong” (Blackstone 1765, p. 44). Being a type of norms, legal norms are “generally accepted, sanctioned prescriptions for, or prohibitions against, others’ behavior, belief, or feeling, i.e. what others ought to do, believe, feel – or else...” (Morris 1956, p. 610) and always include sanctions. Given these definitions, *de jure* institutions are formal and external institutions. However, as e.g. formal policies may exist, which are not rooted in the legal system⁴, as well as formal rules governing the functioning of various organizations, *de jure* institutions are a subclass of formal institutions. While the set of *de jure* institutions covers the entire set of external institutions (i.e. a *de jure* institution must necessarily be external), it may also be that a given (*de jure*) institution has both an external and an internal nature (i.e. the same institution is sanctioned by the state, as well as by a social mechanism).

The definition and conceptualization of *de facto* institutions is, however, more sophisticated. *De facto* institutions are those observed in actual human interactions – in the market and social practice. *De facto* means a state of affairs that is true in fact, but does not have to be officially sanctioned. While fulfilling the condition of being actually operative (effective), *de facto* institutions may be of varying nature – formal or informal⁵. The enforcement mechanism behind the factual operation of these institutions may be both private and public, i.e. these

⁴ The distinction between institutions and policies is another strongly debated issue in the institutional literature in economics (see e.g. Dixit, 1996; Glaeser et al., 2004; Voigt 2013). We follow here the most inclusive approach, as suggested by Besley and Case (2003) and inspired by the broad understanding of constitutions in constitutional economics [i.e. “basic rules under which social orders may operate” – Brennan, Hamlin 1998, p. 401; see also Buchanan’s (1987) frequently cited definition]. Formal policy documents, which may be sources of constraints shaping interaction, however do not have the status of law are, therefore, also included in our broad definition of institutions.

⁵ There is also literature on quasi-formal and semi-formal institutions (e.g. Aslanian, 2006), which indicates that they may also be classified as *de facto* institutions under certain circumstances. We, however, do not develop this topic further in the paper as quasi-formal and semi-formal institutions are relatively scarce in economic literature.

institutions may be both of an internal and an external type. Their distinctive feature is rather that this enforcement mechanism functions in an effective way⁶.

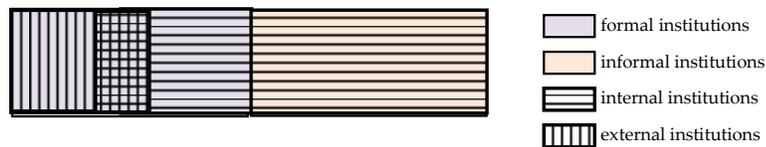
De jure and *de facto* institutions are therefore clearly not antonyms. Figure 1 presents the sets of formal, informal, external, internal, *de jure*, and *de facto* institutions, following from the definitions and discussions provided in the previous paragraphs. Part (a) of Figure 1 focuses on formal, informal, *de jure* and *de facto* institutions. The sets of formal and informal institutions are disjoint from each other and together they form the complete set of existing institutions⁷. As argued earlier, *de jure* institutions constitute a subclass of formal institutions. *De facto* institutions, in turn, may be either formal (*de jure*) or informal, provided that they are operative. A subclass of *de jure* institutions that are perfectly enforced will simultaneously constitute *de facto* institutions. *De jure* institutions, which are not observed and enforced, will not be classified as *de facto* ones. It remains a question whether a particular informal institution that is inoperative, may still be regarded as an institution (this resembles the controversy in social norms literature regarding the role of normative beliefs and actions – see e.g. Bicchieri & Muldoon, 2014).

⁶ An additional complication here relates to the fact that this mechanism may function in a complete or only partial way. We discuss this further in the final paragraphs of this section.

⁷ As mentioned earlier, it depends on the applied definitions of formal and informal institutions and may, therefore, be unclear where exactly the dividing line between formal and informal institutions is located (i.e. how formalized a given rule must be to be regarded as a formal institution).

FIGURE 1**VISUALIZATION OF DIFFERENT CLASSIFICATIONS OF INSTITUTIONS**(a) sets of formal, informal, *de jure* and *de facto* institutions(b) sets of external, internal, *de jure* and *de facto* institutions

(c) sets of formal, informal, external and internal institutions



Source: own elaboration.

Part (b) of Figure 1 presents the sets of external, internal, *de jure*, and *de facto* institutions. It is noticeable that the set of *de jure* institutions is identical to the set of external institutions, including the latter's intersection with the set of internal institutions. *De facto* institutions cover part of the *de jure* institutions set (including institutions of solely external nature, as well as those being at the same time external and internal) and part of the internal institutions set. While some *de jure* (external institutions) are neither *de facto* nor internal ones, we can also identify institutions that qualify as external, *de jure* and *de facto*, or even external, internal, *de jure* and *de facto*, at the same time.

Finally, for the sake of completeness of this analysis, in part (c) of Figure 1 we demonstrate the relative positions of the sets of formal, informal, internal and external institutions. While the sets of formal and external institutions are nearly identical, this is clearly not the case for informal and internal institutions. Firstly, the latter set intersects with the set of formal institutions covering those institutions which, as argued earlier, have both an external and an internal nature. Furthermore, as internal institutions include formal private rules, the set of internal institutions also expands beyond the informal institutions set to cover such type of formal institutions.

Table 1 presents examples of institutions that fall within the different sets outlined in part (a) of Figure 1⁸. Interestingly, while the formal/informal distinction produces two disjoint sets of institutions composing together the complete set of existing institutions, the *de jure* / *de facto* distinction produces sets with an overlap which do not cover the entire spectrum of institutions, i.e. there exist both formal and informal institutions which are neither *de jure* nor *de facto*, such as e.g. unenforced policies based on documents which are not law (formal) or normative beliefs when conceived as social norms (informal). Although, as mentioned in the previous paragraph, classification of normative beliefs as social norms or, further, institutions raises controversy in the literature, we opt here for the broadest definition of institutions, based on other works cited in this paper, and therefore do not deny the existence of unenforced informal institutions *per se*.

TABLE 1
CLASSIFICATION OF INSTITUTIONS – EXAMPLES

	formal	informal
<i>de jure</i>	laws	-
	perfectly enforced laws	
<i>de facto</i>	factually operative policies based on documents which are not law	social norms (actions)
neither	unenforced policies based on documents which are not law	social norms (normative beliefs which are not followed by actions)

Source: own elaboration.

⁸ We refrain from presenting a similar table for part (b) of Figure 1 as it would not bring much added value to our conceptualization of *de jure* and *de facto* institutions. Frankly, any external institution constitutes a *de jure* institution, while an institution's *de facto* status rests upon whether an institution of a given type (external or internal) is factually enforced (i.e. operative). Further, as part (c) of Figure 1 does not relate to the *de jure* – *de facto* distinction, it is also not accompanied by another table.

Based on the presented classifications, some additional remarks are in order pertaining, in particular, to the conceptualization of *de facto* institutions. Formal institutions may be classified as *de facto* institutions, when they are observed (enforced and complied with). The same applies to informal institutions (without official enforcement though). When we deal with an effective institution, determining whether it is a formal or an informal one may sometimes be problematic (see the critical remark regarding the formal-informal distinction mentioned at the outset of this section). From the point of view of our discussion here it is, however, more relevant to concentrate on the reverse problem: when do we observe an operative formal or informal institution? And, similarly, when can we speak of operative external or internal institutions?

Resolving whether a given institution is an actually operative one seems straightforward, however it poses a fundamental challenge. Namely, this has to be based on precise and reliable data, allowing observation of human interactions in a given area over a number of time periods. So how does one detect and identify a *de facto* institution?

First, we have to determine whether we actually analyze an institution (i.e. whether the observed pattern of behavior fulfills the requirements spelled out in a given definition of an institution) and only then, whether this institution is operative (effective). With regard to the necessary first step, i.e. distinguishing *de facto* institutions from some behavior that does not in itself constitute an institution, one approach could involve using theoretical apparatus, but this way of analysis will usually be imprecise as theoretical models describe merely selected aspects of reality. Empirical data-based research, on the other hand, does not provide a complex tool, which would allow to assess whether a particular institution is a *de facto* institution. All in all, this judgment will necessarily be discretionary.

A similar conclusion regards the second step, i.e. determining whether an institution is operative (effective). We may use conceptual apparatus to classify a particular institution as operative or inoperative, or construct a dedicated index based on the factual state of affairs (in particular, when the institution is a complex one). Some examples of such *de facto* indices are indicators pertaining to the protection of various rights and freedoms (e.g. Freedom House, 2016; Cingranelli et al., 2014). Such indices usually state for an approximation (which involves some degree of discretion) of real observed behavior. Moreover, only some fraction of institutions can be analyzed *via* the expenditures-effect perspective. The problem of measuring institutions is a separate and sophisticated topic in itself and provokes a fierce but stimulating discussion in the area of institutional economics (e.g. Voigt, 2013; Shirley, 2013; Robinson, 2013). In this literature it is emphasized that applied measures of institutions ought to be

objective and precise, and should include both *de jure* and *de facto* components (Voigt, 2013). Effectiveness of institutions may then be regarded as a counterpart of estimating their economic effects. It is also underlined that estimating appropriate models with accurate data is crucial (Voigt, 2013). However, measuring institutions may be problematic with regard to their dynamics over time and specificity leading to limited external validity of research (Robinson, 2013). As a result, again, the decision in this second step will also inevitably be discretionary.

However, even if the above data were available, one should keep in mind that some formal institutions can only be complied with integrally, while others also partially, *per analogiam* to Dworkin's legal standards and rules (Dworkin, 1977). In fact, only with respect to a very confined set of institutions, which are characterized by a binary nature of enforcement, one may find that they are observed integrally. Usually institutions are complex and socially effective just to some (limited) extent. They may also be constituted by systems of rules, some of which are observed integrally, while others only partially.

The discussion among institutional economists and in related fields concerning the identification of *de facto* institutions will certainly intensify in the upcoming future. In this first step we presented a rather pessimistic perspective, given the degree of discretion that is involved at various stages of this identification process. However, as scholarship on the theory and practice of measurement of institutions develops⁹, we can expect many more important answers to reveal themselves. On the positive side, while the formal-informal distinction suffers from an important caveat blurring the preciseness of this classification and undermining its applicability, in the distinction between *de jure* and *de facto* institutions it is not that much about precise delineation, which, as explained, may be problematic because of partial compliance, and it is inherent in this classification that the sets of *de jure* and *de facto* rules overlap (i.e. a given institution may be classified as both *de jure* and *de facto*). The partial compliance problem, suggesting the question to what extent *de jure* and *de facto* institutions are coherent with each other, rather motivates the study of potential relationships between these two types of institutions, which we now undertake.

III. *DE JURE – DE FACTO* INSTITUTIONAL INTERRELATIONSHIPS

Having discussed the problems with conceptualization of *de facto* institutions as well as the demarcation of the key types of institutions, in this section we turn to the main focus of the paper, i.e. disentangling the interrelations between *de jure* and *de facto* institutions. In this first attempt we limit our analysis primarily to a

⁹ Some of the doubts that we raised here have already been partially referred to in an important contribution regarding measurement of institutions by Voigt (2013).

static approach. In the subsequent section we place our considerations further in the economic effects perspective.

A. Interrelationships between formal and informal institutions

Notwithstanding the previously mentioned critical remarks, we begin again by relating to formal and informal institutions. As institutional theory develops, it becomes clear that formal and informal institutions usually do not function in separation from each other. In real world settings, when we focus on certain areas of human interactions, these two types of institutions interplay with each other and this occurs in very different ways. Formal and informal institutions may be complements, substitutes (when they compete with each other) or overlapping (Jütting et al., 2007). The character of those interrelationships depends on the particular context, these institutions' strength and their nature – inclusive or discriminatory (Unsworth, 2010). As a result, there are cases when informal institutions tend to undermine formal ones, while in others the first ones substitute for the second in a smooth way or even boost their importance (Jütting et al., 2007). Many researchers agree that informal institutions often shape the construction and implementation mechanisms of formal institutions (Migdal, 2001). As the literature regarding institutions shows, not only formal and informal institutions may affect the economy in significant ways, but also their interactions are crucial from the economic perspective (Pejovich, 1999).

An important strand of this literature regards the relationships between social norms and the law, i.e. between informal institutions and the *de jure* subset of formal institutions. Posner (1997) indicates that it is not possible to understand the functioning of the law without reference to social norms, which interact with the legal system. This literature indicates the following possible relations: (1) formal and informal rules as complements (e.g. Baker et al., 1994; Lazzarini et al., 2004); (2) formal rules as substitutes for social norms and it is possible for societies to function based on informal rules, without the need to establish costly *de jure* rules (Macaulay, 1963; Ellickson, 1991; Huang & Wu, 1994); (3) formal rules as substitutes for informal rules and introduction of the former undermines or even destroys the functioning of social norms (e.g. Frey & Oberholzer-Gee, 1997; Fehr & Gächter, 2001); (4) depending on the particular context and conditions, formal and informal rules as complements or substitutes (e.g. Posner 2000; Zasu 2007). Some authors, in particular relating to (2), argue that social norms may arise without formal *de jure* institutions as efficient alternatives allowing to internalize negative externalities and providing costless or low-cost signaling mechanisms (e.g. Ellickson, 1991; Bernstein, 1992; Posner, 2002). Acemoglu (1995), Glaeser et al. (1996) and Ferrer (2010) show how law-breaking behavior can become profitable when others also engage in such behavior, while Posner (1997, 2002), Cooter (1998), and more recently Benabou and Tirole

(2011) analyze what has been called the expressive role of law and its relation to the signaling role of social norms. More recent work by Acemoglu and Jackson (2014) considers the two-way interactions between social norms and the enforcement of laws showing, inter alia, in a dynamic setting that laws which are in strong conflict with prevailing social norms may backfire, while gradual tightening of laws can be more effective by way of changing social norms.

B. Interrelationships between de jure and de facto institutions

In order to study the interrelationships between *de jure* and *de facto* institutions it is helpful to begin with observing the relative position of these two sets of institutions. Figure 1 suggests that some institutions will have both a *de jure* and a *de facto* dimension (i.e. the two sets overlap), however there also exist *de jure* institutions, which do not have an identical *de facto* equivalent, as well as *de facto* institutions with no identical *de jure* equivalent. The first group are formal institutions which are simply parchment or dead letter provisions, i.e. are not factually enforced. The second group is more complex. Firstly, it contains *de facto* institutions functioning in areas of *de jure* regulation where the *de jure* institutions are not enforced and, as a result, *de jure* and *de facto* institutions diverge (i.e. these *de facto* institutions have a *de jure* equivalent, however not an identical one). Secondly, it contains *de facto* institutions functioning in areas that are not *de jure* regulated (formal or informal in nature), i.e. with no *de jure* equivalent.

In our analysis we do not employ the complements-substitutes distinction of institutional interrelationships, mentioned above, as often applied to formal-informal institutional interactions or interactions between social norms and the law. Instead, we propose to view interrelationships between *de jure* and *de facto* institutions as boosting or inhibiting. Since *de jure* and *de facto* institutions need not be substitutes or complements to interact, we believe that such approach is more adequate in the studied context as it allows for delivering a broader and at the same time more specific account of the potential interrelationships between *de jure* and *de facto* institutions.

1. *De jure* and *de facto* institutions functioning in different areas of human interaction

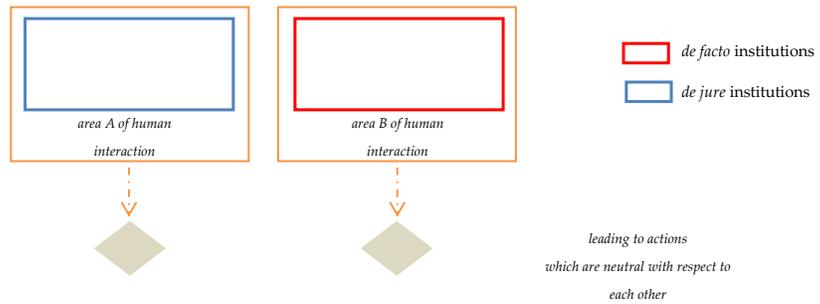
Depending on whether the concern is of *de jure* and *de facto* institutions functioning in the same area of human interaction, narrowly construed as above, or from different areas, we will encounter various possible structures of interaction between them. In the case of institutions functioning in different areas, one obvious possibility is no interaction (a neutral relationship). However, one can also visualize the situation, when a *de jure* institution and a *de facto* institution exist in different spheres of social interaction but both of them encourage social actors to a commonly desired behavior, so these institutions will

mutually boost each other, even though they are not overlapping (e.g. regulations contained in civil and penal codes may both incentivize to safer and more careful driving). The opposite may also take place, when *de jure* and *de facto* institutions existing in different areas are mutually conflicting from the point of view of incentives for human behavior that they produce (e.g. hiring employees on civil and labor contracts, primarily designed for different purposes). These various possibilities are presented in Figure 2. This figure consists of three parts. Part (a) is an illustration of the case, when *de jure* and *de facto* institutions, present in different areas of human interaction (A and B), lead to actions, which are neutral with respect to each other. Part (b) shows the situation when such institutions lead to commonly desired behavior. Finally, in part (c) *de jure* and *de facto* institutions incentivize potentially conflicting actions.

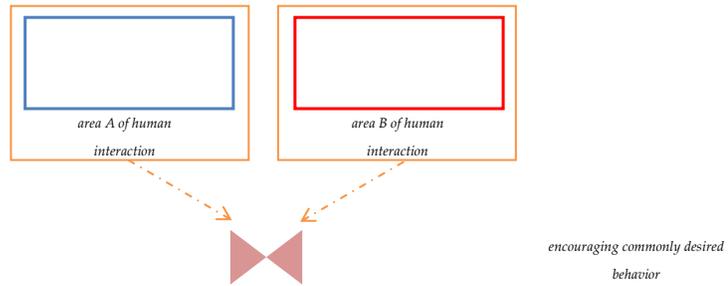
FIGURE 2

INTERRELATIONSHIPS BETWEEN *DE JURE* AND *DE FACTO* INSTITUTIONS FUNCTIONING IN DIFFERENT AREAS OF HUMAN INTERACTION

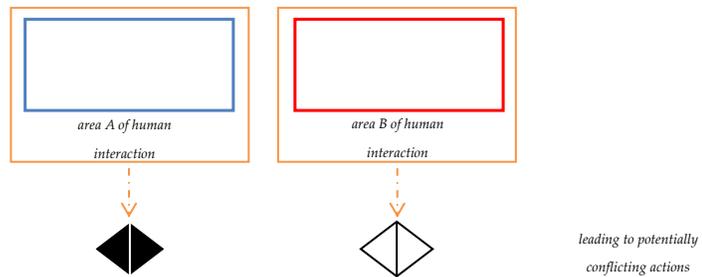
(a) *de jure* and *de facto* institutions in a neutral relationship



(b) *de jure* and *de facto* institutions encouraging commonly desired behavior



(c) *de jure* and *de facto* institutions leading to potentially conflicting actions



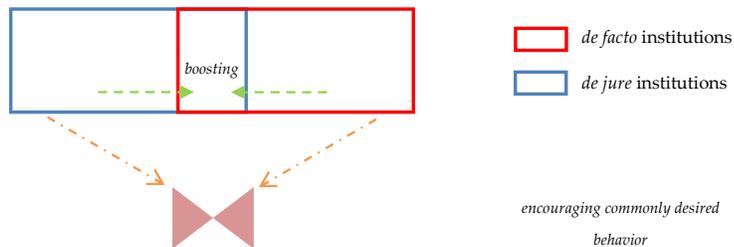
Source: own elaboration.

2. *De jure* and *de facto* institutions functioning in one area of human interaction

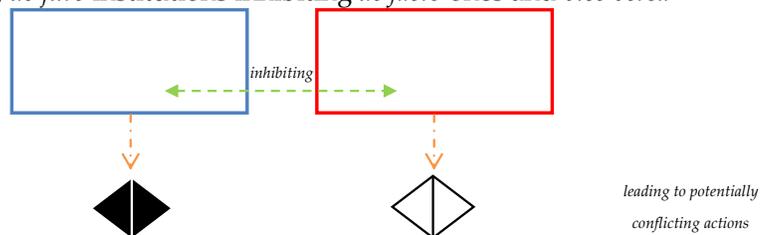
We devote more attention to the case of *de jure* and *de facto* institutions functioning in one common area of human interaction. In such case, *de facto* and *de jure* institutions are in line or not in line with each other and in this sense they inevitably interact; a neutral relationship cannot occur. The possible interrelationships between them in a static setting are outlined in Figure 3. As it was already mentioned, interrelationships between *de jure* and *de facto* institutions are mutual. Therefore, part (a) of Figure 3 refers to boosting *de jure* institutions by *de facto* institutions and *vice versa*, while part (b) illustrates the case, when *de jure* institutions inhibit *de facto* institutions and *vice versa*.

FIGURE 3
INTERRELATIONSHIPS BETWEEN *DE JURE* AND *DE FACTO* INSTITUTIONS FUNCTIONING IN THE SAME AREA OF REGULATION

(a) *de jure* institutions boosting *de facto* ones and *vice versa*



(b) *de jure* institutions inhibiting *de facto* ones and *vice versa*



Source: own elaboration.

While the ultimate relationship between such *de jure* and *de facto* institutions will indeed be assessed – as a mutually boosting or inhibiting one – at

a given point in time (static analysis), any existing institutional setup is a result of one or several dynamic processes and the latter must also be considered to provide the complete picture. Therefore, in our further considerations we blend the static perspective with elements of the dynamic approach. The situation when *de jure* institutions boost *de facto* ones is natural in this setting. This is the case when a *de jure* institution is imposed and implemented in a society and social actors comply, i.e. behave in line with it. When the implemented *de jure* institution differs at the outset from the existing *de facto* institution in that given sphere of human interaction, compliance may involve a change in behavior, i.e. *de jure* and *de facto* institutions converge. When such *de jure* institution is perfectly enforced, it becomes a *de facto* one. As a result, *de jure* and *de facto* institutions overlap giving ground for the boosting effect.

The boosting effect can also run in the inverse direction: from *de facto* to *de jure* institutions in the same area. We argue that boosting of *de jure* institutions by *de facto* ones is a matter of law enforcement. Formal rules are enforced because of three key elements of their character and position within an institutional system: (1) sanctions, (2) probability of executing imposed sanctions, and (3) social attitude with respect to (perception of) *de jure* institutions (Alston et al., 1996; Knight, 1998). A situation of enforcing legal rules thanks to overlapping *de facto* institutions (representing social practice) is, therefore, an example of institutional interaction that results in boosting *de jure* institutions. It should be emphasized that there is also a link between the mentioned social attitude and *de facto* institutions, as people tend to perceive *de jure* institutions based on their observation of the functioning *de facto* equivalents of these institutions. Moreover, as a component of law enforcement, this social attitude reflects various kinds of behavior towards *de jure* institutions across different institutional systems.

Based on the discussion so far it is noticeable that relations between *de jure* and *de facto* institutions are mutual in nature. *De jure* institutions, which boost *de facto* ones, are usually being boosted by the same *de facto* institutions, and *vice versa*. This mutual interrelationship is particularly evident when *de jure* and *de facto* institutions are in line with each other. In such case newly imposed *de jure* institutions simply legitimize the actually operative *de facto* ones and this legitimization may be regarded as a form of the boosting effect. In addition, these *de facto* institutions facilitate the implementation of *de jure* ones, mostly thanks to inherent social attitude.

When *de jure* institutions are not actually operative, *de facto* institutions functioning in the same area of human interactions deviate from them. There may be different sources of this divergence. Firstly, when a new *de jure* institution is imposed, it may not be in line with the existing social attitude and/or preferences

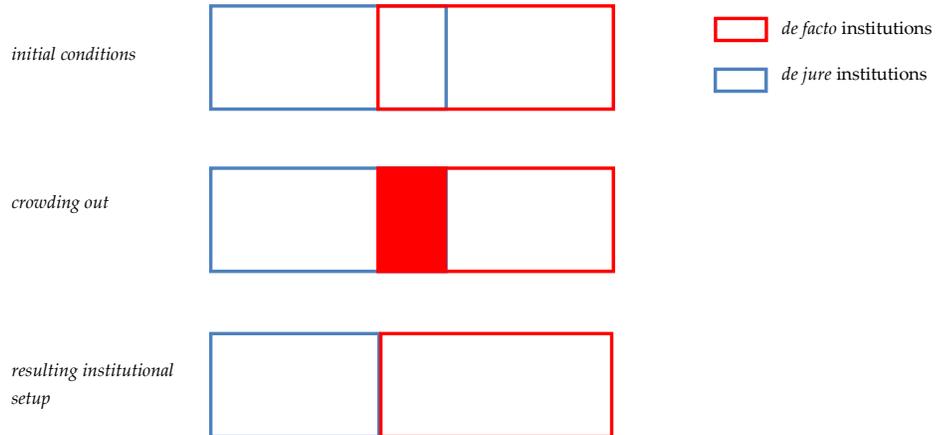
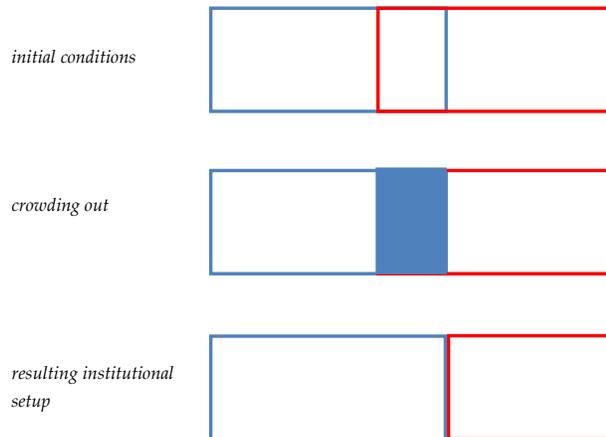
in a given sphere of interactions. This may result from the fact that legislative proposals and adopted legal acts are a product of the political process, which, as much of the public choice literature emphasizes, may give rise to outcomes that diverge from the general preferences of the society (see e.g. the classical works of Black [1948] and Downs [1957]). Secondly, another source of the incongruity between *de jure* and *de facto* institutions at the moment when the former are enacted, may be the “import” or “transplant” of institutions (e.g. La Porta et al. 1997, 1998; La Porta et al. 2008; Berkowitz et al. 2003). Thirdly, even if *de facto* institutions match the formal ones at a given point in time, this must not be an infinitely stable situation (see e.g. North 1998). Due to endogenous social changes and the operation of exogenous factors, even previously coherent institutions may become contradictory. Thus, we can assess interrelationships between *de jure* and *de facto* institutions over a given limited period of time only. Fourthly, weak law enforcement mechanisms may also contribute to the development of a gap between *de jure* and *de facto* institutions (for results of recent empirical studies confirming this inference with regard to constitutional rights and freedoms see e.g. Law & Versteeg, 2013; Melton, 2013; Metelska-Szaniawska, 2016).

3. The crowding out effect between de jure and de facto institutions in one area of human interaction

The divergence of *de facto* institutions from *de jure* ones in the same area naturally leads to these institutions inhibiting each other and may even result in a crowding out effect. It may be that *de facto* institutions crowd out *de jure* ones. This situation occurs when *de jure* institutions are not properly enforced or/and are not socially accepted. Formal institutions may also crowd out inconsistent *de facto* institutions from the institutional system of a given society or social group. Again, the relationship between divergent *de jure* and *de facto* institutions, is mutual in nature. *De jure* institutions, which are not in line with operative *de facto* ones, inhibit them. At the same time, inhibited *de facto* institutions disturb the implementation of the corresponding *de jure* institutions. Figure 4 illustrates the crowding out effect that may arise between *de jure* and *de facto* institutions. Part (a) refers to the case when *de facto* institutions crowd out *de jure* ones. *Per analogiam*, part (b) represents the situation when *de facto* institutions are crowded out by *de jure* institutions. Each part presents three stages of interactions: initial conditions, crowding out and resulting institutional setup.

FIGURE 4

THE CROWDING OUT EFFECT

(a) *de facto* institutions crowding out *de jure* ones(a) *de jure* institutions crowding out *de facto* ones

Source: own elaboration.

The potential crowding out effect between *de jure* and *de facto* institutions, which we described in this section (operating in both directions), is just one of many possible structures of interactions between *de jure* and *de facto* institutions over time. Certainly, a detailed dynamic account of the interrelationships studied here would constitute yet another significant value-added to institutional theory. Such analysis, extending beyond the scope of this

paper, should be placed high on the future research agenda in this area. In the next section we turn to investigating economic effects of the interrelationships between *de jure* and *de facto* institutions.

IV. ECONOMIC EFFECTS OF DE JURE – DE FACTO INSTITUTIONAL INTERRELATIONS

Last but not least, we focus on economic effects of interrelationships between *de jure* and *de facto* institutions. In this section the following aspects will be elaborated on: possible interrelationships of boosting or inhibiting *de jure* institutions by *de facto* institutions and *vice versa*, the significance of these interrelationships from an economic point of view, as well as their impact on transaction costs of legislation.

A. Transaction costs of legislation

By transaction costs of legislation we mean all costs connected with law-making except for those evolving strictly from producing new legal regulations. Thus, the following categories of costs can be, inter alia, classified as transaction costs of legislation: costs of announcing new laws, costs of adjustments incurred as a result of introducing new laws by public and private entities, costs of regulatory instability, as well as costs of law enforcement. As transaction costs of legislation increase, they make the mechanism of the state less effective (Rothstein & Teorell, 2008).

Typically, when *de facto* institutions inhibit the *de jure* ones, transaction costs of implementing and enforcing *de jure* institutions increase and may even become prohibitive. However, in the case when *de jure* institutions cause negative economic effects, *de facto* institutions inconsistent with them may actually reduce the consequences of such suboptimal legislation (or, obviously, aggravate them even further). The case of mitigating negative effects of *de jure* institutions by *de facto* ones does not have to be unequivocally beneficial as it may also lead to blocking or suspending potential reforms of sub-optimal *de jure* institutions. Economic effects of boosting *de jure* institutions by *de facto* ones also result in affecting the level of transaction costs of legislation (may limit them). Analogous effects occur with reference to *de jure* institutions' impact on *de facto* institutions. To sum up, boosting and inhibiting effects between *de jure* and *de facto* institutions result in a decrease or increase of transaction costs of legislation; however their final economic effect will inevitably also depend on the beneficial or detrimental nature of *de jure* institutions, as well as the degree of the legislator's rationality in each case. If the legislator is rational and willing to impose new legislation in order to increase social welfare, transaction costs of legislation should be as small as possible. On the opposite, if the legislator is irrational or pursuing only his own utility apart from or contrary to public goals,

high transaction costs of legislation may restrain such reforms, which are unfavorable for the society, from being operative.

B. Other effects

Since, as discussed so far, interrelationships between *de jure* and *de facto* institutions matter for the levels of transaction costs, they also affect the primary goal undertaken by the legislator when imposing new regulations. Due to the fact that *de jure* and *de facto* institutions may interact, interrelationships between them may impact on the real outcome of legislation and this is obviously significant from an economic point of view.

Yet another channel which the divergence between *de jure* and *de facto* institutions in a given area of interaction impacts the economy, is the credibility channel. When such *de jure* – *de facto* gap arises, this acts as a signal of limited credibility of government promises made, by means of enacting legislation, vis-à-vis individuals and their groups within the society. As emphasized by much of the public choice and related literature (e.g. Borner et al., 1995; Henisz, 2000a,b), credibility of such promises is a highly relevant factor from the point of view of providing a predictable framework for the functioning of economic agents, fostering various forms of pro-investment activity and, as a consequence, promoting economic growth.

V. CONCLUSIONS

To sum up, in this paper the main focus was on *de jure* and *de facto* institutions. A *de jure* institution is a state of affairs that is in accordance with the law, i.e. *de jure* institutions constitute a subclass of formal institutions and must necessarily be external in nature (or, in exceptional cases, both external and internal). A *de facto* institution relates to a state of affairs that is true in fact, but does not have to be officially sanctioned. Such institutions may be formal or informal, as well as external or internal, provided that they are operative. *De facto* and *de jure* institutions are, therefore, not antonyms, they may overlap. Identifying *de facto* institutions is a fundamental challenge and is (at least to a certain extent) discretionary. This process has to be based on precise and reliable data, allowing to analyze human behavior and interactions. We stress problems regarding determining whether we analyze an institution and whether this particular institution is operative.

Institutions usually interplay with each other. Depending on whether they are functioning in the same area of human interactions, or not, various structures of interactions between them may exist. *De jure* and *de facto* institutions may boost each other when they lead to a commonly desired behavior, or inhibit each other when this is not the case. In dynamic settings potential convergence and divergence may be observed, as well as the crowding out effect. Economic effects

of the interrelationships between *de jure* and *de facto* institutions result, depending on their nature, in decreasing or increasing the level of transaction costs connected with implementing and enforcing legislation. The interrelationships also affect the regulatory goal assumed by the legislator, as well as the government's credibility vis-à-vis economic actors

In this paper we aimed to contribute to a better understanding of the nature of *de facto* institutions, as well as their relationships with *de jure* institutions, in the context of economic analysis. Given the gaps and inconsonance in the existing literature, we believe that applying the proposed *de jure – de facto* classification of institutions, which also includes reference to their formal-informal and external-internal nature, in future studies of institutions and their factual execution will lead to more consistency and less confusion in the terminology used by theoretical and empirical researchers in the field. The systematic account of the possible interrelationships between *de jure* and *de facto* institutions that we proposed may also provide theoretical ground for future empirical studies of the *de jure – de facto* distinction in relation to specific rules and institutional settings. This refers, in particular, to research in law and economics, as problems of enforcement and compliance are crucial in the study of the functioning of legal rules and their economic relevance. As a final step, the more systematic empirical analysis will allow for formulating more reliable policy recommendations concerning the design of effective legal institutions.

REFERENCES

- Acemoglu, D. (1995). *Reward Structures and the Allocation of Talent*. *European Economic Review*, 39(1), 17-33.
- Acemoglu, D. & Jackson, M. O. (2014). Social Norms and the Enforcement of Laws. NBER Working Paper No. 20369, *National Bureau of Economic Research*, Cambridge, Mass.
- Acemoglu, D. & Robinson, J. A. (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge: University Press.
- & — (2008). The Role of Institutions in Growth and Development, *Working Paper No. 10*, Commission on Growth and Development, World Bank. Retrieved from http://siteresources.worldbank.org/EXTPREMNET/Resources/489_960-1338997241035/Growth_Commission_Working_Paper_10_Role_Institutions_Growth_Development.pdf.
- Alston, L., Eggertsson, T., & North, D. C. (1996). *Empirical Studies in Institutional Change*. Cambridge: University Press.

- Alston, L., Harris, E. & Mueller, B. (2009). De Facto and De Jure Property Rights: Land Settlement and Land Conflict on the Australian, Brazilian and U.S. Frontiers. NBER Working Paper No. 15264, *National Bureau of Economic Research*, Cambridge, Mass.
- Aslanian, S. (2006). Social capital, "trust" and the role of networks in Julfan trade: informal and semi-formal institutions at work. *Journal of Global History*, 1(3), 383-402.
- Austin, J. (1885). *Lectures on Jurisprudence; or The Philosophy of Positive Law*. London: Murray Publishing.
- Baker, G., Gibbons, R. & Murphy, K. J. (1994). Subjective Performance Measures in Optimal Incentive Contracts. *Quarterly Journal of Economics*, 109, 1125-1156.
- Benabou, R. & Tirole, J. (2011). Laws and Norms. NBER Working Paper 15579, *National Bureau of Economic Research*, Cambridge, Mass.
- Berkowitz, D., Pistor, K. & Richard, J. F. (2003). "Economic Development, Legality, and the Transplant Effect", *European Economic Review*, 47(1), 165-195.
- Berman, S. (2013). Ideational theorizing in the social sciences since 'Policy paradigms, social learning and the state'. *Governance*, 26(2), 217-237.
- Bernstein, L. (1992). Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry. *Journal of Legal Studies*, 21, 115-157.
- Besley, T. & Case, A. (2003). Political Institutions and Policy Choices: Evidence from the United States. *Journal of Economic Literature*, 41, 7-73.
- Bicchieri, Ch. & Muldoon, R. (2014). Social Norms. In: Zalta E. N. (Ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2014 ed.). Retrieved from <http://plato.stanford.edu/archives/spr2014/entries/social-norms/>.
- Black, D. (1948). On the rationale of group decision-making. *Journal of Political Economy*, 56, 23-34.
- Blackstone, W. (1979). *Commentaries on the Laws of England*. Chicago: The University of Chicago Press.
- Borner, S., Brunetti, A. & Weder, B. (1995). *Political Credibility and Economic Development*. Palgrave MacMillan.
- Brennan, G. & Hamlin, A. (1998). Constitutional Economics. In: P. Newman (ed.), *The New Palgrave Dictionary of Economics and the Law*, MacMillan, 401-409.

- Buchanan, J.M. (1987). Constitutional Economics. In: Eatwell J., Milgate M., Newman P. (Eds.), *The New Palgrave – A Dictionary of Economics*, MacMillian.
- Cingranelli, D. L., Richards, D.L, Clay, K.Ch. (2014). *The CIRI Human Rights Dataset*, <http://www.humanrightsdata.com>.
- Cooter, R. (1998). Expressive Law and Economics. *Journal of Legal Studies*, 27, 585-608.
- Cukierman, A. (2007). De Jure, De Facto, and Desired Independence: The Bank of Israel as a Case Study. In: Livitan N., Barkai H. (ed.). *The Bank of Israel: Vol. 2. Selected Topics in Israel's Monetary Policy*, Oxford University Press.
- Dixit, A. (1996). *The Making of Economic Policy: A Transaction-Cost Politics Perspective*, MIT Press.
- Downs, A. (1957). *An Economic Theory of Democracy*, Harper Collins.
- Dworkin, R. (1977). *Taking Rights Seriously*, Harvard University Press.
- Ellickson, R. (1991). *Order Without Law*, Harvard University Press.
- Farrell, H. & Héritier, A. (2003). Formal and Informal Institutions Under Codecision: Continuous Constitution-Building in Europe. *Governance*, 16 (4), 577-600.
- Fehr, E. & Gächter, S. (2001). Do Incentive Contracts Crowd out Voluntary Cooperation? *Centre for Economic Policy Research*, Discussion Paper No. 3017.
- Ferrer, R. (2010). Breaking the Law when Others Do: A Model of Law Enforcement with Neighborhood Externalities. *European Economic Review*, 54(2), 163-180.
- Freedom House (2016). *Freedom in the World*. Freedom House.
- Frey, B. S. & Oberholzer-Gee F. (1997). The Cost of Price Incentives: An Empirical Analysis of Motivation Crowding-Out. *American Economic Review*, 87, 746-755.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*, University of California Press.
- Glaeser, E. L., Sacerdote, B., Scheinkman, J. A. (1996). Crime and social interactions. *Quarterly Journal of Economics*, 111(2), 507-548.
- Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F. & Shleifer, A. (2004). Do Institutions Cause Growth? *Journal of Economic Growth*, 9(3), 271-303.

- Gracia, J. J. (1999). Philosophy in American Life: De Facto and De Jure. *Proceedings and Addresses of the American Philosophical Association*, 72(5), 149-158.
- Greif, A. (1998). Historical and Comparative Institutional Analysis. *The American Economic Review*, 88(2), 80-84.
- Hanretty, Ch. (2010). Explaining the De Facto Independence of Public Broadcasters. *British Journal of Political Science*, 40(1), 75-89.
- Hanretty, Ch. & Koop Ch. (2013). Shall the law set them free? The formal and actual independence of regulatory agencies. *Regulation & Governance*, 7, 195-214.
- Hayo, B. & Voigt, S. (2007). Explaining De Facto Judicial Independence. *International Review of Law and Economics*, 27(3), 269-290.
- Henisz, W. J. (2000a). The Institutional Environment for Economic Growth. *Economics and Politics*, 12(1), 1-31.
- (2000b). The Institutional Environment for Multinational Investment. *Journal of Law, Economics and Organization*, 16(2), 334-64.
- Hodgson, G. M. (2006). What Are Institutions? *Journal of Economic Issues*, 11(1), 1-25.
- Huang, P. H. & Wu, H. M. (1994). More Order without More Law: A Theory of Social Norms and Organizational Cultures. *Journal of Law, Economics, and Organization*, 10, 390-406.
- Jütting J., Drechsler D., Bartsch, S. & de Soysa, I. (Eds.) (2007). *Informal institutions: How social norms help or hinder development*, OECD.
- Kelsen, H. (1959). On the Basic Norm. *California Law Review*, 47, 107-110.
- Knight, J. (1998). *Explaining Social Institutions*, The University of Michigan Press.
- La Porta, R., López De Silanes, F. & Schleifer, A. (2008). The Economic Consequences of Legal Origins. *Journal of Economic Literature*, 46, 285-332.
- La Porta, R., López De Silanes, F., Schleifer, A. & Vishny, R. W. (1997). Legal Determinants Of External Finance. *Journal of Finance*, 52, 1131-1150.
- , — & — (1998). Law and Finance, *Journal of Political Economy*, 106, 1113-1155.
- Law, D. S. & Versteeg, M. (2013). Sham Constitutions. *California Law Review* 101, 863-952.

- Lazzarini, S. G., Miller, G. J. & Zenger, T. R. (2004). Order with Some Law: Complementarity versus Substitution of Formal and Informal Arrangement. *Journal of Law, Economics, and Organization*, 20, 261-298.
- Leftwich, A. & Sen, K. (2010). *Beyond institutions: Institutions and organizations in the politics and economics of poverty reduction – Thematic synthesis of research evidence*, DFID-funded Research Programme Consortium on Improving Institutions for Pro-Poor Growth (IPPG).
- Macaulay, S. (1963). Non-contractual Relations in Business: A Preliminary Study. *American Sociological Review*, 27, 55-57.
- MacCormick, N. & Weinberger, O. (1986). *An Institutional Theory of Law: New Approaches to Legal Positivism*, Springer-Science_Business Media.
- Melton, J. (2013). Do Constitutional Rights Matter? The Relationship between De Jure and De Facto Human Rights Protection. *Working Paper*, 1-39. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.375.9784&rep=rep1&type=pdf>.
- Melton, J. & Ginsburg, T. (2014). Does De Jure Judicial Independence Really Matter. A Reevaluation of Explanations for Judicial Independence. *Journal of Law and Courts*, 2, 187-217.
- Metelska-Szaniawska, K. (2016). Post-Socialist Constitutions: The De Jure – De Facto Gap, Its Effects and Determinants. Paper presented the 2016 *European Public Choice Society Annual Conference in Freiburg* (30.03-2.04.2016).
- Migdal, J. S. (2001). *State in society: Studying how states and societies transform and constitute each other*. Cambridge University Press.
- Morris, R. T. (1956). A Typology of Norms. *American Sociological Review*, 21, 610-613.
- North, D.C. (1990). *Institutions, institutional change, and economic performance*, Cambridge University Press.
- (1998). Understanding the Process of Economic Change. *Institute of Economic Affairs, IEA Occasional Papers*, 106,
- Pejovich, S. (1999). The Effects of the Interaction of Formal and Informal Institutions on Social Stability and Economic Development. *Journal of Markets & Morality*, 2(2), 164-181.
- Pejovich, S. (2012). *Economic analysis of institutions and systems*, Springer Science & Business Media.

- Pejovich, S. & Colombatto, E. (2008). *Law, Informal Rules and Economic Performance*. Cheltenham, UK & Northampton, MA, USA: Edward Elgar Publishing.
- Posner, E. A. (2000). *Law and Social Norms*, Harvard University Press.
- Posner, R. (1997). Social Norms and the Law: An Economic Approach. *The American Economic Review*, 87(2), 365-369.
- Raiser, M. (1997). Informal institutions, social capital and economic transition: reflections on a neglected dimension. *Working Paper*, 1-33.
- Robinson, J. A. (2013). Measuring institutions in the Trobriand Islands: a comment on Voigt's paper. *Journal of Institutional Economics*, 9(1), 27-29.
- Rothstein, B. & Teorell J. (2008). What is quality of government? A theory of impartial government institutions. *Governance*, 21(2), 165-190.
- Shirley, M. M. (2013). Measuring institutions: how to be precise though vague. *Journal of Institutional Economics*, 9(1), 31-33.
- Unsworth, S. (2010). *An upside down view of governance*, Institute of Development Studies.
- Williamson, C. (2009). Informal institutions rule: institutional arrangements and economic performance. *Public Choice*, 139, 371-387.
- Williamson, O. E. (2000). The New Institutional Economics: Taking Stock, Looking Ahead. *Journal of Economic Literature*, 38(3), 595-613.
- Voigt, S. (2013). How (Not) to measure institutions. *Journal of Institutional Economics*, 9(1), 1-26.
- Voigt, S., Gutmann, J. & Feld, L. P. (2015). Economic growth and judicial independence, a dozen years on: Cross-country evidence using an updated set of indicators. *European Journal of Political Economy*, 38, 197-211.
- Xu, Ch. (2012). *Institutional Foundations of China's Structural Problems*, Palgrave Macmillan.
- Zasu, Y. (2007). Sanctions by Social Norms and the Law: Substitutes or Complements? *Journal of Legal Studies*, 36, 379-396.