Informal Institutions, Formally:

A Logical Model of Definition, Formalization, and Alignment

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Abstract: (116 words) The concept of informal institutions has been used to make important contributions to numerous areas of political economy research. Yet varying and inconsistent usage of informal institutions has led to ambiguity in determining the overall contribution of the concept to the literature. This paper adapts John Searle's framework of institutions to present a general model of informal institutions, affording unification of otherwise varying and inconsistent usages. The paper then deploys this model to contribute to three key areas of political economy research where ambiguity has been associated with: definition (what is a formal versus an informal institution?); formalization (how does an informal institution become a formal institution?); and alignment (how consistent are formal and informal institutions?).

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Edward J. López and James L. Caton

1. Introduction

> Institutions are the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights). North (1991, p.97)

This paper presents a model of informal institutions and their interaction with formal institutions in political economy settings, where institutions are a central construct. Scholars in many fields utilize institutions as the building blocks of decision environments for agent choices, both individually as in the marketplace and collectively as in politics. A common approach is to treat an observed outcome (e.g., trade, growth, inequality, corruption) as being determined by the structure of incentives faced by relevant decision makers. The structure of incentives is in turn defined by prevailing institutional arrangements, yielding a general proposition for analyzing society through time: as institutional rules evolve to increase (decrease) the net costs to agents of engaging in behavior Q, we can expect to see a decrease (increase) in the observed quantity of Q. Some studies, in the manner of the epigraph by Douglass North above, make frequent use of *formal institutions* as distinguished from *informal institutions*, or from *culture*, or *ethics*, or *customs*, *norms, taboos,* or *conventions*, to name a few. While these usages perform substantial heavy lifting in their respective studies, the literature as a whole shows that these usages are varied and disparate, not always consistent, and sometimes contradictory to each other (Kingston and Caballero 2009). In a 2015 symposium on the nature and definition of institutions, Hodgson (2015:) observes:

> The ambiguous terminology of 'formal' *versus* 'informal' institutions is often deployed but much less often defined. Sometimes 'formal' is intended to mean *codified*. Others use it to mean *designed*. Still others use it to refer to *laws*. Given this confusion, the intended meaning of these terms should always be clarified.

We can take Hodgson's critique as a starting point in this paper, and build a simple model that could serve as a common reference point among these disparate uses. Section 2 begins with

identifying three problems that arise in the political economy literature due to inconsistent usage of informal institutions. Then in Section 3 we briefly review the philosopher John Searle's theory of institutions [and its overlap with the cognitive science approach to institutions taken by certain social scientists, namely Douglass North and colleagues]. Searle's theory is more general than the social science approach to institutions, in the sense that Searle's net is cast to include not just political-economic interaction but all of social life. However, […]. Section 4 then adapts Searle's framework to build a simple logical model of informal and formal institutions, which we use to address the three political economy problems identified in Section 2. Section 5 then concludes with a discussion of implications and future work.

2. Informal Institutions in Political Economy

For purposes of this paper, we will focus on three problems in the political economy literature that arise due to inconsistent usage of informal institutions. The first problem is simply Hodgson's point about definitions. For the most part studies that employ informal institutions initially acknowledge that general definitions are elusive, and then proceed to explain their own particular usage. This is not a critique, but a description. For instance, in the fiscal policy area of political economy research, institutions play important roles in models that seek to explain systematic deficits, and to understand what steps are likely to be effective at constraining deficits toward long term fiscal sustainability. What constraints can be imposed on policymakers to maintain fiscal discipline? While the predominance of the literature focuses on formal institutions such as constitutional rules and budget process, recent contributions have focused attention on informal institutions. Heineman, Osterloh and Kalb (2014), for example, survey a small body of work examining sovereign risk premiums as a function of the fiscal culture among the nation's people. Measures of fiscal culture found in the literature have included political party affiliation, textual analysis of presidential speeches, survey data within country, and referendum votes on fiscal matters.

Separately, Hou and Smith (2010) define informal fiscal rules as the way budget officials decide to interpret formal fiscal rules. Another side of the literature asks how informal institutions might create strong incentives for policymakers to engage in deficit finance, to explain the emergence of chronic deficits (Calcagno and López 2017).[1] For each of these studies, there is a different definition of informal institutions, hampering comparisons and overall conclusions. The point is not to suggest that these respective usages are lacking, or in some way are unfit for their research purposes. Instead, the problem is that the fiscal policy literature relies on informal institutions, but the failure to consistently define institutions in this literature creates difficulty for drawing general conclusions from the literature.

The second problem proceeds from questions of definition to questions of codification. How does an informal institution transform into a formal one, or not? And if an institution is the structure of incentives, what is the structure of an institution? This naturally arises in economic history, for example, where the literature has come to use political-economic institutions as a primary apparatus for understanding the rise of economic growth in the west. Contributors generally have attributed institutions to culture. North (1990, p.36), for example: "Where do informal institutions come from? They come from socially transmitted information and are part of the heritage that we call culture." Similarly, the framework in Leighton and Lopez (2013) employs culture as the context in which ideas circulate and compete for selection into institutions. Joel Mokyr's recent book weighs in: "without a meta rule (or ethic) that rules should be respected and followed, rules and laws may well be empty and unenforced suggestions" (Mokyr 2017, p.10). This point is pushed further in McCloskey (2010, chapters 33-37), arguing that institutions are neither necessary nor sufficient to

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[1] Calcagno and Lopez (2017) define informal fiscal rules as prevailing norms in the electorate, and document a shift in the United States from a "balanced budget" norm prior to 1880 to a "deficit-as-policy" norm by 1930. This will be discussed with more detail later in the paper.

explain the modern era of economic growth, that the North generation has over emphasized institutions, when ideas alone can account for economic change. A shift of ethic in favor of the norms of the bourgeoisie was sufficient. More recently McCloskey (2016) moves beyond the critique of institutions and devotes a chapter to Searle's theory of institutions.[2] In an interesting connection among all these approaches, Searle's own view is to treat a society's culture, especially its languages, as the context for institutional change, as the structure of institutions (Searle 1995). Yet again, for each approach there is a different definition of culture, emphasizing different aspects of it. This can be a healthy aspect of the advance of knowledge offered by this literature. Yet Hodgson's critique of ambiguity may apply here insofar as the variety of approaches hampers general conclusions about the role of culture in economic change or just the fundamental question of what is the structure of an institution.

The third problem considers the interaction of formal and informal institutions. As they become generally accepted and more so as they becom formalize, institutions exert causal force upon the beliefs of actors subject to them. How do formal institutions influence the beliefs and action of those subject to them? Consider that before the Glorious Revolution, robust markets were practically non-existent. When they were, they tended to exist at the level of a city or small network of cities. After the Glorious Revolution, market exchange became a dominant mode of social intercourse. Institutions not only represent an incentive structure that guides action, they are adjoined to a structure of beliefs concerning one's place among others in society. They influence the types of actions and beliefs that actors find repugnant, acceptable, or ideal. If McCloskey is right, the institutions that began maturing at the time of the Glorious Revolution were the result of the

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[2] Chapter 14 of McCloskey (2016), titled "Because Ethics Matters, and Changes, More", embraces institutions when conceptualized as language, but rejects institutions when considered as government policies and courts of law that constrain utility-maximizing choice. "Searle and I…disagree with such a reduction…" (McCloskey 2016, p.117).

widespread acceptance of *Bourgeois Virtues* (200x). The spread of these institutions seem also to have spread these virtues.

The structure of institutions corresponds to the structure of beliefs (Searle 1979; 2005). This should be no surprise since institutions themselves embody the convergence of beliefs among a population of actors. Searle's definition of an institution is one manifestation of modeling in which *all* humans engage. If an institution is evidenced by human action, it is due to the fact that the actor has developed a mental model that allows his or her actions to cohere to the institution or one that enables him to copy the actions of those who have successfully adopted such a model. An actor's mental model both influences and is influenced by the institutions in his or her social environment. When they are properly alligned with beliefs of those subject to them, institutions are externalized models of human agents. In work preceding his work on institutions, John Searle presents the elements of what an intentional state that will be of interest to problems two and three (1979). Of interest for problem two is what he calls the "mind-to-world fit" where we must consider the accuracy of an agent's model of the world. For problem three, we are interested in the "world-to-mind" fit where intentional acts attempt to exert influence on the world. Part of the *world* in consideration includes institutions that make up an agent's environment. Just as actions are influenced by and also influence physical conditions, these directions of causation hold also for an agent's relationship to the institutional environment.

The third problem extends the focus onto the interaction of formal and informal institutions, in particular circumstances when they are misaligned (Hayek 1973). Consider a few quotidian examples. At the entrance to the local greenway, a large municipal sign might read "All Pets Must Be on A Leash at All Times," yet on the greenway everyone understands that no pet will ever be on a leash. Another example, on the interstate highway the posted speed limit might be 65mph yet everyone on the road might accept and recognize that the observed speed will be 75mph. Or, more broadly speaking, under a regime of salutary neglect the Navigation Acts were official and widely

known to be law, yet under lenient enforcement the colonists accepted free trade as the binding albeit unofficial rule. In these types of circumstances, the *de jure* rules are distinct from the *de facto* rules. This has happened more recently in the context of copyright law, where the contours of protection have been extended sufficiently broadly that consumers of creative goods are estimated to violate federal copyright law perhaps thousands of times each day in the course of an average person's routine (Tehranian 2007). These circumstances raise several questions. If the formal rules do not match prevailing informal rules, which set of rules dominate? That is, which set of rules are a people to follow? Will there be strife among groups selecting into competing sets of informal rules? And will the tension between the formal and informal be consistent with growth?

> If the culture and the institutions are misaligned, the foundations become unstable. If there is a clash between culture and institutions, in the sense that the underlying belief or legitimacy for certain institutions has eroded, a political disequlibrium has emerged. Unfortunately, there is no good theory to predict what happens then… (Mokyr 2017, 11)

Finally, how can the formal rules be brought into consistency with the informal institutions? and how can failed attempts to introduce formal rules be understood? The fate of major policy reforms is on the line. We can see the advantage of accounting for both formal and informal institutions with commensurate analytical structure.

In summary, Hodgson's critique appears to find validation in political economy research. My attempt in the rest of the paper will be to suggest a somewhat general and perhaps more consistent approach. This brings us to Searle's (1995) framework of institutions, which is both general with respect to social life and well-suited to adaptation for examining the political economy problems discussed above.

2. Institutions and Cognition

At the heart of the development and adherence to institutional growth is human *understanding*. *Understanding* recognizes the fundamental role of human cognition in the study of the humanities. Humans model the world much as theorists do (Menger 1985, pp. 37, 43; Mises

1949, p. ??). They make predictions concerning the environment in which they live. In attempt to explicate this, Denzau and North (1994) integrated the *mental model* from cognitive science, augmenting the construct with sociality by discussing "shared mental models" (see also Johnson-Laird 1980; Mises 1949, pp. 43-56). The mental model the acting agent's logical structure that guides him . Likewise, it is an interpretive heuristic for observers of social activity.[3] Just like academic theorists, common men and women employ theories of the world as they relate to it. Their models differ only terms of the level of abstraction and rigor.

A valid theory should explain past events and, to the extent that the future coheres to these past events, make accurate prediction concerning the future. In this respect, Newtonian mechanics is capable of making predictions concerning the trajectory of objects. Similarly, statistics attempts to extrapolate from past data in order to predict future outcomes. The problem of prediction grows increases in complexity when the agents that you predict are capable of adaptation to changing circumstance. That is, the manner in which beliefs that guided the action of a man's acquaintance yesterday interact with his environment to generate future action may not be easily, if at all, understandable by interpretation of given data. It is even possible that his beliefs change and would thus generate a new array of circumstances if he were to relive his past. Institutions attempt to bring order to the problem of prediction of other acting men and women by limits on their scope of action. In order to better understand this problem, we will need to borrow from Searle's description of institutions shared in common within a population.

3. John Searle and Constitutive Rules: X counts as Y in C

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[3] Mises notes, "The intellectual methods of science do not differ in kind from those applied by the common man in his daily mundane reasoning. The scientist uses the same tools which the layman uses; he merely uses them more skillfully and cautiously. Understanding is not a privilege of the historians. It is everbody's business. In observing the conditions of his environment everybody is a historian. Everybody uses understanding in dealing with the uncertainty of future events to which he must dust his own actions . . . Acting man look, as it were, with the eyes of a historian into the future (56)."

In this section we discuss the philosopher of language John Searle's approach to institutions (Searle 1995, 2005, 2015). The purpose here is to provide a sufficient account of Searle's framework such that we can apply it to the above-identified problems in political economy. This is not intended to be a comprehensive presentation of Searle on institutions.

To begin, first note that social scientists tend to utilize institutions primarily as regulative rules, for example as constraints on opportunistic behavior so as to generate order and growth. In this sense, institutions are the rules of the game and economists model rational behavior within those rules in order to understand outcomes in the world, for better or worse (Baumol 1990, North 1990). For Searle, regulative rules are a first step in institutional analysis and must be distinguished from what he calls constitutive rules.

> Some rules regulate antecedently existing activities… However, some rules to not merely regulate, they also create the very possibility of certain activities. Thus, rules of chess do not regulate an antecedently existing activity. It is not the case that there were a lot of people pushing bits of wood around on boards, and in order to prevent them from bumping into each other all the time and creating traffic jams, we had to regulate the activity. The rules are constitutive of chess in the sense that playing chess is constituted in part by acting in accord with the rules. If you don't follow at least a large subset of the rules, you are not playing chess. The rules come in systems, and the rules individually, or sometimes in the system collectively, characteristically have the form
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> 'X counts as Y' or 'X counts as Y in context C'…
>
> Searle (1995, pp.27-8)

This is Searle's framework. An institution is any constitutive rule or system of constitutive rules that follows the logical form 'X counts as Y in C'. Prediction of non-social facts follow this form as well, thus we can think of this as a general description of all rules that comprise an agents mental model. As we will show, agents' mental models bridge the objective world of "brute facts" and the subjective world of "social" and "institutional facts". The phenomenon 'X' can be an object like a coin, or an action such as throwing a dart at the wall, or making a promise or any other phenomenon of the social world. The term 'Y' is a status function. The question is whether people have collectively assigned a status function to X which is collectively recognized.

For Searle, the phrase 'counts as' lies at the heart of studying institutions. How do people create institutions? How do they maintain and change institutions, and decide whether to abandon institutions through time? Searle carefully probes the detailed processes of language and information exchange that are behind these institutional dynamics. Searle's communicative processes create movement in the analysis.[4] People move from having no way to account for the distance from the earth to the sun, to developing the institutions of language and measurement, which moves humans toward the capacity to state and mutually recognize that the distance is 93 million miles. This is a 'brute fact', one that exists in the physical world independently of any human institutions, but one which humans come to mutually understand through the use of institutions, most importantly language. Then there are 'social facts', which exist only by definition of human institutions, for example "this object is a dollar coin pressed at by the United States Mint". The coin would not exist except for human institutions, still this does not mean the coin is an institution. 'Institutional facts' are a subset of social facts that can be distinguished by their having been assigned some social status and function. The metal in the coin may be a brute fact, and the coin itself may be a social fact. Only if people collectively assign status to the coin, a status which says the coin fulfills the classic functions of money (medium of exchange, unit of account, store of value, and standard of deferred payment), even if these functions are independent of its physical attributes—only then can there exist the institutional fact of stating "I accept this dollar coin as a method of payment".[5]

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[4] The movement in Searle's system can be detected in passages such as this one. "The central span on the bridge from physics to society is collective intentionality, and the decisive movement on that bridge in the creation of social reality is the collective intentional imposition of function on entities that cannot perform those functions without that imposition. The radical movement that gets us from such simple social facts as that we are sitting on a bench together or having a fistfight to such institutional facts as money, property, and marriage is the collective imposition of function on entities, which—unlike levers, benches, and cars—cannot perform the functions solely by virtue of their physical structure." Searle (1995, p.41).

[5] The conception of money also helps us to deal faithfully with Mises regression theorem. It is not that all forms of money must trace back to commodity, but rather, that evolution of commodity money was required in order for economic actors to develop an ontological conception of money that is generalizable beyond commodities. This in no way disputes that worth of a commodity money system. It provides a coherent explanation concerning the development of government fiat moneys that have never been linked to a commodity **(cite examples?)**.

This is how the process works in general. Through language and the flow of information, people communicate ideas about measurement, about money, about prices, and about everything from food to justice to getting old. In doing so they collectively assign status and function to items in their reality, often times independent of those items' physical attributes. For Searle, the move from social fact to institutional fact

> comes when humans, through collective intentionality, impose functions on phenomena where the function requires continued human cooperation in the specific forms of recognition, acceptance, and acknowledgement of a new *status* to which a *function* is assigned. This is the beginning point of all institutional forms of human culture, and it must always have the structure X counts as Y in C…
>
> Searle (1995:40)

Searle provides the example of erecting a hypothetical wall between two communities. Upon construction, suppose the wall is physically constituted such that is dissuades and even prevents people from crossing. If people do not recognize the wall as having the social status of 'boundary' (perhaps people believe the wall to be illegitimate), the wall could still nonetheless serve as a boundary, solely on the basis of its physical properties, being tall enough. The wall is a brute fact. By contrast, suppose a period of time passes in which the wall physically deteriorates down to rubble. And meanwhile suppose that the people in that social context have become accustomed to the wall. They have talked about it with their neighbors and have passed down origin stories to their children. Through time, although people may have grappled with the downsides of the wall, it has come to be accepted. In Searle's formal terms, people have "collectively imposed" a status function on the phenomenon, people "collectively recognize" that this function is imposed, and the function transcends the physical attributes of the phenomenon. Therefore, even though a person might easily hop over the now-crumbled wall, it still 'counts as' a social boundary line because it has acquired "collectively recognized status" (Searle 1995, p.41). Those on the other side of the wall are subject to a different categorization. They are seen as *other*, either at the bottom of or alien to the social structure in which the observing agent may be ingratiated. The idea of the wall has become an

institution. In Searle's formulation, a person (X) living on the other side of the wall from myself (C) is an outsider to my society (Y).

Searle's framework is imbued with movement between binary categories. A phenomenon moves from not being a brute fact to being one. A statement crosses the threshold of being a social fact, or it does not. People either do collectively impose function that produces institutional fact, or they do not. And an institution is either codified into law, or it is not and remains informal (pp.87-90). The simple adaptation of Searle's framework in this paper takes advantage of this movement between binary categories. As people talk about phenomena in society, they convert those phenomena into and out of Searle's categories. The process is driven by talk, per McCloskey (2010). Communication of ideas in gradual bits of repeated interaction over time establishes effective boundary lines of human interaction—of what is acceptable, expected, tolerable, and so on. The contours may constantly shift and move, which can relocate various phenomena into or out of the set of constitutive rules. Institutions change.

4. Adapting Searle's Framework: A Logical Model of Informal Institutions

Searle's general framework can be adapted fairly straightforwardly to the questions of formal and informal institutions in political economy. It bears emphasizing that unlike regulative rules which are constraints on antecedent behavior, constitutive rules create capacity for expanded scope of human interaction, making possible new activities that could not exist before.
I first adapt the framework using three explicit assumptions. I then use the adapted model to attempt to clarify the above-identified problems in political economy research.

Assumption 1: In the framework 'X counts as Y in C', for any social context at time period *t*, the term X_t can be treated as an idea that is being communicated in society. At any given time a matrix of ideas is circulating in society as humans exchange information through language. A subset

of circulating ideas will cross the threshold of becoming collectively established as institutions; the remainder will not.

Assumption 2: The phrase 'counts as' can be treated as a binary condition. An idea X_t either meets the criteria of collective assignment, or it does not. In other words, the boundary line enclosing the set of institutions is drawn either on one side of X_t, or on the other. Without changing the structure of Searle's framework, we can adapt the notation such that 'Y=1' indicates collective assignment of X inside the boundary lines of what counts as institutional fact. By the same, we can write 'Y=0' to indicate collective assignment outside the boundary lines of institutional fact. Therefore, in the notation that follows, let Y=1 denote the condition 'X counts as Y', and let Y=0 denote 'X does not count as Y', in time period *t*.

Assumption 3: Informal institutions and formal institutions adhere to the same logical structure of collective establishment, and have the same logical threshold for being counted as institutions, but they are established and enforced through different channels of collective interaction. Informal institutions are established and enforced where people's decisions pertain closest to informal rules: norms, customs, culture, ethics, and more. Likewise, formal institutions are established and enforced in channels that pertain closest to formal rules: bylaws, legislation, constitutions, and more.[6] In the notation that follows, let lower case letters '*x*' and '*y*' refer to informal institutions, and let upper case letters 'X' and 'Y' indicate formal institutions.

Adapting Searle's framework with Assumptions 1-3, we can now write what seem to be reasonably clear and general definitions of formal institutions and of informal institutions.

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[6] This is not meant to exhaust methods of distinguishing formal against informal institutions.

(1)   If $Y_t = 1$ then idea X counts as a formal institution in context C in time period t;

        $Y_t = 0$ then idea X is not a formal institution.

(2)   If $y_t = 1$ then idea x counts as informal institution in context C in time period t;

        $y_t = 0$ then idea x is not an informal institution.

Problem 1. Definition: What Counts as an Informal Institution, and What Does Not Count

Earlier in the paper we discussed definitional problems in the fiscal policy literature. We now utilize equations (1) and (2) to attempt to address those problems. In studying public debt a standard political economy approach is to treat federal spending decisions as being determined by political demand and political supply conditions. The demand-side agents consist of voters and interest groups. The suppliers are taxpayers, political parties, and fiscal policymakers including elected officials and administrative staff. Different groups vie for dollars of spending, while taxpayer interests constantly tug on the supply of outlays. Define item g as being some actual or potential item in the federal budget. Now suppose there is an idea x that proposes to deficit-finance an increase of spending on item g. In the U.S. political-fiscal context, whether this proposal survives depends in part on how well idea x fits with prevailing ideas in the electorate. As people communicate ideas about government spending, if they come to "collectively recognize" item g as a proper function of the federal budget, then 'spend on g even if it increases public debt' counts as a collectively recognized function of the federal budget. Idea x has become an informal institution, which now structures fiscal policymakers' incentives to reward increased deficit-financed spending in area g.

Over time, the informal institution x may solidify and establish some durability, even take on a *de facto* permanence. This stretches policymakers' time horizons, creating political rewards to fiscal policymakers for establishing longer-term or even permanent spending programs in area g.

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These same reward structures can be strong enough to advance the idea of spending on *g* into formal institution status. As legislative and constitutional acts guarantee mandatory spending increases on *g*, the idea becomes codified. In terms of equation (1) the polity goes from $Y_t=0$ to $Y_t=1$, and X now counts as a formal institution. For another example, suppose *x* is the idea that 'governors and presidents should tour an area that has been hit hard by a natural disaster'. In the past (call it period *t-1*), this idea may have enjoyed small pockets of currency in society, likely in communities hit by natural disasters, but it was not widely recognized as being a necessary function of the chief executive. We can denote this $y_{t-1}=0$, which indicates that *x* is not an informal institution at that time. Yet over time, as people communicate and circulate ideas about natural disasters, idea *x* may come to be collectively recognized as being a function that the chief executive is expected to serve. We now would write $y_t=1$ to indicate that *x* has been established as an informal institution. Now presidents and governors have incentive structures that include non-trivial political cost for not fulfilling that function. George H. W. Bush's failure to tour south Florida after Hurricane Andrew may have cost him the 1992 election. Later, George W. Bush was criticized for merely flying over the damage after Hurricane Katrina.

Equations (1) and (2) serve as a common reference point for the two political economy examples just discussed. This model may also mesh well with the broader literature. For example, in their survey of informal institutions in the comparative politics literature, Helmke and Levistsky (2004) settle on a definition that seems to map onto Equations (1) and (2).

> We define informal institutions as *socially shared rules*, *usually unwritten*, *that are created, communicated, and enforced outside of officially sanctioned channels.* By contrast, *formal* institutions are rules and procedures that are created, communicated, and enforced through channels widely accepted as official.
>
> (Helmke and Levistsky 2004, p.727 emphasis in original).

If we prioritize the "official" aspect of Helmke and Levistky's distinction, then Equation (1) represents ideas-cum-institutions in official channels, while Equation (2) represents the counterpart process unfolding through unofficial channels.

Problem 2. Codification: From Ideas to Formal Institutions

The second problem from earlier in the paper is codification and the structure of institutions. We have just seen how informal rule x can become formal rule X. We can now use the adapted Searle framework to address the structure of institutions:

(3)   If y_t=1 and $Y_t = 1$ then idea x is an informal institution and a formal institution

$Y_t = 0$ then idea x is an informal institution but not a formal institution

Equation (3) draws focus onto the 'counts as' portion of Searle's framework. The institutional dynamic (the binary movement in Searle's system) proceeds from an idea that may have little recognition in society, to gaining sufficiently widespread acceptance so as to have imposed on it the function of structuring relevant decision makers' incentives. The rule may emerge initially through norms, custom, colloquialisms, or a host of other informal channels. The rule might then later be established through official channels such as contracts, bylaws, and legislation and likewise enforced through official channels such as courts of law. In this approach, both formal and informal institutions are treated as being structured by ideas, which is a category of all the many ways and mediums through which humans use language to communicate. For Searle, the phrase 'counts as' lies at the heart of studying institutions. For Leighton and Lopez (2013), 'counts as' encompasses ideas and interests of the status quo doing political battle vis-à-vis ideas and interests of alternatives, all competing for selection into prevailing institutional arrangements. Mokyr's new book suggests the structure of institutions all comes down to ideas.

> [T]here is a consensus that the incentive structure of society rests on a foundation of ideas, some of them about nature, some about human interaction, and still others of a moral nature. In other words, institutions rest on a bedrock of what people believe and know (or, to be more precise, think they know).
>
> Mokyr (2017:11)

In this regard, it may be more useful to frame economic change not as "institutions or ideas", which treats the two as substitutes in explaining modern growth, but instead as "institutions and ideas", which treats them as joint or even conditional components of political and economic change.

Problem 3. Interaction: Whether Formal Constraints Work, or Not

If formal and informal institutions are in conflict, needlessly inefficient or otherwise undesirable outcomes can obtain. We can express integration, or equivalently alignment, of institutions as follows.

$$(4) \quad \text{If } Y_t=1 \quad \text{and} \quad y_t = 1 \text{ then formal X and informal institution } x \text{ are integrated}$$

$$y_t = 0 \text{ then formal X and informal institution } x \text{ are not integrated}$$

One scenario of misalignment occurs in fiscal policy, where attempts to constrain deficits with formal institutions tend persistently to fail. In the United States, for example, a series of legislative and constitutional attempts beginning in 1976 have ultimately been overturned, or simply avoided or ignored. Suppose informal institution x and formal institution X structure policymaker incentives to increase deficit-financed spending on g. As public debt becomes a problem, a winning coalition may emerge to enact a separate formal institution intended to restore budget balance. This separate institution is designed to counter the status function Y=1, or to act as its inverse. Denote $Y^{-1}=1$ to indicate that X^{-1}, an explicit legislative attempt to reduce deficits, has become a formal institution. The attempt would fail to result in reduced deficits if and only if the impact of X on policymaker incentives is stronger in magnitude compared to the opposing impact of X^{-1}. As Calcagno and Lopez

put it, informal norms trump formal constraints. A similar pattern confounded economic reform agendas in transition economies after the Soviet collapse, where formal institutions to introduce property rights were defeated by informal property rights that had emerged under the Nomenklatura (Boettke 2002). Misalignment of formal and informal institutions can also be ameliorated over time if emergent informal rules fill gaps left by formal enforcement, as in non-state governance found in prison populations (Skarbek 2014), pirate organizations (Leeson 2009), and a range of settings from stock exchanges to (Stringham 2007).

What about cases where we are locked into a suboptimal equilibrium do to the influence of inefficient institutions on beliefs?

Add section with evolutionary game theory?

5. Conclusion

This first draft of the paper is too preliminary to start drawing conclusions. But I do think it supports a few points. The paper brings some perhaps needed attention to this question of ambiguity in usage, especially given how central institutional analysis has become to political economy. Informal institutions probably has untapped potential to contribute to understanding of political economy. Searle's framework, adapted for political economy needs, just might provide an avenue toward that. The simple model here would need to be operationalized into political economy models, for example how interests and ideas jointly influence institutional arrangements (Rodrik 2014). The application should also be expanded and extended to include other areas of scholarship that make important use of informal institutions.

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