How do regions succeed?

Operationalizing institutional economics for regional development

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The role of institutions in economic development has become ever more recognized in economic theory. While initially institiutional economists tended to be theoretical, seminal papers by economists such as Daron Acemoglu have performed statistical research making a strong case for a causal effect of institutions on economic development. More recently development economists have taken a turn to more local investigations as opposed to using cross-country data. This has mainly been in order to better understand differences in economic development within one nation. Moreover, there is evidence that decentralisation can help address social problems more effectively. The research in this paper will reflect this turn to the regional level. This paper will look at recent efforts in academic research around regional level which are related to economic development. Regional institutions are different in nature from national institutions, and thus it is important to analyze whether proxies used for empirical research on regional institutions aptly capture a widely accepted concept for institutions. For this effort, papers from many different disciplines will be used, including economics, public administration, political science, law and philosophy. The main question this paper wants to answer is: what proxies for regional institutions are available and which ones can be developed for better understanding the causes of regional economic development?

Keywords: institutions, regional governance, economic development, regional inequality, institutional economics

1. Introduction

The role of institutions in economic development has become ever more recognized in economic theory. While initially institutional economists tended to be theoretical (North, 1991), seminal papers in recent years (e.g. Acemoglu, Johnson, & Robinson, 2000; Hall & Jones, 1999; Rodrik, Subramanian, & Trebbi, 2004) have performed statistical research making a strong case for a causal effect of institutions on economic development. More recently development economists have taken a turn to more local investigations as opposed to using cross-country data. This has mainly been in order to better understand differences in economic development within one nation. For example, in Latin America, within country inequalities are found to be larger than between-country inequalities (Acemoglu & Dell, 2009). Moreover, as is mentioned in the RSA document "Towards Cohesion Policy 4.0: Structural Transformation and Inclusive Growth", most inequalities across EU countries are accounted by differences within countries, rather than between countries (Bachtler, Oliveira, Wostner, & Zuber, 2017). Many researchers have found links between regional (sub-national) quality of institutions and economic development (Charron, Dijkstra, & Lapuente, 2014b; Guiso, Sapienza, & Zingales, 2016; Nistotskaya, Charron, & Lapuente, 2015; Rodriguez-Pose & Di Cataldo, 2015; Rodríguez-Pose, di Cataldo, & Rainoldi, 2014; Rodríguez-Pose & Garcilazo, 2013, 2015; Tabellini, 2008). In recent decades, scholars have made a case for the critical role institutions play in the embedding of development in places but, as mentioned by Pike, Rodriguez and Tomaney (2016), more work is needed to understand policy implications of insights from this research. This paper will constitute an effort in that direction. Firstly I will present a brief literature review of the literature in institutional economics, with a focus on the regional level. This shows us what has been said and agreed upon, and where gaps still exist. Thereafter, a research agenda can be sketched.

This paper will start by reviewing definitions of institutions, and the hypothesized channels through which institutions may affect regional economic development. These definitions will be used to evaluate empirical strategies that are used to verify this relationship. Regional institutions are different in nature from national institutions, and thus it is important to analyze whether proxies used for empirical research on regional institutions aptly capture a widely accepted concept for institutions. Doing this can help us understand more about the mechanism through which institutions affect economic development and go into more detailed study of this relationship.

The main question this paper wants to answer is: what proxies for regional institutions are available and which ones can be developed for better understanding the causes of regional economic development?

2. What are institutions?

While institutions have in some form or another been related to economics, the field started getting a boost since the work by Douglas North. In his book *Institutions, Institutional change and Economic Performance* (1990) he outlines his analytic framework for thinking of institutions and how it relates to economic development. This book goes through a discussion around the nature of institutions and outlines a theory of institutional change in order to better understand differential performances of economies through time. He characterizes institutions as structures that reduce uncertainty. They reduce our opportunity set and as such give us the stability we need to cooperate with other members of a society. A combination of his theory of human behavior and theory of transaction costs allows for the construction of his theory of institutions. The existence and cause of the rise of institutions becomes clearer when the perfect information assumption of neoclassical economics gets dropped. In a world of uncertainty, there is a need for a framework in order to guide decision making. The following section will outline the different definitions of institutions.

Unsurprisingly, due to the complexity of the concept of institutions, it has been used in a myriad of ways. Hodgson (2006) emphasized the importance of having an adequate conception of what an institution is in order to do accurate research. This section will serve the role of giving an overview of the ways institutions have been defined and used, and I will clarify what I understand as an institution, in order to be clear on how I will use it. Finding a definition that all will agree on is beyond the scope of this paper. Rather, I wish the term to be loyal to the literature, and focused enough for the project at hand, which aims to gain an understanding of determinants of regional economic performance in order to determine policy implications.

Table 1

Author(s)	Definition	Examples
Hodgson, 2006	Systems of established and prevalent social rules that structure social interactions	Language, money, law, systems of weights and measures, firms and other organizations.
Acemoglu and Dell, 2010	Rules determining how collective decisions are made	Examples of national institutions include the structures imposed by the national constitution and laws.
North,1990	Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction.	
North, 1995	Institutions are the constraints that human beings impose on human interactions	
Searle, 2005	Any collectively accepted system of rules (procedures, practices) that enable us to create institutional facts. (…) (where the creation of an institutional fact is (…) the collective assignment of a status function)	Money, nations, etc

Table 1 shows an inexhaustive overview of the definitions in the literature.

North's definition (sometimes simply "rules of the game") is by far the one that is most often referred to when talking about institutions. However, some confusion already arises when comparing this definition with examples that are used. While institutions are often referred to as "rules", the examples used are not what we would call "rules". For example, money is often referred to as an example, but money is not clearly a "rule". The same goes with "firms" or "organizations". Here, Searle's (2005) definition comes in handy: "Any collectively accepted system of rules (procedures, practices) that enable us to create institutional facts" where the creation of an institutional fact is to be understood as

the collective assignment of a status function) If “practices” include “artefacts” it becomes clear why money is an institution. It’s not the banknotes and coins that are the institution. Rather, it is the system of beliefs and agreement (written or unwritten) in society that certain banknotes or coins represent a particular value. Similarly, a firm does not refer to the building or the people in the building, but rather the routines that guide the behavior of actors within the firm.

There has been some confusion as to whether institutions are organizations, since North has sometimes given the opposite impression. In Hodgson (2006) this confusion is clarified; we can talk of economic institutions at a national level, as the laws present in the nation. In this case, firms and organizations are not institutions but rather “players of the game”. However, the organization itself can be seen as an institution when analyzing the structure of norms and rules within that organization (in this example, the employees could be the “players”).

Sometimes, different terms come up in the literature around institutions, like “institutional arrangement”, and “institutional structure”, where the former refers to a set of rules in a particular domain (e.g. property rights, regulatory institutions), and institutional structure refers to the totality of arrangements in an economy. According to Lin and Nugent, when economists use the word institution, they usually mean institutional arrangement, and when they say “institutional change”, it means change in institutional arrangement, not structure (Lin & Nugent, 1995).

Elinor Ostrom posits that in the mid-20th century, economic theorizing was characterized by an overly simplistic dichotomy of decisions being made by either the market or the state; where the state would be responsible for solving collective action problems, supposedly unsolvable by actors and in need of a third enforcing party. Instead, problems can be solved by actors beyond the state and the market. Certain attributes of microsituations have been found to affect the level of cooperation that participants achieve in social dilemma settings: Feasible communication channels, known reputations, high marginal per capita return, entry or exit capabilities, longer time horizon and agreed upon sanctioning capabilities. Building trust in one another and developing institutional rules that are well matched to the ecological systems being used are of central importance for solving social dilemmas.

Table 2

Author	Concept for informal institution	Explanation
Williamson, 2000	Embeddedness	Customs, tradition, norms, religion
North, 1990	Informal constraints	Effective traditions of hard work, honesty and integrity (simply lower the cost of transacting and make possible complex, productive exchange). Such traditions are always reinforced by ideologies that undergird those attitudes.
North, 1990	Culture	Transmission from one generation to the next via teaching and imitation, of knowledge, values and other factors that influence behavior.

C. R. Williamson & Kerekes, 2011	Culture	The underlying channels that establish secure, well-defined property rights. (…)

Another contested topic is the difference between formal and informal institutions, sometimes referred to as hard and soft institutions. These terms have been used differently in the literature. Sometimes, informal institutions have been used interchangeably with "social capital" or "culture" , whereas formal institutions represent codified laws (Hodgson, 2006). Other times, informal institutions have been seen as channels which define the enforcement of formal institutions (See North, 1990, Charron, Dijkstra, & Lapuente, 2014a). Informal institutions are sometimes implicitly not regarded as institutions (Hodgson, 2006) but rather as alternative or complementary (as in the quote: "Moreover, the same institutions function very differently in different environments, suggesting that informal institutions play an important role." (Tabellini, 2008)). While Charron et al refer to Quality of Government as an informal institution (Charron, Dijkstra, & Lapuente, 2014a), I consider quality of government as being influenced by both formal institutions (codified into law) and by informal institutions (norms of honesty etc.). In many cases, a rule or norm is enforced both by legal (punishment, fine) as societal sanctions (ostracism, blame). Both will be considered institutions; formal institutions will represent the system of rules enforced through government, whereas informal institutions will be those systems of rules enforced mostly through society. The interaction between informal institutions, formal institutions and governance will follow Williamson's scheme; where the informal institutions (customs, norms etc.) constrain the setting of formal institutions ('rules of the game'), which in turn constrain governance ('play of the game'), (O. E. Williamson, 2000). As such, informal institutions are at the highest level, and are also most difficult to influence. They are regarded as emerging spontaneously to a large degree. There is, however, some feedback from lower levels to higher levels.

To summarize

- Institutions are systems of rules, norms or constraints in particular domains
- Organizations can be either institutions (when doing an analysis of the internal functioning of organizations) or "players" (when doing an analysis of a wider institutional framework, such as a nation).
- They are relatively stable and enduring
- Formal institutions are enforced by courts or other dedicated enforcement authorities, informal institutions are unwritten norms in society
- Institutional structure is the complex structure of rules and norms influencing behavior in an economy
- Governance is the 'play of the game'

2.1 Institutions in the context of economic development

In order to focus the discussion, this paper will refer to those institutions that have been associated with economic development. When we evaluate our empirical proxies it is important to focus less on how institutions are defined exactly, but more on how institutions are expected to contribute to economic growth. Lin and Nugent (1995) argue broadly that institutions role in development is to allow at least one agent to improve their welfare without making others worse off, or to allow them a higher level of their objectives within their constraints. There are many possible channels through which this may happen, and relevant characteristics institutions should have to facilitate this.

North uses several narratives to explain how institutions may affect economic growth. Fundamentally, institutions are a solution to coordination problems caused by information asymmetries. While in early, small societies, there was a degree of trust among members of a tribe, which helped them trade efficiently, as societies grew, this was harder to sustain. Since traders were no longer certain of the quality of their product when trading with strangers, they had to spend a lot of time researching their trade counterpart. Institutions can help deal with uncertainty by representing relatively stable patterns.

One passage gives an indication:

The most striking immediate consequence [of an increased security of property rights] was the rapid development of the capital market. Following the Glorious Revolution, not only did the government become financially solvent but it gained access to an unprecedented level of funds. In just nine years (from 1688 to 1697) government borrowing increased by an order of magnitude. The sharp change in the willingness of lenders to supply funds reflected a clear perception that the government would honor its agreements. (North, 1991, p. 139)

North emphasized in the above passage that the improvement in economic performance was aided by the perception of lenders that the government would honor agreements. Thus, the first way in which institutions may lead to economic growth is if they reduce uncertainty in economic agents that their productive activities will be rewarded. For this to be the case, institutions primarily need to be stable.

Moreover, several authors have included the *impartial* nature of institutions as a strength (Acemoglu & Robinson, 2012; Nistotskaya et al., 2015), meaning agents are not discriminated based on arbitrary characteristics to participate in economic life. The logic behind this is that allowing a larger group of people to participate in economic life and use their talents and skills increases competition and allows for faster innovation. Thus, a second way institutions can be good for economic development is through their impartiality. The impartiality of institutions is strongly related to what Acemoglu referred to as “Inclusive institutions”, which are political institutions which are sufficiently centralized and pluralistic. Political power is not vested in a small group or individual, but instead spread out over a plurality of groups. Democratic institutions are often believed to be a way of gaining impartiality (Zouridis et al, 2017).

Moreover, Zouridis et al (2017) conclude that institutions are beneficial for economic growth if they are *learning* (i.e. enabling changes to make governance more effective but also produces local knowledge). Similarly, Lin and Nugent argue that one of the ways institutions help in promoting development is through preventing individuals and groups from making mistakes, e.g. (e.g. through information systems that allow mistakes to be discovered and decision-makers to be alerted quickly) (Lin & Nugent, 1995).

Among the ways in which institutions may help economize Lin and Nugent also mention (i) taking advantage of potential economies of scale, specialization and/or external economies. This would help in optimizing costs. Moreover, policy papers have also argued that since the optimal scales can differ depending on the problem faced, flexibility and autonomy is also important in order to promote cooperation based on specific problems (e.g. OECD, 2014b; RLI, 2013; SER, 2017). Furthermore, there may be benefits in triple helix networks, where university, government and the private sector cooperate.

In addition, a wealth of literature has been written by Elinor Ostrom about coordination and cooperation, particularly regarding ways of avoiding the tragedy of the commons. A government could fulfil the role of enforcing contracts between parties in a way that maximizes social welfare (e.g. through a limit on fishing). However, she stresses that the government is not the only party that is able to have this function (Ostrom, 2010). She identifies a number of characteristics to be beneficial:

Feasible communication channels, known reputations, high marginal per capita return, entry or exit capabilities, longer time horizon and agreed upon sanctioning capabilities.

To summarize, institutions are hypothesized to contribute to economic in the following ways:

- They reduce uncertainty and give economic agents a reason to believe their productive activities will be rewarded
    - If they are **stable**
    - If they have **low levels of corruption**
- Incentivize a large group of agents to use their talents and skills for productive activities
    - If they are **impartial**
    - If they are **democratic**
- They prevent mistakes:
    - If they have a feedback mechanism and take **local knowledge** into account
- They take advantage of economies of scale, specialization and external economies
    - If they are **efficient**
    - If they are **flexible**
- They prevent collective action problems
    - If a **third-party can enforce** rules for the public good
    - If agents have **clear communication channels**

2.2 Additional considerations

We have determined that institutions are systems of rules. However, before turning to the empirical literature, it is appropriate to keep some things in mind. Institutions are abstract and hence cannot be seen. We may be able to read laws or constitutions, but whether they are in fact institutions depends on whether they are enforced. We can only perceive manifest behavior (Hodgson, 2006), and measure these (i.e. proxies).

Furthermore, in order for the concept to have explanatory value, we have to be able to say something non-circular about the institution. In other words; if we hypothesize that strong institutions affect economic development, strong institutions ought not to be defined as “those institutions that affect economic development”.

Finally, in order to gain an understanding of whether institutions affect economic development, it would be helpful to measure institutions in a non-binary way. One way of doing this would be to measure the degree to which there is compliance with certain rules.

To summarize:

- Empirical proxies for studying the question “which institutions contribute to economic development” need to:
    - Mention a characteristic of the institution that avoids circular reasoning
    - Be quantified by the degree of enforcement/compliance[1]
    - Be consistent with the theory on how institutions affect economic development

2.3 Regionalizing institutional research

Andersson and Henrekson address the initial skepticism some may have at analyzing institutions’ effect on economic development at a regional (sub-national) level (2015). After all, property rights and regulations are usually determined at the national level. They offer three arguments why they can

[1] E.g. through surveys

indeed be an important component of the local economy (and specifically the environment for entrepreneurship). Firstly, there may be some differences across regions regarding some formal regulations (e.g. licenses to expand a store, warehouse or plant, etc). Secondly there can be differences in the way the laws are enforced, as Tabellini shows by evaluating the differences in the judicial system between North and South Italy (Tabellini, 2008). On paper the judicial system may be constrained by the same rules, but in reality, these rules are not always followed. Tabellini concludes that informal institutions play an important role. Similarly, it may also be the case that some forms of governance do more than what is legally expected of them. For example, there may be some regional organizations which facilitate cooperation between different actors, even though this is not a legal requirement. Thirdly, there can be a difference in regional culture, which in some cases may be more conducive to entrepreneurship than others (Andersson & Henrekson, 2015).

This outline and discussion helps us to evaluate the empirical work around regional institutions and see where there may be something missing.

3. Empirical literature

This section covers the proxies that have been used in the empirical literature to represent institutions. National institutions will be discussed, but the focus will be on regional/local institutions. A distinction will be made between formal institutions and informal institutions

3.1 Formal institutions

While in theoretical discussions there is disagreement about what the term means exactly, there are plenty of attempts at measuring institutions in order to perform statistical analysis and identify correlations. Institutions as such cannot be measured; instead researchers can measure the manifest behavior (Hodgson, 2006). Furthermore, since institutions can take any shape possible, there is no way to determine whether institutions in general are good or bad for economic growth. Instead, certain particular institutions could be analyzed.

Since the emphasis in this research is on regional (sub-national) institution, I will focus on proxies which were used for regional institutions.

Author(s)	**Proxy**	**Description**
Charron et al, 2013	Quality of Government	1) 'corruption', 2) 'rule of law', 3) 'bureaucratic effectiveness' 4) 'government voice and accountability'/ or 'strength of democratic and electoral institutions' (see **appendix A** for questions)
Gennaioli and Porta, 2013	Seven variables from the Enterprise Survey	The Enterprise Survey asked business managers to quantify: (a) informal payments in past year (b) number of days spent in meeting with tax authorities in the past year, (c) the number of days without electricity in the previous year (d) security costs.

		(e) obstacles in access to land (f) obstacles in access to finance (g) government predictability (measured as the percentage of respondents who tend to agree, agree in most cases, or fully agree that government officials' interpretations of regulations are consistent and predictable).
Gennaioli & Porta, 2013	Doing Business reports	Summarizes government regulations in a range of areas, including starting a new business, enforcing contracts, registering property, and dealing with licenses. The index of the quality of institutions is the latent variable that captures the common variation in these eight variables
Nistotskaya et al, 2015 Charron et al, 2013	EQI	$EQI_{X,Y} = WGI_Y + (Rqog_{X,Y} - CRqog_Y)$, where EQI is the final score from each region X or country Y in the EQI, WGI is the World Bank's national average for each country (World Governance Indicators), Rqog is each region's score from the regional survey and CRqog is the country average (weighted by regional population)

As we can see, one thing these proxies have in common is that they are subjective, based on surveys or expert assessments. Regarding the content, the most popular measure, QoG covers impartiality, quality and corruption.

3.2 Informal institutions

In addition to formal (government) institutions, culture has been studied as an explanatory variable for inter-regional economic divergences. The following table shows some of the most used proxies for culture as informal institution.

Author(s)	**Proxy**	**Description**
Tabellini (2008)	Trust	*trust*: percentage of respondents who answer that "Most people can be trusted" (the other possible answers being "Can't be too careful" and "Don't know") to the question "Generally speaking, would you say that most people can be trusted

		or that you can't be too careful in dealing with people?"
Tabellini (2008)	Respect	Percentage of respondents in each region that has mentioned the quality "tolerance and respect for other people" as being important
Tabellini (2008)	Control	Grade from 1 to 10 to indicate how much freedom of choice and control in life you have over the way your life turns out."
Tabellini (2008)	Obedience	Percentage of respondents that mention "obedience" as being important for children
Guiso et al (2008)	Social capital	1) Total number of non-profit associations in a town in 2000 2) Reference turnout 3) Existence of an organ donation association

Tabellini's proxies come from subjective sources. Guiso's on the other hand are more objective; they are not based on opinions that can have biases but can be measured.

3.3 Case studies

In addition to the econometric literature around institutions, there are also case studies that have studied institutions, although these have often focused more on commons, and cooperation. Famously, Nobel-prize winning Elinor Ostrom has studied the polycentricity of police functions in St. Louis or irrigation systems in Nepal. Additional work has been done (Asheim & Coenen, 2005; Landabaso, Oughton, & Morgan, 2003), particularly with regard to the association channels, organizational mechanisms and collaborative institutional structures. However, these cases have been claimed to disregard the importance of political and legal systems (Rodríguez-Pose et al., 2014).

Ostrom states in her book "Understanding institutional diversity" that knowledge of how to design (institutional) systems will continue to grow but will never be complete. Therefore, institutional design will "remain an experimental science and art form rather than a completely understood technology". However, she has concluded from her research that small systems of self-governance have often successfully solved common problems, and she stressed that specialized governments should "roughly fit the ecological boundaries of the problems they are designed to address" (Congleton, 2007).

4. Evaluation

If we look at how institutions benefit economic development, the narrative is that institutions can help economic development through different channels, among which: internalizing externalities, creating feedback and reducing risk. Property rights are one example of ensuring an entrepreneur can earn the proceeds of his investment, and hence societies' gains are aligned with the private agents' gains. This section will evaluate whether the empirical literature appropriately captures and recognizes this narrative.

The widely used proxy “Quality of Government” mainly represents the perception of governments’ impartiality, their quality and the degree to which they protect against corruption. When comparing the proxies to the requirements that were outlined above (they specify a non-circular characteristic of institutions; they are quantified by enforceability, they are consistent with theories on how institutions affect economic development) the following conclusions can be drawn:

- Impartiality represents the degree in which nobody gets discriminated. This is non-circular (it does not *by definition* imply institutions which are good for economic development). Impartial institutions have been referred to as good for economic development (Acemoglu & Robinson, 2012). A possible mechanism by which this is the case is that they gives more people the chance to partake in productive activity (Nistotskaya et al., 2015).
- Quality is measured by asking respondents about their opinion about quality. This may be interpreted in different ways, but is likely to encompass both the desirability of ends that are aspired to in certain public services, and the effectiveness of reaching them (closely related to enforcement of rules).
- Corruption – the behavior resulting from a particular set of institutions (which can be referred to as weak institutions); individuals are, for some reason, not disincentivized to partake in some form of corruption. The system of formal and informal institutions work lead to an incentive structure favoring corruption. An institutional framework where high punishments are being effectively enforced and there are strong cultural values of honesty and integrity or a sense of **generalized morality** is assumed to be less likely to lead to corruption. Hence, corruption measures a type of behavior caused by institutions, both formal and informal.

Moreover, the QoG data is being complemented by WGI data “In order to maximize the number of E.U. countries in the sample” (Charron et al., 2014a; Nistotskaya et al., 2015).

The Enterprise Survey used by Gennaioli & Porta (2013) asks business managers about certain aspects of doing business. The benefit of this is that it is more closely related to factors of business. It covers some of the main aspects of how institutions are expected to improve economic performance, such as transaction costs (costs associated with (a) informal payments, (e) land, (f) finance), stability (g), but it does not cover impartiality.

Finally, most of the proxies (with the exception of “social capital” by Guiso, Sapienza, & Zingales, 2008) are based on subjective evaluations. This is often seen as a flaw of a measure, as subjective perceptions may biased, flawed or in some other way unreliable. However, the subjective nature of proxies could also be a strength; if institutions affect economic development through the effect they have on social behavior, what essentially matters is how people subjectively interpret institutions, whether they are right or wrong (Nistotskaya et al., 2015). As such, the proxy captures the narrative that institutions affect economic development through the perceptions people have of them (as mentioned above). If people believe property rights are not enforced well, they may refrain from engaging in productive activities, even if they are wrong about the level of enforcement. However, it would be useful to research the effect of actual enforcement of property rights on perceived enforcement of property rights.

Overall, the proxies can give us some information. They can tell us, when instrumented well, whether institutions matter for economic growth. However, they do not tell us the complete story of the many ways in which institutions may affect economic development. Not all mechanisms addressed in the theoretical literature are properly captured by these proxies. They are rather high-level, and while they are to some degree related to channels through which institutions may influence growth (e.g. corruption and poor rule of law increase transaction costs through higher uncertainty and risks) they say little to nothing about other ways in which institutional arrangements may enhance or impede

economic growth. As mentioned above, one of the mechanisms in which institutions may aid economic growth is through their effect on economies of scale and internalizing externalities. One way to internalize externalities is through private property. Private property has not been included in literature around regional institutions, except indirectly, as the effectiveness and impartiality of regional public authorities are likely to influence the degree of enforcement of private property. However, this is only one way of internalizing externalities. Another possibility is through the flexibility public authorities have to start cooperation agreements with other state or non-state authorities. Problems with externalities can arise due to some municipalities being able to free-ride on accomplishments by other municipalities. For example, the disparate economic growth among regions in the Netherlands is said to be due to its inability to reap benefits from agglomerations (OECD, 2014a). Current proxies used in empirical literature fail to account for this.

5. Concluding remarks

Overall, the proxies can offer evidence for the claim that certain types of institutions are closely correlated with economic development. This also happens in a non-circular manner, since the description of institutions contains new information. In other words, "good" or "strong" institutions are not merely described as "those institutions that lead to economic development" (which would be circular and have no explanatory value). Instead, there is a focus on *impartiality*. Measuring by evaluating the degree to which rules are enforced can offer insights into whether some type of institutions matter for economic development. If certain types of institutions tend to have a positive effect on economic development, it seems plausible that the more they are enforced, the higher their impact on economic development.

However, there are some shortcomings in the empirical research around institutions. First, the measures of Quality of Government are focused on government specifically, instead of the role of gover*nance* more broadly. This could be a shortcoming depending on how decisions are actually made in practice; if this depends only on governments or also non-state actors. As pointed out by Ostrom, governing parties can go beyond the market and the state.

Second, the statistical literature has mostly focused on *whether* institutions (defined in some way), affect economic development, rather than *how* they affect economic development, and which specific institutional factors are more salient. In order to be relevant for policy, more insights are needed with respect to which institutional factors are an obstacle for a particular region. For example, it seems likely that regions within a country like the Netherlands are not particularly constrained due to corruption or weak property rights. For more specific answers, case studies may be more valuable. While the empirical literature on institutions has focused on the rule of law, corruption and property rights, a country like the Netherlands is probably less affected by these types of constraints. Instead, there may be differences in the degree to which cooperation is facilitated between different actors.

Third, as mentioned by Rodriguez-Pose and Di Cataldo, case studies have focused more on cooperation mechanisms among other factors, but have disregarded legal and political systems. A future review of this type of literature (i.e. case studies studying cooperative behavior) can give insights into what has been agreed upon so far, and what lacunae still exist. Speculatively, there may be possibilities for further research into conditions that cause certain regions to have a more successful collaborative climate and whether this is caused by legal frameworks or despite legal frameworks.

As stated in the introduction, the goal of this paper has been to review the current literature in institutional economics and evaluate the available proxies for regional institutions and possibly see how they can be developed for better understanding the causes of economic development on the regional level. While the proxies give us some evidence for the broad thesis that "institutions matter", further work may be necessary to draw accurate policy implications from. I have not been able to

develop ideas for proxies in this paper. Speculatively, one way would be to perform case studies in different regions to get a more nuanced impression of how innovative and successful forms of cooperation are achieved. On this basis, certain recurring characteristics may be identified which in turn could be used in statistical research to verify whether a correlation exists. Either way, there is a long road ahead for institutional economics, with many possibilities for fruitful contributions to our understanding of differences in economic performance.

Appendix A

Survey Questions Incorporated in the Regional QoG Index

Rule of Law-Focused Questions

"How would you rate the quality of the police force in your area?" (low/high, 0-10)
"The police force gives special advantages to certain people in my area." (agree/disagree, 0-10)
"All citizens are treated equally by the police force in my area" (Agree, rather agree, rather disagree or disagree, 1-4)
"Corruption is prevalent in the police force in my area" (agree/disagree, 0-10)

Government Effectiveness-focused questions

"How would you rate the quality of public education in your area?" (low/high 0-10)
"How would you rate the quality of the public health care system in your area?" (low/high 0-10)
"Certain people are given special advantages in the public education system in my area (agree/disagree, 0-10)
"Certain people are given special advantages in the public health care system in my area." (agree/disagree, 0-10)
"All citizens are treated equally in the public education system in my area" ." (Agree, rather agree, rather disagree or disagree, 1-4)
"All citizens are treated equally in the public health care system in my area" ." (Agree, rather agree, rather disagree or disagree, 1-4)

Voice & Accountability-focused questions

"In your opinion, if corruption by a public employee or politician were to occur in your area,
how likely is it that such corruption would be exposed by the local mass media?" *(unlikely/likely, 0-10)*
"Please respond to the following: Elections in my area are honest and clean from corruption" (agree/disagree, 0-10)

Corruption-Focused Questions

"Corruption is prevalent in my area's local public school system (agree/disagree, 0-10)
"Corruption is prevalent in the public health care system in my area" (agree/disagree, 0-10)
"In the past 12 months have you or anyone living in your household paid a bribe in any form to:
Health or medical services?" (yes/no)
"In your opinion, how often do you think other citizens in your area use bribery to obtain public services?" (never/very often, 0-10)

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