

**Industrial Illegitimacy and Negative Externalities: the Case
of the Illinois Livestock Industry**

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Industry

Abstract

An industry's legitimacy depends on stakeholders' perceptions and assessments of the appropriateness of its behavior across a wide array of settings. While products and services may be highly valued, and in some cases essential, business externalities serve as a powerful counterforce undermining legitimacy. The work draws on the theory of industrial legitimacy and employs a taxonomy of four different legitimacy sub components; pragmatic, regulative, normative, and cognitive. The paper identifies how externalities affect an industry's legitimacy and the relative contribution of each sub component. The research then empirically tests the theory using the case of the Illinois livestock industry.

Keywords: legitimacy, negative externalities, stakeholders, livestock, CAFO

Introduction

A crucial dilemma faces the modern U.S. livestock industry. Its final output (meat) is widely demanded (increasing 4.4%/year (FAO, 2005) and recognized by many as legitimate. The production of livestock though faces increasing opposition from local communities about siting or expanding new facilities. While animal agriculture used to be a taken-for-granted feature of rural life, the negative externalities associated with CAFOs¹ are directly and indirectly causing affected stakeholders to question whether this business form is appropriate or not (Martin, 2004; Wagner and Dempsey, 2003).

The challenge arises from the globalization of the livestock and meat complex. Over the last 15 years the U.S. livestock industry has faced increasing competition. In order to reduce costs of production, provide more consistent quality, and provide the service

¹ Confined Animal Feeding Operation

levels end-users demand, farms have had to dramatically scale up. As a result the number of farms has dropped as the number of animals per farms has increased dramatically (Goldsmith and Hedris, 2001). Greater efficiency has caused increased competitiveness, increased exports, but at the same time the new business model of confined animal feed operations (CAFO) has raised new challenges. The U.S. livestock and meat complex now faces a similar dilemma to other industries whose products are in great demand but the legitimacy of the siting and operation of production plants is questioned, e.g., power and chemical (see Buescher, 2004; Martin, 2001; Paterik, 2004; Romero, 2004).

This paper applies the theory of industrial legitimacy to better understand the threats challenging the future of the U.S. livestock industry. The decline in the future of livestock in the U.S. may be as much about its inability to address its declining legitimacy as it is about its inability to compete in a global environment.

The objectives of the paper are fourfold: first to present the theory of industrial legitimacy; second to synthesize the theory into a useful framework for empirical analysis; third to provide an empirical analysis of the theory; and finally to use the concept of industrial legitimacy to offer prescription for the strategic direction of the U.S. livestock industry.

Theory

The theory of legitimacy has a long history of scholarship applied in a political context. Only recently though has the legitimacy concept been applied within the context of

organizations (Zelditch, 2001). Within this new context, “an organization is said to be legitimate to the extent that its means and ends appear to conform to social norms, values, and expectations” (Ashforth and Gibbs, 1990). Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions (Suchman, 1995). An organization’s activities, social perceptions of adequateness, and the prevailing norms, combine as the driving forces behind organizational legitimacy (Aldrich and Fiol, 1994; Bansal and Clelland, 2004; Kostova and Zaheer, 1999; Zelditch, 2001; Zimmerman and Zeitz, 2002).

The perceptions held by a society are central to the concept of legitimacy. However, there are different reasons why an organization’s behavior may be perceived as appropriate or adequate. To parsimoniously structure our empirical analysis we focus on four components of industrial legitimacy. (1) An organization’s behavior can be considered as adequate based solely on the self interest of a specific audience, pragmatic legitimacy (Suchman, 1995). (2) It may also be considered adequate based on a wider normative system of values, where a specific action is considered to be the “right thing to do,” normative legitimacy (Scott, 2001; Suchman, 1995). (3) Moreover, the perception of appropriateness with respect to an organization’s form and behavior can be derived from its acceptance “as a *taken-for-granted* feature of the environment,” cognitive legitimacy (Aldrich, 1999) or, (4) more objectively, can be derived from the organization compliance with current laws and government regulations, regulative legitimacy (Aldrich, 1999; Scott, 2001).

Pragmatic Legitimacy

Pragmatic legitimacy is based on individual interests, resting on the “self-interested calculation of an organization’s most immediate audiences” (Suchman, 1995). Self-interest may be a function of convenience (or lack thereof) or from an economic perspective, on the benefits and costs stakeholders receive with respect to the activities of the organization. In this type of legitimacy, there is a direct relationship between the audience being affected – either positively or negatively – and the legitimacy they confer. The greater are the benefits and the utility provided by an organization to an audience, the higher is the pragmatic legitimacy this audience confers. The utility provided to the consumers by an industry’s final products, the revenues generated to the suppliers, and the financial returns to shareholders are all sources of pragmatic legitimacy. On the other hand, the negative impacts² from business externalities imposed by an organization on other stakeholders are sources of pragmatic illegitimacy. For example, a firm’s contamination of a community’s water supply would contribute to the deterioration of a firm’s pragmatic legitimacy as measured by increased liability (direct effects) and a falling stock price (indirect effects) (Bansal and Clelland, 2004).

Regulative Legitimacy

Regulative legitimacy has its basis in compliance with the law, regulations, and rules (Scott, 2001). It stems from the generalized perception of an organization complying

² Economic “bads” as opposed to economic “goods”

with the relevant laws and regulations, as well as from the perception of its adherence to relevant standards and norms of professional bodies and credentialing associations (Zimmerman and Zeitz, 2002). Within an industry, a firm perceived to address all the regulations and the requirements pertaining to its operation attains relatively greater regulative legitimacy compared with its peers.

The integration of the law, regulations, and rules, and an industry's corresponding compliance provide formalized and objective evaluation parameters for regulative legitimacy. Having a more objective or arm's length metric makes regulative legitimacy distinct when compared to the other (three) sources of legitimacy. The objective reference points allow an organization to claim legitimacy based on its conformity to current regulation or to demonstrate conformity through media communication and state agency tacit endorsement (Zimmerman and Zeitz, 2002). However, the laws and regulations may not have straightforward prescriptions for conduct even though objective assessment is possible (Suchman and Edelman, 1997). Moreover, the difficulty in monitoring and evaluating organizations' performance vis-à-vis the law or regulations poses an obstacle for claiming or confirming the achievement of conformity.

In addition to the level of conformity itself, it is also important how an organization behaves with respect to laws and regulations. Regulative legitimacy also "involves a generalized sense that the new venture is operating according to the letter and the spirit of laws and regulations" (Zimmerman and Zeitz, 2002). Important is not being perceived to be reactive and resistant towards prevailing legal or regulatory requirements. In this

sense, two firms with similar conformity profiles and different attitudes with respect to regulations may have different levels of regulative legitimacy.

Regulative legitimacy is conferred differently by different stakeholders. This is particularly important with respect to hazardous or noxious industries that are heavily regulated. Government and state agencies, besides setting the laws and the regulations, are also primarily responsible for sanctioning and enforcement. Government beliefs and perceptions with respect to regulative legitimacy become crucial to the overall legitimacy of an industry. Aldrich (1999) proposes a two-fold typology: cognitive and sociopolitical legitimacy, the last one being divided into two components: the moral acceptance and the regulative acceptance. The regulative acceptance refers specifically to governmental acceptance and its symbolic effect. Government's approval is critical for the survival and development of an industry through the symbolism of acceptance or official recognition of its presence (Aldrich and Fiol, 1994; Aldrich, 1999; Aldrich and Baker, 2001).

One reason conveying legitimacy by the government can be so critical is that there are many times significant risks and uncertainties associated with new products or processes. This made lead to heightened public scrutiny or even being ruled illegal. So government support of a new business or activity can help assuage concerns. Similarly, an industry's legitimacy state may affect the degree of governmental activism associated with sanctions being enforced, taxes levied, or subsidies provided. This in turn can have direct impacts on an industry's evolution. Governmental approval also has symbolic meaning in

the form of signaling³ to different stakeholders as to the legitimacy of an industry. For example, the three-year moratorium on new taxes determined by the Internet Tax Freedom Act, which became law in October 1998, signaled the federal government recognition's that the development of internet commerce was proper and legitimate (Wald, 1998; Aldrich and Baker, 2001). This ruling then had tremendous impact on how internet commerce evolved.

Government recognition is a critical issue for the case of the Illinois livestock industry discussed below. The siting process was specifically designed under the assumption that the Department of Agriculture is the legitimizer. The empirical analysis offers insight as to the limits and complexities of the government, or a specific agency, serving as "the" legitimizing institution. The legitimization by government or a specific government agency is an especially important issue to understand when there exists other stakeholder agencies or that might serve as; a more honest trust broker, or as a counter force delegitimizing an activity, or finally as a complementary agency that enhances the legitimizing process. Examples of the three types or agencies within the livestock context could be; EPA as an honest broker; Department of Natural Resources as the counter force; and Economic Development as a complementary force.

Normative Legitimacy

³ Legitimacy statements emitted by various government agencies, (i.e. agriculture), may be interpreted differently by the various stakeholder groups (i.e. environmental).

Normative legitimacy has its base in societal norms and values. These norms and values serve as a reference for the perceptions of what is considered appropriate or adequate. Values indicate what is preferred or desirable, and provide a standard against which behaviors can be compared. The norms specify “how things should be done” (Scott, 2001). The closer an organization’s goals and means align with the norms and values of the relevant stakeholders, the higher is the normative legitimacy.

The normative dimension of legitimacy introduces a prescriptive, evaluative and obligatory dimension into social life (Weber, 1968). The shared understandings of what is considered to be right and of what is considered to be wrong create expectations about behavior. This differs from pragmatic legitimacy in which morality does not play a central role in judgments of appropriateness.

Norms and values provide a basis for normative legitimacy and range from those that are more general and applicable to all organizations within the business environment - such as fair play and fair treatment of employees and customers - to those that are specific to an industry (DiMaggio and Powell, 1983). Specific norms and value expectations may vary from industry to industry.

Professional associations serve as a powerful force within each industry explicitly determining appropriate norms and values specific to an industry (Ruef and Scott, 1998; Scott et al, 2000; Zimmerman and Zeitz, 2002). These professional associations not only establish norms and reflect changes over time, but may also serve as a legitimating body.

Organizations that receive positive evaluations from one association are likely to display them publicly. While a negative evaluation not only would reflect an internal a loss of normative legitimacy, but when communicated through the media may signal a loss of normative legitimacy to outsiders. For example, the American Medical Association (AMA) and the American Hospital Association (AHA) has long had strong influence in the U.S. healthcare field, establishing tight professional norms that enhance public trust (Ruef and Scott, 1998).

Cognitive Legitimacy

Cognitive legitimacy is based on the assumption or belief that one form of organizational behavior may be the single appropriate entity to produce the product or service. Normative legitimacy has a moral frame of reference as the basis for evaluating institutions and organizations. Cognitive legitimacy results from taken-for granted scripts, rules, routines, and classification that are adopted by individuals as they frame or define a situation (DiMaggio and Powell, 1991; Scott, 2001). The concept's underlying theory is rooted in cognitive models of psychology in which schemas and scripts lead decision makers to resist new evidence (Abelson, 1976; Cantor and Mischel, 1977), learning theories that emphasize how individuals organize information with the assistance of social categories (Rosch et al., 1976; Rosch, 1978); and attribution theory, where actors infer motives post hoc from menus of legitimate accounts (Bem, 1970; Kelley, 1971; DiMaggio and Powell, 1991).

The distinctive feature of cognitive legitimacy is its “taken-for-granted” characteristic (Aldrich, 1999; Scott, 2001; Suchman, 1995; Zeitz and Zimmerman, 2002). Even though stakeholders can confer legitimacy by normatively evaluating the organization goal, output or process, they can also take it for granted as a feature of the environment (Jepperson, 1991). Therefore, an organization is legitimate from the cognitive perspective when there is little question in individual’s mind, for example, whether the good is to be produced (e.g., primary education) or how it is to be produced (e.g., public schools). Connoting cognitive legitimacy affirms that the organization’s output and the process adopted in production are the natural way to do it (Hannan and Carroll, 1992). Not only can specific products and processes achieve taken for granted status, but also an organization’s general goals and motivations can achieve similar status. For example, in capitalist economies, profit seeking activities enjoy a general belief of being valid and individuals take it for granted as a common goal within the market place (Delacroix et al., 1989).

Methodology

There’s little empirical understanding about how the four sources of legitimacy are interrelated and about the importance of each form within the same context of an industry’s legitimacy. Only recently has legitimacy theory been applied within the context of modern organizations (Zelditch, 2001). looked specifically eparately at regulative and normative legitimacy. Elsbach (1994) and Ruef and Scott (1998) specifically focused on normative legitimacy, while Deephouse (1996) specifically looked at regulative legitimacy. Authors also have employed a non specific definition of

legitimacy; as the endorsement and/or support by society (see Elsbach and Sutton, 1992; Bansal and Clelland, 2004). However, the employment of such a broad definition or focusing at only one dimension may ignore other legitimacy forces at play. A narrow focus on one form of legitimacy, or a broad focus that utilizes a general definition, provides little room for investigating the nuances or interaction of the different components of legitimacy. Thus our contribution is to analyze four central concepts of legitimacy from within one dataset to better see their interplay in the overall legitimacy state of the industry.

There are significant methodological challenges when empirically studying legitimacy. There are the practical problems of assessing stakeholders' subjective perceptions and beliefs as they grant or withdraw legitimacy with respect to an organization. Indirect methods, such as newspaper content analysis or event studies have been used to assess stakeholders' perceptions of the legitimate state of an organization (Elsbach and Sutton, 1992; Deephouse, 1996; Bansal and Clelland, 2004). Even though indirect methods do provide a proxy for the constituencies' perceptions as to the legitimacy state of an organization, it is not possible to control for bias like the framing of the media (Elsbach, 1994). Or, in the case of population density measurements it can be difficult to understand the role and the judgment of different stakeholders (Hannan and Carroll, 1992).

This empirical approach paper utilizes the inductive method and follows a grounded approach (Glaser and Strauss, 1967; Eisenhardt, 1989; Strauss and Corbin; 1998).

Inductive analysis is employed because of: the newness of the theoretical application to organizations; the lack of theoretical work on the four legitimacy types and their interrelationship; and the limited number of empirical studies assessing an industry's legitimacy state.

Data Sources

The Livestock Management Facility Act (LMFA) in Illinois provides a unique opportunity for the study of the State's livestock industry's legitimacy. The Act, which was adopted in 1996 and amended in 1998 and 1999, primarily focused on setting standards for the operation and the siting of livestock facilities. Requirements are more or less stringent depending on the size of the proposed facility. There are specified setbacks from an occupied residence and populated areas, specific standards for lagoon design, certification requirements for the livestock manager and the need for a waste management plan. The requirements are summarized in eight siting criteria (see Appendix A).

Relevant to the subject of this research is the Act's requirement that the local community has the right to a formal public informational meeting in the county where the siting is to occur. More specifically, if the proposed facility will house 1,000 or more animal units or use an earthen lagoon then the county board may call for a public hearing, which is administered for all counties by the Illinois Department of Agriculture (IDA). The public hearing process utilizes a professional IDA facilitator, a set of IDA resource people, and follows a set meeting design. The IDA representative first explains the purpose and terms of the Act (LMFA). This is then a formal presentation is made by the proponent

firm (farm) and its associated experts. Finally there are audience's question and open testimonials by the audience. All statements made during the hearing are captured by a government appointed stenographer, compiled into official hearing transcripts, and made available to the public through the Freedom of Information Act.

The first public meeting took place in 1999 and since then there were 21 hearings held at the request of a local county board. Each hearing lasted on average three hours and involved 30 stakeholders and shareholders. The cross section reflects 19⁴ different farmers, in 17 different counties.

Data Analysis

The data analysis followed the grounded analysis approach of Strauss and Corbin (1998). The initial step involved a broad scan of the transcripts isolating all text units that dealt with any aspect of the appropriateness as an activity of livestock production in general or the facility in particular.

(Unfortunately circumstances did not allow us to complete our analysis. We apologize. The following material focused on one of the 21 transcripts and was presented earlier at the annual meeting of the International Food and Agribusiness Management Association in Chicago in 2005. An updated manuscript will be available at the 2006 annual meeting of the American Agricultural Economics Association in Long Beach California.)

⁴ Two farmers submitted two different applications involving the same facility.

Results: Dairy #1

The public informational meeting to be analyzed is for a proposed dairy farm and will be called D1 (Dairy #1). It is to be sited in Illinois, in a county where there are currently no dairy cows, but where agriculture is the number one industry. The closest town is 1.6 miles away from the site and has a population of less than 1,000 people. The proposed facility is designed for 6,102 animal units (4,358 dairy cows) and would be the largest dairy farm in the State. The public informational meeting was held in November, 2000. It began at 6:00 p.m. and ended at 11:25 p.m.

There were 48 persons who spoke during the D1 hearing, producing 55 text units (Table 1a). WT are the written testimonies, Reg are comments made by the government regulators (Illinois Department of Agriculture), Q Reg are the questions back to the regulators, Firm is the farmer and the expert team, Q Firm are public questions to the firm, and Test are the public testimonials. Most comments (45%) were made during the public question period, either in the form of questions or through testimonials. The government representatives by design speak very little and are to serve more of a resource role for questioners. Interestingly though their comments and associated public questions accounted for 20% of the text units.

Table 1a: Text Unit by Public Meeting Sections

	WT	Reg	Q Reg	Firm	Q Firm	Test	Total
Text Units	6	1	11	3	9	25	55
Text Units%	11%	2%	20%	5%	16%	45%	-
Text Units	6		12		12	25	55
Text units%	11%		22%		22%	45%	-
	WT	Reg.		Firm		Test	Total

Table 1b: Word Count by Public Meeting Sections

	WT	Reg.	Q Reg.	Firm	Q Firm	Test.	Total
WC Average	215	1,257	383	2,734	529	772	-
WC Total	1,293	1,257	4,213	8,202	4,761	19,300	39,026
WC Total %	3%	3%	11%	21%	12%	50%	-
WC Total	1,293		5,470		12,963	19,300	39,026
WC Total %	3%		14%		33%	50%	-
	WT	Reg.		Firm		Test	Total

Using word counts as an activity metric, 50% of the words were expressed during the open question session of the hearing. The firm’s opening presentation was considerable comprising 21% of the words. Follow up questions to both the firm and the government comprised 23% of the total words spoken. In this particular case, the submitted written testimonials were brief and contributed little insight into the legitimacy issue or those who choose to submit written testimonials.

The legitimacy forms – pragmatic, regulative, normative and cognitive – were scored across the text units in two ways: (1) “Predominant Legitimacy” is the variable representing the type of legitimacy that is predominant in one particular text unit and (2) “Legitimacy Types” is the variable representing all the legitimacy types that came up within one text unit. For example, if the entire transcript was only one text unit, “Predominant Legitimacy” could only be pragmatic, regulative, normative or cognitive, while “Legitimacy Types” could be either, one, two, three, or all of the four types.

Pragmatic legitimacy was the dominant form, being found in 85% of the text units and being the predominant form of legitimacy 65% of the time (Table 2). The high frequency and predominance of the pragmatic form of legitimacy may be due to the nature of this

hearing that particularly involved neighborhood issues. This may or may not be the case across the set of transcript hearings. 65% of the stakeholders were local and may have had direct interaction with the site or the business, thus raising a number of pragmatic issues (Figure 1).

The pragmatic nature of the relationships may be in the form of direct business relations as a supplier to the business and thus be a positive form of legitimacy. 68% (17/25) of the testimonials were positive statements. Or the neighborhood issues may take a negative form and be due to cost or risk bearing from the farms, real or perceived, negative amenities. Over half (9/14) of the negative comments came in the form of oral or written testimonials. Another reason for the dominance of pragmatic legitimacy may be that pragmatic arguments may be normatively preferred when stakeholders attempt to sway public opinion. This would have the effect of introducing empirical bias into the analysis. This form of bias will be analyzed across the set of transcripts.

Table 2: Frequency of Legitimacy – Predominant and Types Used

	Pragmatic	Regulative	Normative	Cognitive
Predominant Leg (%)	65%	23%	6%	6%
(Count)	34	12	3	3
Leg Types Used(%)	85%	46%	33%	25%
(Count)	44	24	17	13

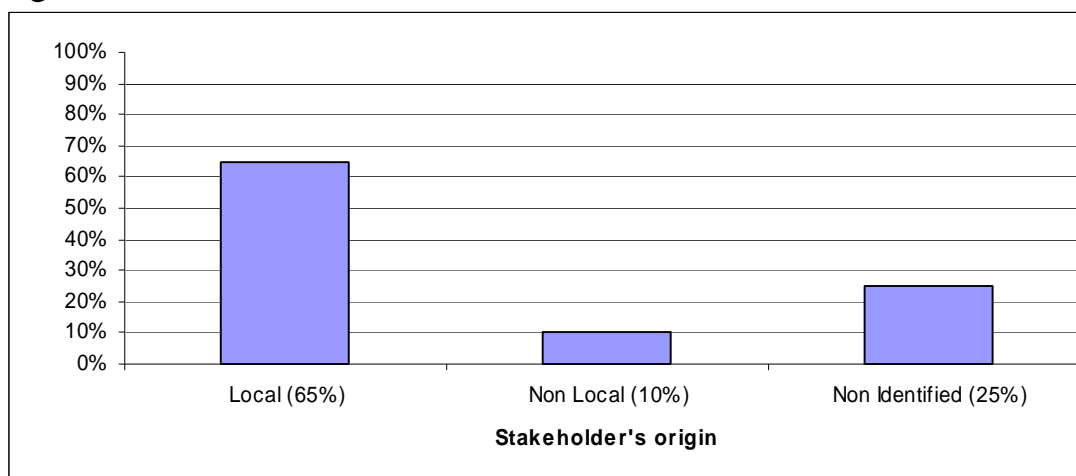
Table 3: Hearing Distribution by Position and Section

	WT	Reg.	Q Reg.	Firm	Q Firm	Test.	Total
In favor	1	-	-	3	-	17	21
Neutral	1	1	9	-	6	1	18
Against	2	-	2	-	3	7	14
Total	4	1	11	3	9	25	53

With respect to the other forms of legitimacy, regulative-based statements are mentioned at almost half of the transcript text units. And despite the fact that the normative or the cognitive dimensions are rarely used as the predominant form within a statement, they came up at least 25% of the time across the text units. The different forms of legitimacy are not only used by different people, but of the four possible types, almost two – 1.88⁵ - are used in average at any text unit statement.

Another important dimension in the assessment of legitimacy is understanding who are the stakeholders that grant or with legitimacy (Wood, 1991). Of the 48 participants in the hearing, 65% of the identified text units are either from local residents within a 15 miles radius of the proposed site or from the county (Figure 1).

Figure 1: Stakeholder Location



Pragmatic legitimacy issues dominated the hearing, in part, because they overwhelmingly dominated the oral testimonies focused especially on the pragmatic legitimacy of the

⁵ This average was obtained through summation of the Legitimacy Type variable (98) and divided by the number of text unit where a legitimacy form could be identified (52).

proposed facility (Tables 4A). Interspersed within those pragmatic concerns were normative and cognitive statements about the legitimacy of the firm (Table 4b). The regulators, not surprisingly dealt more with the regulative legitimacy of the proposal. Thus their role is narrowly specified and carried out such that they do serve as a normative institution in the way that an advocacy group might. The firm in its message not only addressed its compliance with the LMFA, signifying its regulative legitimacy, but drew on normative issues to justify its existence.

Table 4a: Predominant Legitimacy by Public Meeting Section

	WT	Reg.	Q Reg.	Firm	Q Firm	Test
Pragmatic	67%	0%	36%	0%	78%	84%
Regulative	33%	100%	55%	67%	0%	8%
Normative	0%	0%	0%	33%	11%	4%
Cognitive	0%	0%	9%	0%	11%	4%

Table 4b: Legitimacy Types Used by Public Meeting Section

	WT	Reg.	Q Reg.	Firm	Q Firm	Test
Pragmatic	67%	0%	64%	100%	89%	96%
Regulative	33%	100%	91%	100%	11%	32%
Normative	0%	100%	9%	100%	22%	40%
Cognitive	0%	0%	9%	33%	22%	36%

At the Firm section, a curious mismatch can be observed: while the firm was predominantly regulative in its presentation, the questions posed by the public to the firm were pragmatic. This difference in the legitimacy frame between the firm and the public may suggest a mismatch between what the firm thinks it should address and what at-risk stakeholders expects the firm to address.

One important practical question is whether the LMFA is sufficient as a process to legitimize the siting of a CAFO. This one case shows a mismatch, whereby the concerns are very pragmatic, but the Firm and the Regulators draw on regulative or normative

justifications. Thus there may be a gap between the legal/regulatory standard and the community standard. There may be risks that the local community feels it bears that are unaddressed by the LMFA process. This gap may need to be formally addressed because individuals and communities now have found they have standing through the civil court system to address these extra-regulative risks.

Conclusion

Because the research is still in process conclusions are preliminary at best. We have looked at one of the cases to get a initial feel for what the transcripts and the analytical model have to offer. The initial findings were very encouraging. It is expected that the population of transcripts will yield significant insights into the nature of legitimacy theory as well as the CAFO problem. The empirical work will utilize a formal analytical model involving outside trained scorers that will lend a level of objectivity and repeatability to the research. Under such conditions the complementary statistical analyses will yield powerful insights.

An industry can be perceived as legitimate based on the stakeholders' self-interest (1), on its compliance with regulations (2), on its consonance with society values (3), and its alignment with more deeply taken for granted beliefs and assumptions (4). The research will result in: an assessment of the level of legitimacy of the Illinois livestock industry using the four identified theoretical reference categories; an understanding of the interrelatedness of the four categories and their relationship to firm externalities; and

more broadly applicable empirical evidence about the various sources of legitimacy and their relative impacts and contributions to an overall legitimacy state.

Implications

The application of knowing, taxonomically, where legitimacy is being derived or withheld will allow the livestock industry to more completely understand the opposition they face and then go about designing more effective response strategies and tactics. For example, industry may be perplexed why opposition is unrelenting and overall legitimacy is being withheld even though legal compliance and regulative legitimacy have been achieved. Livestock's legitimacy though may be rooted in other areas, many having to do with the risk bearing of externalities by the community. A gap may exist between the community and legal standards. A firm overly focused on the regulatory obligations may leave other critical issues unattended. A risk premium on capital costs may result due to the existence of the community standards gap, making a project infeasible.

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Appendix A: Eight LMFA criteria (verbatim), Illinois Department of Agriculture

1. Whether registration and livestock waste management plan certification requirements, if required, are met by the notice of intent to construct.
2. Whether the design, location, or proposed operation will protect the environment by being consistent with this Act.
3. Whether the location minimizes any incompatibility with the surrounding area's character by being located in any area zoned for agriculture where the county has zoning or where the county is not zoned, the setback requirements established by this Act are complied with.
4. Whether the facility is located within a 100-year floodplain or an otherwise environmentally sensitive area (defined as an area of karst area or with aquifer material within 5 feet of the bottom of the livestock waste handling facility) and whether construction standards set forth in the notice of intent to construct are consistent with the goal of protecting the safety of the area.
5. Whether the owner or operator has submitted plans for operation that minimize the likelihood of any environmental damage to the surrounding area from spills, runoff, and leaching.
6. Whether odor control plans are reasonable and incorporate reasonable or innovative odor reduction technologies given the current state of such technologies.
7. Whether traffic patterns minimize the effect on existing traffic flows.
8. Whether construction or modification of a new facility is consistent with existing community growth, tourism, recreation, or economic development or with specific projects involving community growth, tourism, recreation, or economic development that have been identified by government action for development or operation within one year through compliance with applicable zoning and setback requirements for populated areas established by this Act.