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# The Dynamics of Institutional Pressures

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# THE DYNAMICS OF INSTITUTIONAL PRESSURES

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## **ABSTRACT**

This study examines the micro-dynamics of how an organization responds to institutional pressures. Whereas institutional pressures might lead to isomorphism, organisations also have agency. But to what extent can they resist pressures? And how does a sum, or critical combination of institutional pressures limit the room for agency? We develop a pressure-response model that theorizes on these relationships on the basis of an illustrative case: the Shell crisis around the oil reserve bookings in 2004 which led to amendment of oil reporting rules.

**KEYWORDS:** institutional theory, isomorphic pressure, organizational agency

## INTRODUCTION

Institutional theory has been strong in explaining how organizations adjust to the rules and norms in a field to obtain legitimacy (DiMaggio and Powell, 1983) thereby leading to homogeneity of organizational forms and practices. Oliver (1991) has argued that organizational responses to these pressures do not only depend on the pressures being exerted, but also on the willingness and ability of organizations to comply. This willingness and ability explains variation of organizational behaviour within fields. Together these contributions form a strong and complementary explanation for organizational behaviour and many empirical studies have since been based on these theoretical foundations (e.g. Clemens & Douglas 2005; Goodstein 1994; Greening & Gray, 1994). However, most of these studies have described how organizations respond to one or two of the institutional pressures. Mizruchi and Fein (1999) found that out of 160 studies into institutional theory, only two operationalize all three forms of institutional isomorphism as distinguished by DiMaggio and Powell. Their principal objection to this is that "... the focus on one isomorphic process leads to a failure to consider that an alternative process might be operative" (1999: 664). This criticism is in line with the observation of DiMaggio and Powell (1983:150) that the mechanisms of isomorphism are not necessarily empirically distinguishable; each is a separate process, but they will also interact. Hence the effects can be difficult to identify (DiMaggio and Powell, 1983: 150). Moreover, as not all pressures are considered in interaction, the environmental influences as a determining factor for strategic responses cannot be fully understood and easily become underplayed. Suddaby (2010) in this light observes that the current focus on institutional entrepreneurship seems to have led to a story of super-heroes.

Since the observations of DiMaggio and Powell and Mizruchi and Fein, many studies have examined processes of (non) adoption as a response to various forms of pressure (e.g. Fiss and Zajac 2004; Ingram & Simons 1995). Also, ample attention has been paid to how response behaviour by organizations can vary according to the

nature of pressures (e.g. Are rules contested or ambiguous? Are logics shared?) or according to congruence with technical imperative (Westphal and Zajac 2001, Scott 2001). This has not only created more insight into the conditions under which organizations become more homogenous, it also helps to describe discrepancies between organizational responses (Boiral 2007). However, very little attention has been devoted to the characteristics and dynamics of, and the interactions between, institutional forces themselves in the shaping of organizational practices (Lounsbury 2001). This whereas it is very plausible that one pressure is stronger than another, works in a different manner, and that a combination of pressures leaves less room for strategic agency. It is this aspect of the character and interrelatedness of institutional forces that this article focuses on in explaining the room for agency of an organization.

Oliver (1991:159) argued that organizational behaviour cannot be completely attributed to external pressures. Based on institutional and resource dependency theory, she developed an integrated predictive framework of strategic responses to isomorphic pressure varying from manipulation to acquiesce. She argued that it is not only the type and strength of a pressure that determines the response, but also the ability and willingness of the organization to do so. The predictive framework was based around the questions of 1) why pressures are being exerted (cause), 2) who is exerting them (constituents), 3) what the pressures are (content), 4) how and by what means they are exerted (control), and 5) where they occur (context). By doing so, Oliver connected external pressures to internal logics and capabilities and predicted that if rules are contested and not regularly monitored and enforced, and if external requirements do not conform with internal goals and operations, organizations will not comply and seek their room for agency.

In the Shell-SEC case - elaborated on in this paper – we see such a situation occur. The formal SEC reporting rules for oil reserve estimations were outdated (dating from 1978) as scientific and operational knowledge had moved on and had led to a new professional norm for oil reserve estimates. As the SEC was not very active in

monitoring compliance, and fines had not been given, the norm in the field had decoupled (Westphal and Zajac, 2001) from the formal rules. After the Enron scandal, the role of the SEC changed. The Sarbanes-Oxley Act (SOX) was enacted in 2002 leading to more stringent supervision of large corporations and the discovery of Shell's non compliance to SEC-rules in 2004. The resulting crisis carried all the seeds in it for institutional change: rules were contested, new professional norms had been established and adopted, and hence the enforcement of the 'old' regulations had become de-legitimized (Hiatt, Sine, Tolbert 2009). In practice though, Shell did not defy regulations and moved to compliance very rapidly, complying to external pressures not only with regards to their reporting practices, but also changing their bi-national structure. What explains this behavior? Why does this situation not provide the room for agency as predicted in Oliver's work? What pressures explain the responses of Shell and other actors on the disclosure of the decoupling of formal rules on the one hand, and norms and practices on the other?

On the basis of the explorative Shell-SEC case, we build theory on the how organisational responses are influenced by the interactive effect of institutional pressures. We argue that the joint effect of pressures will to a large extent determine the room for agency and that insight into this dynamics is hence of importance to understand organizational behavior. While one type of pressure on its own might still be defied, the joint effect of pressures in a similar direction might lead to a pressure so inescapable that organizational agency is very limited.

## **ISOMORPHIC PRESSURES AND STRATEGIC RESPONSES**

In institutional theory, much attention has been focused on how institutional pressures cause isomorphism among organizations in an organizational field. As organizations strive for legitimacy, next to economic competitiveness, they respond to similar external pressures in their field, leading them to adopt similar norms, values and practices. DiMaggio and Powell (1983) distinguish between coercive institutional

isomorphism as pressures exerted by other organizations on which the focal organization is dependent, mimetic isomorphism as a response to uncertainty and anxiety and normative pressures fuelled by professionalization through either training and/or socialization of employees into similar worldviews, or interaction through professional trade organizations and the like, through which ideas are diffused. Scott (2001) reframes the isomorphic pressures under three pillars: regulative, normative and cognitive. The regulative pillar refers to actors or actions that establish rules, inspect conformity and impose sanctions, with governments or governmental bodies being the most likely actors to fulfill this role. The normative pillar refers to normative rules that introduce a prescriptive, evaluative and obligatory dimension into social life. Normative institutions include both values and norms, with values as preferred or desirable situations, and norms specifying how things should be done. Scott's cognitive pillar is concerned with socially constructed taken for granted rules which will often unconsciously determine 'how things are done'. If taken together, the institutional pressures can be categorized as follows:

- Coercive pressure as resulting from formal rules and regulations that can be inspected and sanctioned, with as most likely source of pressure governmental bodies and other powerful stakeholders from which the organization is dependent (this includes Scott's regulative pressure)
- Normative pressure as resulting from norms and values of how things should be done. This can be taken for granted but will become conscious when values are breached. Professionals and experts play a large role in establishing these norms as progress of (technological) knowledge and experience determines the 'state of the art' in a certain field. These norms are spread through for instance experts and professional organizations and can be formalized in industry norms and standards (such as ISO or FSC standards).
- Mimetic pressure as a response to uncertainty. Organizations mimic other organizations that are successful, or mimic others to be "no better or worse than

any organization” in the field, which results in a positive judgment of shareholders (Kondra and Hinings 1998:745-8)

In order to retain legitimacy, organizations search for a fit within their field; they will want to comply with the institutional demands, i.e., the level of performance that well performing competitors show, and to the formalized standards in the field i.e., industrial standards such as ISO. Kondra and Hinings (1998) define ‘institutional fit’ as “the degree of compliance by an organization with the organizational form of structures, routines and systems described by institutional norms” Performance is, therefore, not only an absolute notion, but also a relative one as perceptions of performance compared to peers play a role.

However, adherence to institutional pressures towards isomorphism is not only a matter of interpretation and choosing to what extent adherence is desirable given technological imperatives, it is also a function of the pressure that can be exerted by outside forces, such as courts, anti-trust bodies, analysts, and shareholders. Oliver (1991) describes the range of the strategic responses as a function of the ability and willingness of organizations to do so. To frame the range of responses organizations can choose from to react to external pressures, Oliver (1991) ranks five strategic responses ranging from low resistance to high resistance. The strategy to acquiesce refers to conscious or less conscious acts of conforming to institutional pressures. The compromise strategy involves partial compliance with institutional pressures, which strategy is likely to be chosen when organizations are confronted with conflicting institutional demands or inconsistencies between the institutional demands and internal organizational objectives. The avoidance strategy refers to an organization’s attempt to preclude the necessity of conforming. This can be done through, for example, acts of decoupling, buffering or escape. Defiance is a strategy which is most likely to be chosen when the costs of non-conformity to institutional pressures are low, the firm’s interests and goals are incompatible with institutional pressures, the firm

believes in its rationality or the righteousness of alternative actions, or the firm has nothing to lose.

The manipulation strategy, lastly, is the intentional active manipulation in a situation in which institutional rules and values are weak and hence present opportunities for change. It is important to note that manipulation should not be understood in its negative connotation. It is a strategy in which the focal organization tries to change the institutional environment to fit its requirements, rather than vice versa. This might be a very positive and pro-active strategy to take, and could, in that sense, be close to the acquiescence strategy, as Clemens and Douglas (2005:1211) find in their empirical study.

The choice for a certain strategy, i.e. the room for strategic agency, is dependent on the relative strength of the institutional pressure and the power of the organization. For instance, very powerful organizations will have a better chance to resist outside pressures, but again less so if there is the threat of penalties. The weaker the enforcement mechanisms are, and the larger the incongruence between external demands and technical imperatives, the more room for maneuvering organizations will have to construct their own meaning of compliance and implement deviant strategies (Oliver 1992). This can also be done in a process of decoupling; the act of organizations pretending to conform to external pressures whereas in reality they adopt a strategy that is best for internal core functions (Westphal and Zajac, 2001; Scott, 2001).

Just as isomorphic pressures might be difficult to disentangle, not all strategies will be equally easy to observe in practice, which has consequences for our research setup. The manipulation strategy will be difficult to observe as manipulation is typically a strategy of lobbying through co-optation and influence, which are complex interactive processes with unknown outcomes. Furthermore, this process will take place behind the scenes. For these reasons Goodstein (1994) leaves this strategy out

and we will do the same as our research method will no enable us to unveil these secretive processes.

## **RESEARCH METHOD**

In this article, we present Shell's oil and gas reserves crisis as an example of the dynamics between institutional pressures and a large firm's responses. The case describes the conflict between the oil company, Shell, and the U.S. Securities and Exchange Commission (SEC) and other financial stakeholders on the oil and gas reporting protocol, revealing intra- and inter-organizational conflicts with regard to this protocol. In January 2004, Shell adjusted its claimed oil reserves by more than 20 percent, which came as a shock to investors, shareholders, analysts, and the SEC. From that period on, Shell has been constantly in the headlines of (financial) newspapers until it was restored to the norms of the institutional field and had paid its 120 million dollar penalty to the SEC and 17 million pound penalty to the FSA, the British counterpart, in August 2004. Thus, in just a few months, Shell had changed its strategy from defiance of the SEC rules to full acquiescence to these rules. In July 2005, Shell also changed its hundred-year-old bi-national (Dutch/British) structure and became a British cooperation as a result of criticism from the financial community.<sup>1</sup>

Every company listed on the American stock exchange has to comply with the SEC rules regarding the reporting of gas and oil reserves. This protocol, however, dates from 1978 and requires multinational companies, such as Shell and ExxonMobil, to also measure and report their reserves according to the 1978 state-of-the-art technologies which are by now obviously outdated. The gap between the formal SEC rules and the modern oil and gas reserve measuring tools has, in the Shell case, led to

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<sup>1</sup> In 1907, the oil and gas multinational Royal Dutch/Shell Group was created to incorporate the worldwide operations of Royal Dutch Petroleum Co. (60%) and Shell Transport & Trading Co (40%). In July 2005, the parent companies of Royal Dutch and Shell Transport unified under a single parent company, Royal Dutch Shell plc ([www.shell.com](http://www.shell.com)).

a decoupling of Shell's reporting practices on reserves and the internal measures used for establishing these reserves. Over time, though, external communications also became based on the measures used for internal estimations, leading to a practice that no longer fit with the SEC rules. In January 2004, this decoupling act came to light as Shell adjusted its claimed oil reserves by more than 20 percent. From this moment on, a fascinating struggle started between Shell and its stakeholders and within Shell's internal players.

In line with Deephouse and Carter (2005), King and Soule (2007), and Lamin and Zaheer (2004) we use newspaper articles to create a picture of the dynamics between institutional pressures and Shell's responses. The main problems with working with newspaper data are two kinds of biases: the selection bias and the description bias. The selection bias is a problem because not all news agencies report on all events that actually: "Critics claim that the sample of events on which newspapers do report is not representative but is instead structured by various factors such as competition over newspaper space, reporting norms, and editorial concerns" (Earl et al., 2004: 69). The other bias, the description bias: "concerns the veracity with which selected events are reported in the press" (Earl et al., 2004: 72). Despite these real problems related to the use of newspaper clippings, Earl et al. (2004) ascertain that newspaper data is a very valuable source of information for analyzing change over time, and that "newspaper data does not deviate markedly from accepted standards of quality. For instance, when considering selection bias, newspaper data compare favorably to bias from nonresponses in survey" (Earl et al., 2004: 77).

Since our case is about a substantial crisis of one of the largest companies in Britain as well as the Netherlands, we expect that articles in the quality newspapers of both countries are a rich source of information. Journalists have covered on a quite detailed level all moves of the Shell corporation and all important counterparts. Since Shell had a bi-national identity, a quality newspaper for each country was selected. For Great Britain, The Financial Times (FT) was chosen, and for the Netherlands, the NRC

Handelsblad was picked. One can expect the journalists of these two newspapers to have good access to information and data about Shell. The difference between the two newspapers is that the NRC received more secretive information concerning the internal struggle that took place within Shell. This information was often based on leaked emails or PowerPoint presentations provided by anonymous emails of Shell employees or ex-employees. The Financial Times gave more information concerning the institutional field and the reaction of other oil major players in the field as well as more information concerning the SEC.

The analysis started with the beginning of the crisis on January 9<sup>th</sup>, 2004 (the adjustment of the claimed oil reserves by more than 20 percent). The analysis stopped with the end of the bi-national structure on July 20<sup>th</sup>, 2005, when Shell made a last major concession to its stakeholders with regard to this crisis. We performed a search on LexisNexis for articles in the two newspapers in which 'Shell' was mentioned in combination with one of the following terms: SEC, reserves, competitor, or crisis. Approximately 2000 articles were retrieved. Reading of all of these articles revealed 494 events in which a specific pressure of a stakeholder (239 events) or a specific response of Shell (255 events) was described for the first time. What is assessed as a pressure or a response will be described in the next paragraph, but first we will pay attention to the stakeholders.

## **Stakeholders**

For each event, we assessed which actors were involved. Clustering these stakeholders for this case resulted in the following list: oil companies, stockholders/shareholders, investors, pension funds, regulatory agencies such as U.S. Securities and Exchange Commission (SEC) and other national counterparts, rating agencies, associations of petroleum engineers, research institutes, consultancy, technical experts, NGO's, and media.

## **Pressures**

As described in the theoretical part, three forms of institutional pressures are distinguished: coercive, normative, and mimetic pressures. In this study we also assessed the direction of pressure. All behaviors of stakeholders that decrease the room for agency for Shell are coded as positive pressure (+1) and all events that increase the room for agency (by e.g. challenging the demands posed on Shell) were coded as pressure relief (-1). The relative pressure on Shell is the sum of the two.

Events that referred to the behavior of stakeholders that could directly change the room for agency by Shell through coercion as non-compliance could objectively be established and penalized, were coded as coercive. This type of pressure is operationalized as power, with as examples the threats of SEC's fines and de-investments by investors. All events that referred to the behavior or performance of other oil companies with regard to oil reserves or connected issues were coded as mimetic pressure. Institutional theory assumes that firms want to be like their competitors to retain legitimacy. An example of this is that another oil companies also has to de-book oil reserves, making the deviance of Shell less extreme (mimetic pressure relief). Professional normative pressure is related to professionalization and was operationalized as all comments and claims of independent (technical) experts and analysts in the debate about the issue of the reserves. The claims of these independent experts represent the norms, standards, and best practices for assessing oil reserves that hold in the professional field. For examples of the coding scheme see appendix 1.

## **Responses**

For the operationalization of responses, we coded Oliver's (1991) four response strategies<sup>2</sup>: acquiesce, compromise, avoid, defy and manipulate with the different tactics as guiding principles (see Table 1) for coding the data.

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<sup>2</sup> Note: As stated previously, we will not consider the manipulation strategy in this study.

<b>Strategies</b>	<b>Tactics</b>	<b>Examples</b>
Acquiesce	Habit	Following invisible, taken-for-granted norms
	Imitate	Mimicking institutional models
	Comply	Obeying rules and accepting norms
Compromise	Balance	Balancing the expectations of multiple constituents
	Pacify	Placating and accommodating institutional elements
	Bargain	Negotiating with institutional stakeholders
Avoid	Conceal	Disguising nonconformity
	Buffer	Loosening institutional attachments
	Escape	Changing goals, activities, or domains
Defy	Dismiss	Ignoring explicit norms and values
	Challenge	Contesting rules and requirements
	Attack	Assaulting the sources of institutional constituents and processes

TABLE 1: Strategic Responses institutional processes (taken from Oliver, 1991: 152, without the manipulation strategy)

Oliver presented this range of responses as varying ‘from passivity to increasing active resistance’ (1991: 151). We coded the direction of the responses as follows: acquiesce +1, compromise +0.5, avoid -.05, defy -1.

To check for inter-coder reliability, a sample of the first hundred events was coded by a second analyst; 88 events were coded identical to the first coder.

## **CASE: SHELL-SEC CRISIS OVER OIL RESERVE BOOKING**

### **Case background**

To understand the case under investigation, we need to take a step back and learn a bit about Shell’s history. At the end of the 90’s, Shell did not participate in the industry’s concentration ‘wave’ that occurred in reaction to the collapse of global oil prices (prices fell below \$10 a barrel in 1986). Instead of merging, Shell stayed focused on independent and autonomous development and growth (Grant, 2003). These mergers enabled some of the other players to ‘polish up’ their reserve figures in an

advantageous way. Due to this concentration wave, Shell lost its number one position in the industry, but the company was still performing at the higher end of the institutional range while also setting other goals such as becoming a front-runner in social responsibility. However, with its reserve replacement ratio (RRR) starting to lag behind that of competitors, Shell emphasized growth to the point that its legitimate claim to reserves was brought into question according to some regulations, especially those of the SEC.

The SEC rules are not straightforward, making them difficult to work with. The rules on booking oil and gas reserves stem from 1978, to which only minor adjustments have been made. The core concepts of these regulations are “proven” and “probable” reserves of which only the proven category can be booked by the oil companies. The SEC definition of these proven reserves is “the estimated quantities of crude oil, natural gas, and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions, i.e., prices and costs as of the date the estimate is made” (www.spee.org). As the SEC’s goal is to protect the interests of investors, analysts, and stakeholders who are mostly interested in the most conservative estimations, the SEC allows only the booking of proven reserves.

However, there is difficulty with this definition residing in the term reasonable certainty. Some experts interpret it in the sense that “(...) companies must be more than 90 percent certain the fields they booked as proved can be developed under existing economic, political, and technical conditions,”<sup>3</sup> but other experts use other indicators. And this is not the only source of ambiguity in the rules. As Rob Arnott, senior oil researcher, states: “For most companies, reserves will only be disclosed once capital has been committed. However, even this simple rule is subject to interpretation, and once this is combined with the fact that nearly every stock exchange globally has a different set of rules for reserves accounting, it only goes to

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<sup>3</sup> FT (18-03-04)

demonstrate that reserves estimates, whether for internal or for external purposes, is an art and not a science” (Arnott, 2004: 3, emphasis added).

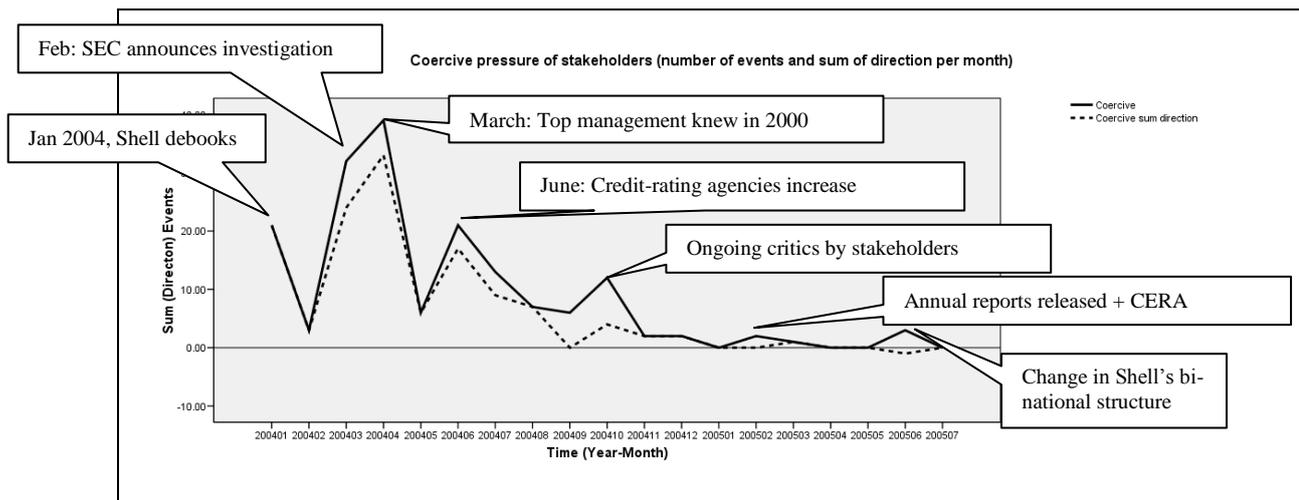
In short, the pressure exerted by the SEC in their endeavor to protect stakeholders increases pressure on Shell, and the company found itself faced with contested and ambiguous rules deliberating as to how to respond to these pressures. It is against this background that we move to the systematic analysis of the case.

### **Institutional pressures on shell**

In our news clippings analysis, we measured 239 pressure events. 67 percent of the events referred to coercive pressures being exerted on Shell (i.e., SEC rules or penalties). Twenty-one percent of the events were mimetic in character. These events relate to the behavior of competitors of Shell (i.e., if competitors also have to de-book reserves). Normative pressures were found in 12 percent of the events, which can be explained by the more indirect character of these pressures. Normative pressures are mostly exerted through education and training programs and discussions within professional networks and platforms. As these processes are more indirect and long-term influences, we will discuss them in less detail in this case as there were not enough events for a meaningful analysis.

### **Coercive pressures**

Graph 1 shows how the coercive pressures evolved per month during our observation period. The solid line represents the number of coercive pressures, whereas the dotted line represents the sum of positive and negative pressures and hence represents the effective strength of the coercive pressure. The more the legitimacy of formal rules is debated, the less forceful the coercion on the basis of these rules is assumed.



GRAPH 1: Coercive pressure over time

The first peak in the graph relates to the announcement of Shell, on January 9<sup>th</sup> 2004, that there was uncertainty about 20% of their proven reserves (3.9 million barrels) for the period from 1996 to 2002.<sup>4</sup> Shell redefines their proven into probable reserves. Investors and shareholders are shocked and stock prices fall by 12 percent.<sup>5</sup> Five days later (January 14<sup>th</sup>) the SEC announces an investigation into Shell's booking practices and accuses Shell of non-compliance to SEC-rules. Shell's reaction is that they "always seek to be compliant."<sup>6</sup> Next to the SEC exerting pressure, large investors also demand a better explanation from Shell than it just being "a matter of definition"<sup>7</sup>. Both analysts and investors demand replacement of Shell's management and reconsideration of Shell's bi-national structure, decentralized operations, and control mechanisms.<sup>8</sup>

With SEC's announcement to start a formal investigation into Shell (February 20<sup>th</sup>) the crisis deepens. Both Wall Street Journal and The New York Times report that Shell's management had been knowing about the reserves' problem since 2002, which date was later brought back to 2000. Media attention hence shifts to management's conscious cover-up of defiance, and additional lawsuits and class actions are set in

<sup>4</sup> More revisions followed on the 19 of March 2004, 19 of April 2004, 25th of May 2004, and the 3rd of January 2005. The size of the revisions varied and were not as large as the first one that took place on the 9th of January.

<sup>5</sup> NRC (10-01-04)

<sup>6</sup> FT (12-01-04)

<sup>7</sup> NRC (16-01-04)

<sup>8</sup> NRC (29-01-04)

motion. On top of that, the British and Dutch counterparts of the SEC, the Financial Services Authority (FSA) and Autoriteit Financiële Markten (AFM), start their own national investigation into Shell's practices. The pressure is increased when activist investor Knight Vinke requires openness and transparency, and when Fitch and Standard & Poor downgrade Shell's credit rating (from a triple A to AA+)<sup>9</sup>. All in all, Shell is heavily criticized for its concealment of defiance and actions are taken to penalize this behavior in the form of fines, lawsuits, and downgrading.

In June investors grow increasingly impatient as Shell gives no openness on what has happened, or what actions will be taken. Knight Vinke and CalPERS (Californian pension fund owning 0.3 percent of Shell's shares) demand that Shell includes an investor representative on its board of directors, and changes its corporate governance structure. CalPERS also places Shell on its "focus list" of improperly governed companies. U.S. regulators also increase the pressure by announcing that no adjustments of SEC regulations will be made.

On August 25<sup>th</sup>, the SEC presents the results of its investigation and fines Shell for \$120 million for three reasons: "(i) its desire to create and maintain the appearance of a strong RRR, (ii) the failure of its internal reserves estimation and reporting guidelines to conform to SEC requirements, and (iii) the lack of effective internal controls over the reserves estimation and reporting process."<sup>10</sup> The fine was lower than it could have been due to Shell's cooperation with the regulatory bodies.

In June 2005 Shell gives up its bi-national structure (becomes a British company with headquarters in the Netherlands) and the U.S. government stops Shell's prosecution. With Shell having paid its fines and having made its organizational reforms, Shell is back in line with the institutional requirements and the number of events with coercive pressure fade away.

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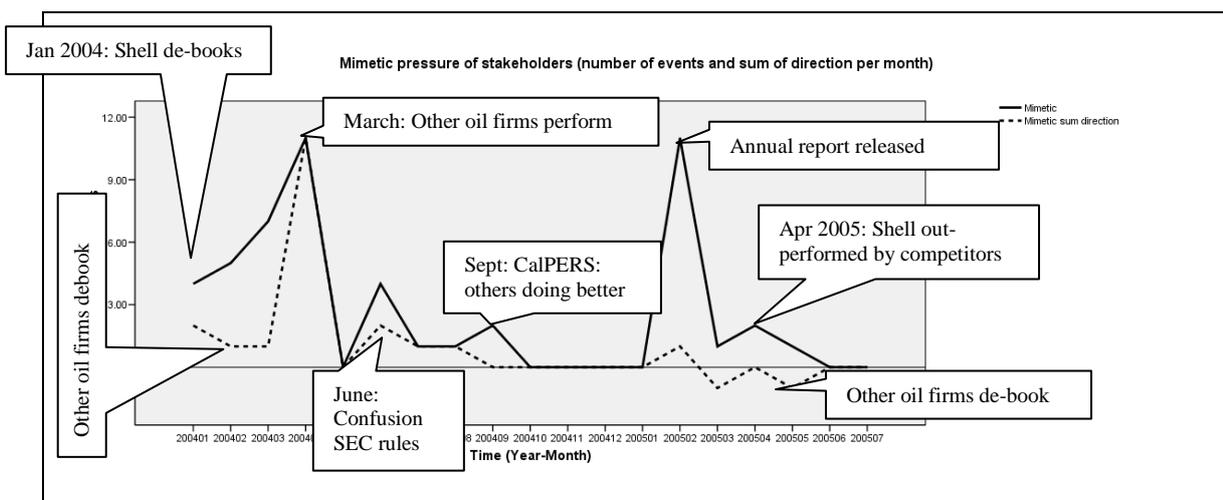
<sup>9</sup> *FT* (19-04-05)

<sup>10</sup> SEC report (24-08-04), United States District Court for Southern District of Texas, Houston Division, Securities and Exchange Commission, Plaintiff versus Royal Dutch Petroleum Company and the "Shell" transport and trading company, P.L.C, complaint H-04-3359, defendants.

Pressure relief starts to grow from fall 2004 onwards with some stakeholders openly supporting Shell's deviant practices (in October a Dutch Pension fund gives its support). Whereas in the first period, consultants, journalists pointing and the IEA (International Energy Agency) point out the ambiguity and outdated nature of the SEC rules, the call for SEC rules' reform becomes structural with the publication of a CERA report (Cambridge Energy Research Associated) in February 2005 that heavily criticizes the rules. At the end of the observation period (June/July 2005) there are more events questioning the SEC rules than there are criticizing Shell's practices.

### Mimetic pressures

In Graph 2 the mimetic pressures on Shell are depicted. The graph show a greater discrepancy between the mimetic pressure being exerted on Shell, and the pressure relief. In other words, the effective pressure through mimetic mechanisms is less strong as was in the case of coercive pressure, as there is less clarity about what the norm is or should be. While some companies have to de-book or openly criticize SEC rules (leading to pressure relief), others maintain a public image in which they claim to be compliant with SEC rules (thereby discrediting Shell and increasing the pressure on Shell as a deviant firm).



GRAPH 2: Mimetic pressures over time

January 10<sup>th</sup>, the day after Shell's debooking announcement, The Financial Times states that Shell is among the least successful companies relative to its peers in finding new oil.<sup>11</sup> Two days later, consultancy firm Wood MacKenzie claims: "But proved reserves are not all that matter, and when probable reserves are taken into account, Shell is in line with its peers."<sup>12</sup> In February 2004, however, ExxonMobil shows a tenth year of increases in its reserves.

The first peak (the highest point in April) in mimetic pressure is mainly related to news on other oil companies performing much better than Shell, whereas the pressure relief here relates to other oil companies complaining about the SEC reserve rules and to their having to debook reserves as well. With discussions among companies in the field on the SEC regulations, the industry leaders ask the SEC to update its guidelines and allow companies to use newer, cheaper, and more environmentally friendly technologies for reserve estimations, such as seismic mapping and 3D technologies.<sup>13</sup> The industry complains that oil companies have booked different reserve percentages using identical data for the same field using the same SEC guidelines<sup>14</sup> (e.g., the Ormen Lange, a Norwegian gas field that was booked differently by different companies operating it).<sup>15</sup> The differences in booking are very substantial—varying from 35 to 80 percent.<sup>16</sup>

In June, the mimetic pressures reliefs peak again. This doesn't take off the mimetic pressure on Shell though as CalPERS states that Shell has already been under-performing for five years and BP is adjusting its reserves and bypassing Shell in terms of stock value in August 2004. In that same month, rumors circulate that Total will take over Shell (The Economist). Later, these rumors seem to have been unfounded.

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<sup>11</sup> *FT* (10-01-2004)

<sup>12</sup> *FT* (12-01-2004)

<sup>13</sup> *FT* (24-03-04)

<sup>14</sup> *FT* (24-03-04)

<sup>15</sup> *FT* (14-05-04)

<sup>16</sup> *FT* (14-05-04)

In February 2005, the largest peak is due primarily to the main oil companies coming out with annual reports, resulting in a comparison among the main companies, in particular in terms of reserves and the RRR figures. In this period, some companies had to debook their reserves. Even BP disappoints analysts in terms of its RRR (89%), where they had promised an RRR of 100 percent. Some firms are performing better than Shell, while others have to de-book their reserves again.

### **Normative pressures**

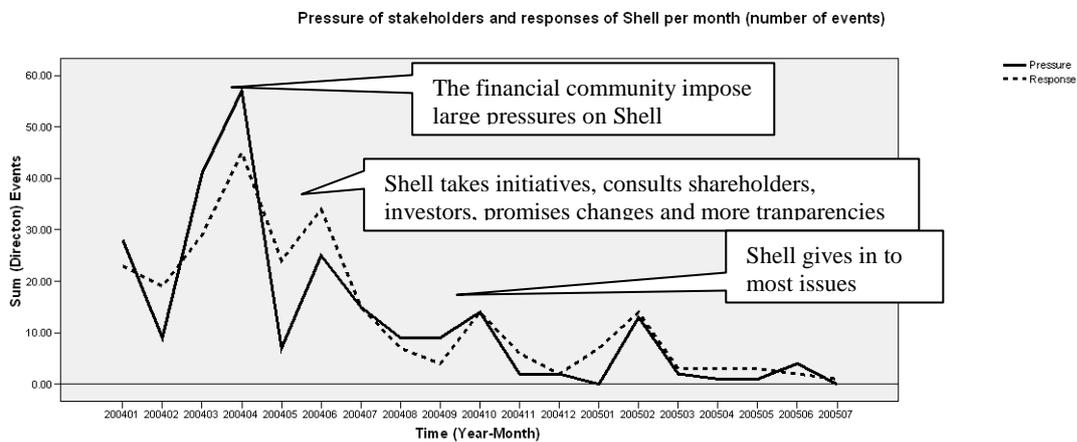
To reconcile with the SEC and in anticipation of impending penalties, Shell announced by the end of April, that hundreds of Shell employees would receive training in the SEC regulations and their updated interpretation. The defiance strategy mainly consisted of a rejection of the demand to change its dual structure. This change was deemed unnecessary having nothing to do with the reserves; Shell also stated that it was a victim of ambiguous U.S. regulation.

In October 2004, Shell announced another readjustment of its reserves. Beginning in February 2005, the acquiescence consisted of hiring 1000 E&P engineers and proposing to scrap share options and to pay out in restricted shares. Halfway through 2005, Shell accepted the demands to change its structure; Shell is renamed from the Royal Dutch/Shell Group of Companies (Shell) to Royal Dutch Shell plc. It would open a new commercial academy to train staff to negotiate more effectively with the governments that control oil and gas resources, accepted paying a 120 m civil penalty settlement, and agreed to take substantial remedial action.

## **INSTITUTIONAL PRESSURES AND STRATEGIC RESPONSES**

To look further into the nature and timing of these responses, we utilize Graph 3. In this graph, all strategic reactions by Shell are counted together, as well as all events of pressure as exercised by the different actors. The correlation between the pressure and response is 0.88 on a monthly basis (.57 on a weekly basis). So, on a

monthly basis we see a strong relationship between pressure and response. The pressure response dynamic is like a game of tennis, where pressure is exerted, a reaction is given, which provokes another pressure.



GRAPH 3: Pressures and responses of Shell per month (number of events)

What we can determine from this graph is that in October 2004, two months after the SEC and FSA investigation and fines are made public (25<sup>th</sup> of August), Shell eventually acquiesces in most demands. Toward the end of the crisis, with Shell changing to an acquiescence strategy, the field forces seem to indicate less discussion and more compliance to the general consensus that Shell was wrong and rules should be obeyed.

Looking into the relationship between the different types of pressures (see Table 2), we see that coercive and mimetic pressures correlate strongly (0.79). This correlation takes into account the direction of the pressure based on the sum of positive and negative pressures. Coercive pressure on Shell seems to also put pressure on Shell's competitors to legitimize their position (did they stick to the rules?). If they did conform to the rules, competitors tended to make this widely known. Such could deflect attention of the SEC (trying not to draw their attention in a negative way). Combined with good RRR's and superior financial performance, these actions greatly increased the pressure on Shell. Why was Shell deviant if its peers could report

according to the rules and perform better? These actions increased the distance between the norm in the field (level of performance) and Shell's performance and hence increased the mimetic pressure to restore the fit with the field.

The correlation can also function the other way: as competitors show they can perform well within the given formal framework, this legitimizes the enforcement of rules and can lead to greater coercive pressure.

We find no significant correlation with normative pressure which can again be explained by the different characteristics of this type of pressure. The indirect nature of normative pressure mechanisms (changes in training, knowledge progress) makes it hard to measure events in a relatively short time frame.

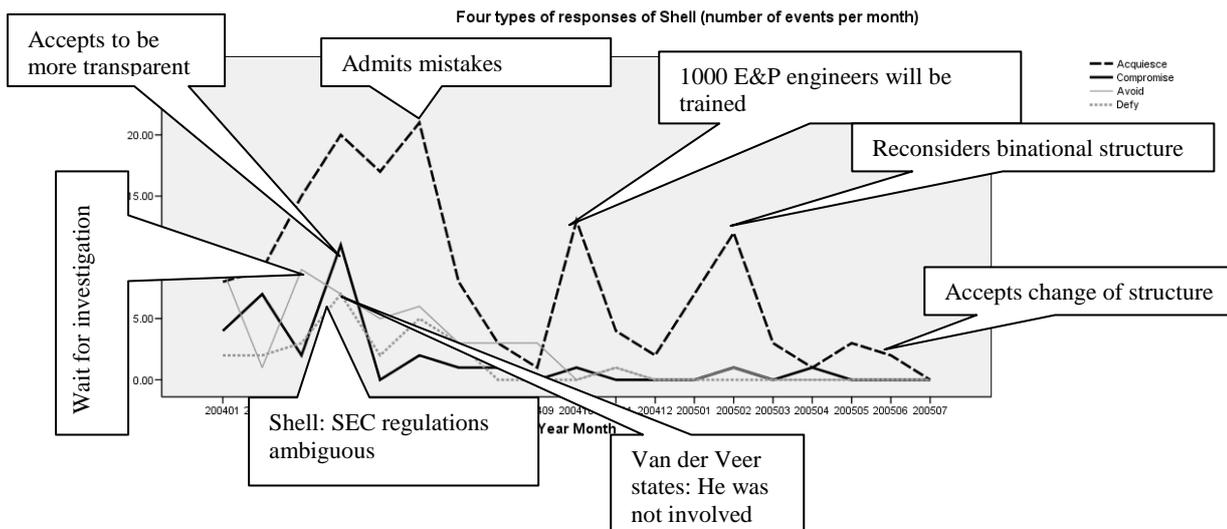
	<b>Coercive</b>	<b>Normative</b>	<b>Mimetic</b>
Coercive	1.00		
Normative	0.07	1.00	
Mimetic	0.79**	-0.42	1.00

n=19(months) \*: p<.05; \*\*: p<.01; \*\*\*: p<.001; sums of direction: pressure is coded +1 and pressure relief -1.

TABLE 2: Relation between pressures

In the analyzed period, 255 events were coded with Shell's responses. Acquiescence is by far the dominant response (57%), with compromise as a third strategy (13%). Only 30 percent of the responses resisted external pressures (compromise 18%, defy 12%). We first look at the way Shell responded to the pressures over time. This process is depicted in Graph 4 below.

Whereas in the beginning of the crisis, Shell was still seeking some room for maneuver by choosing deviant strategies, they for instance challenged rules and denied that their reserve bookings would lead to other RRRs, in the later stage of the crisis Shell gives in to all demands, even those of the – in principle – unrelated issue of its bi-national structure. It is interesting to see a delay between pressures and responses as Shell needs time to decide whether or not to give in to a pressure and whether to come up with concessions or compromises.



GRAPH 4: Strategic responses over time

	<b>Coercive</b>	<b>Normative</b>	<b>Mimetic</b>
Acquiesce	0.70**	0.03	0.57*
Compromise	0.71**	-0.19	0.87***
Avoid	0.81**	0.39	0.54*
Defy	0.87**	-0.15	0.81**

n=19 (months) \*: p<.05; \*\*: p<.01; \*\*\*: p<.001

TABLE 3: Relation between pressure strategies (sum of direction of pressures) and response strategies (number of events) (correlations)

### Pressure-response dynamics

Shell employs all strategies at the same time, but it could be that Shell has different responses for different stakeholders. For example, it could deny the SEC, but compromise to shareholders. To investigate this relationship, we looked at the correlation between pressures and responses. Table 3 shows that normative pressure does correlate weakly (not significantly) with the response strategies. Again, we explain this by the indirect nature of this pressure and probably the small number of events.

When we look at the remaining pressures and responses, we see that both coercive and mimetic pressures correlate with the response strategies. Coercive pressure seems to evoke the most responses. It has a strong relationship with the all

response strategies, but especially with the negative ones. This indicates that if a firm is under high coercive pressure, all strategies are used, but mostly avoidance and defiance. The relationship between mimetic pressure and the responses also has a positive correlation, but not as strong. This pressure is less compulsive; it is not necessary to avoid the pressure or to give in completely; one can more directly defy it or offer a compromise. We can conclude that under mimetic pressure, Shell is also trying out all strategies, with compromise and defy strategies as preferred options.

## **CONCLUSION**

The explorative case study of the Shell-SEC crisis aimed to shed light on the character of institutional pressures, and on the joint effect of interacting institutional pressures as it was assumed that strategic responses do not only depend on the relative strength of pressures as theorized by Oliver (1992) but also on the character and cumulative effect of the pressures themselves.

In our illustrative case study we saw a strong correlation between mimetic and coercive pressures. With the outbreak of the SEC-Shell crisis, it very quickly became clear that SEC rules were debated, and that industry practices and professional norms had been modernized. This modernization of norms and practices, without adaptation of the formal rules since 1978, had led to a decoupling in the field. The joint occurrence of debated rules, decoupled practices, and a powerful player would lead one to think that this crisis would lead to de-legitimization of rules, rather than penalizing Shell. This did not occur though. As the case unfolds, it becomes clear that severe penalties will be given. Competitors that were in first instance critical of the rules, and hence indirectly supportive of Shell's deviance, change their strategies. They withdraw from the public debate to keep all negative attention focused on Shell and to prevent drawing the attention of the SEC. In other words, where first mimetic outings (other companies de-booking or criticizing the rules) had led to pressure relief, giving Shell some room for strategic action, this dynamic reverses when it becomes serious

that SEC is going to stick to the rules and give high penalties. In that stage, mimetic and coercive pressures start to cumulate: with competitors reporting on their adherence to the rules, combined with a better performance (e.g. RRR and stock value), the cumulative pressure of both pressures greatly limit Shell's room to react strategically.

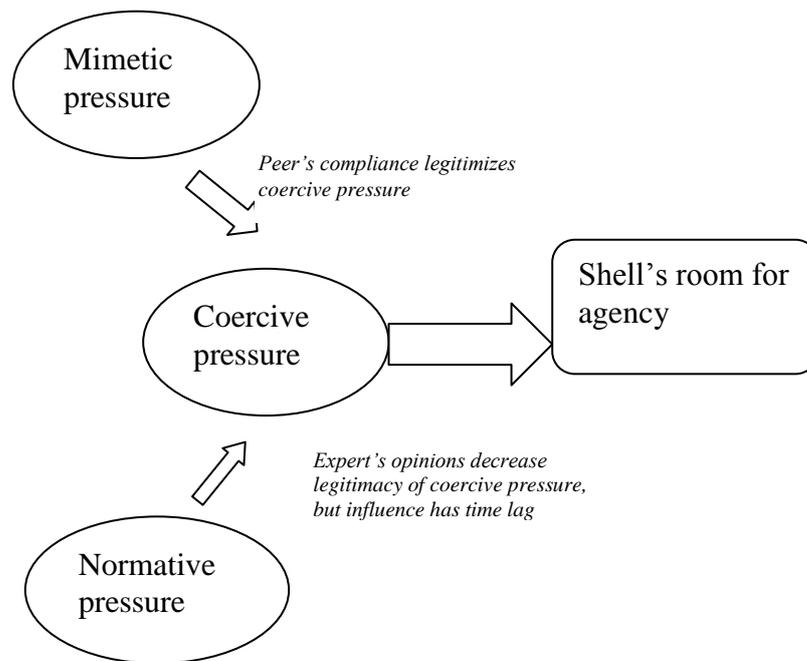


FIGURE 1. Model of the illustrative case study

In the case it was impossible to draw an equally clear picture of normative pressures as the number of event on normative pressures was small. Underlying the legitimacy of the SEC rules though, and thus the cause of the crisis, is a longer term development of knowledge and know how on oil field estimations. In many years of research and operations, oil experts and oil companies have developed new professional norms on how to measure the potential of an oil field. This knowledge slowly works its way into a field: with experts presenting their knowledge at conferences, consultants spreading new practices, educational curricula being updated etcetera. As this process is so slow, and is dispersed over so many actors, it is less clear to observe in the time frame used for this explorative case. What does become clear

though, is that towards the end of the observation period, the pressure relief caused by the discussion on the out datedness and ambiguity of rules, is so strong that the cumulative effect of pressures is negative. In other words, the pressure on SEC to modernize the rules is greater than the pressure on Shell to conform to them. For Shell this comes to late, as it has by then given in to all demands. For the field however, it is likely that the discussion following the crisis will over time lead to institutional change.

To examine the character and cumulative effect of pressures on the room for maneuver of Shell is a start of a response to Mizruchi and Fein's (1999) criticism that most studies into institutional theory have focused primarily on mimetic pressures. We found that all three pressures can be identified in the case and that all three play a role in different ways. This helps to shed light on the problem that DiMaggio and Powell (1983) coined who stated that the different types of pressures would often be difficult to distinguish because of their overlap and interrelatedness, and illustrates Holm's theoretical point that institutions are the frameworks for actions, but also the products of action (Holm, 1995).

By looking closer at the character and cumulative effect of pressures, it became clear that whereas strategic agency is important, also large powerful players can be 'overthrown' by external pressures leaving them little room for maneuver. This illustrates that for a good understanding of the interaction between institutional pressures and strategic reactions, without falling into determinism or a story of institutional entrepreneurs as super heroes (Suddaby 2010), a move towards a more integrated approach to institutional theory is needed (Lounsbury, 2001; Kim, et al., 2007; Holm, 1995). The illustrative case gives insight into how Shell uses its room for agency, and how this room was determined not only by internal processes or in a reaction to a single institutional pressure, but as complex set of reactions to an evenly complex set of cumulative pressures.

Lastly, we conclude that whereas previous authors have emphasized that organizations use different strategies dependent on e.g. their internal organization

(e.g. Boiral 2007) we add that a strategy may also emerge as the result of the interactive effect of pressure and response, much like a trial and error process. In the Shell case we observe that especially in the beginning of the case, there seems to be no clear strategy but just a trial and error game: the pressures and responses follow each other quickly and in an erratic manner. In this process Shell seems to be seeking for a response strategy that evokes least counter pressure.

After several months this erratic ricocheting process is replaced by a pattern in which Shell uses an acquiesce strategy as response to coercive pressure from the SEC, and a defiance strategy when faced with pressure from stake- and shareholders to give up its bi-national structure. One might on the one hand ask whether Shell had a strategy as strategies are considered to be “a pattern or a plan that integrates an organization’s major goals, policies and action sequences into a cohesive whole” (Quin 1995:5). On the other hand one could frame this process as one of an emerging strategy, or as a company that is seeking its room for maneuver vis-à-vis a ‘tsunami’ of external pressures.

Our method allowed us to describe the case as it unfolded over the observed time-period, thereby contributing to previous empirical studies that had focused mainly on the field-level of analysis and had a very long time frame (10-100 years) (Cashore and Vertinsky, 2000; Goodstein, 1994; Greenwood, Suddaby and Hinings, 2002; Hoffman, 1999; King and Soule, 2007; Leblebici et al., 1991; Lamin and Zaheer, 2004; Mazza and Pedersen, 2004). These macro-level, retrospective studies gave much insight into field change, but less so in the underlying dynamics of pressure-response patterns. This problem of empirically distinguishing between cause, process, and effect was already recognized by DiMaggio and Powell (1983) and our study should contribute to opening the black box between cause and effect, thereby enriching institutional theory to get more explanatory and predictive power.

## APPENDIX 1

Coding examples of institutional pressures

### **Regulative pressure**

Regulative pressure (1+) found in an article: “The U.S. Securities and Exchange Commission [SEC] is to investigate why Royal Dutch/Shell, Europe's second-largest energy group, had to slash 20 percent off its proved oil and gas reserves” (FT, 20-02-2004). Regulative pressure relief (1-) is illustrated by the following example: “Despite the SEC's stance, the IEA [International Energy Agency] maintains there is a need to create a harmonised system for investors. ‘There are no consistent rules on oil reserves,’ said Dr Fatih Birol, its chief economist” (FT, 5-07-04).

### **Mimetic pressure**

Mimetic pressure is exerted in the following example (1+): “BP managed to replace all its reserves, boasting a 158 percent replacement rate, including acquisitions, and a 122 percent rate without them” (FT, 11-02-2004). An example of mimetic pressure relief (1-) is: “El Paso, the U.S. energy company, yesterday cut its proved reserves by 41 percent, forcing the company to take a Dollars 1bn charge in the fourth quarter” (FT, 18-02-2004).

### **Normative pressure**

Normative pressure (1+) is exerted in the following example from Wood MacKenzie (Exploration and Production engineers consultants): “The SEC only allows the oil companies to book the reserves if they are economically viable. Therefore, firms spread the bookings of new funds over a few years” (NRC, 23-01-2004). And an example of normative pressure relief (1-) is: “None of the large companies are using the SEC criteria to define ‘proven’ reserves as internal guidelines (...) Oil companies are no longer competing on issues as reserves estimations. Therefore they try to provide information to the SEC with a minimum of effort” (NRC, 21-04-2004).

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