TOWARDS GOVERNANCE FOR UNCERTAIN TIMES: JOINING UP PUBLIC, BUSINESS AND CIVIL SOCIETY SECTORS

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By

Dr Ken Coghill
Department of Management
Monash University
PO Box 197
Caulfield East Vic 3145
Australia

Email: ken.coghill@buseco.monash.edu.au

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Abstract
This paper examines the complexity and "fuzzy logic" actually at play in governance in case studies such as HIH (Australia) and Enron (USA). The rules applying to each sector cannot fully explain events. Non-prescribed factors influencing behaviours affecting the interconnections, interdependencies and interactions of the individuals and institutions concerned often determine outcomes.

Socio-political systems are dynamic complex evolving systems that function according to bounded self-organisation. Their governance often involves decision-making behaviour that does not operate according to formulaic rules but is analogous to the fuzzy logic according to which certain systems behave.

Viewing the relationship between public management as regulators, corporations and others as complex dynamic relationships assists understanding the role of unanticipated events and the management of responses and adaptation to uncertainty in a society's internal and external environments. This can facilitate the protection and advancement of the public interest by public management.

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1. Introduction

Our theoretical explanations of the public management of the corporate regulatory environment often fail to recognise the complexity and indeterminacy of the public-corporate relationship. This relationship forms an important element of socio-political governance. It is used in this paper to explore features of governance, reviewing the nature of this relationship in recent cases such as the regulations applicable to HIH Insurance and Enron Corporation.

"Corporations" and "corporate" here relates to entities that are legally incorporated and carry on business in the market sector, most commonly owned by non-government sources of capital.

Rather than treating the corporate environment as if it can be quantified and is rule driven, this paper analyses the nature and effects of this governance as complex evolving systems. Fuzzy logic[1] is used as a metaphor in the description of the complexity and indeterminacy of the relationships.

Governance is an all-embracing process that incorporates the many components of society whose decisions and actions affect the lives of others, in Corkery's terms, "a process by which the diverse elements in a society exercise authority which in turn influence policy and decisions affecting public life and economic and social development" (Corkery, 1999).

Society integrates three sectors (Boulding, 1970, Offe, 2000, Paquet, 2001, Polanyi, 1957). These sectors are usually expressed as institutional demarcations, but similar demarcation of sectors of governance is possible: public governance, corporate governance and civil society. As subdivisions of a broad process, the processes that operate within and between these sectors are central to the manner in which socio-political governance functions overall.

This paper presents findings suggesting that governance processes are inter-related in three ways. They are inter-connected, interdependent and interactive. These inter-relationships are such that the governance of any one sector can only be fully understood if its inter-relationships with the other sectors are taken into account. These relationships are found to be dynamic, and the socio-political system to be a dynamic complex evolving system (LSE, 2002) that functions according to bounded

self-organisation. Its governance often involves decision-making behaviour that does not operate according to formulaic rules but which is analogous to the behaviour of certain systems as described by fuzzy logic.

2. Public management of corporate regulation

A remarkable aspect of the literature on the role of public management in the regulation of corporate environment is the paucity of material. A review of articles published in leading public administration and public management journals available online for the most recent 24-month periods reveals very few articles listed with titles suggesting any relevance to this important area of public management.

Table 1. *Public administration and public management journal articles related to regulation of corporations*

Journal	**ISSN**	**Issues per year**	**Article(s) relevant to the regulation of corporations, published during last two years**
Australian Journal of Public Administration	Print: 0313-6647 Online: 1467-8500	4	*A Standard for Regulatory Compliance? Industry Self-regulation, the Courts and AS3806-1998* Carroll P. and M. McGregor-Lowndes. December 2001, vol. 60 no. 4 pp. 80-91(12)
Public Administration	Print: 0033-3298 Online: 1467-9299	4	0
Public Administration and Development	Online: 1099-62X Print: 0271-2075	4	*Regulation or revenues? An analysis of local business licences, with a case study of the single business permit reform in Kenya* Devas, Nick and Roy Kelly Published Online: 21 Dec 2001 pp.381-391(11)
Public Administration Quarterly	0734-9149 0734-0140	4	0
Public Administration Review	0033-3352	6	*The Securities and Exchange Commission: A small regulatory agency with a gargantuan challenge* Khademian, Anne M. Sep/Oct 2002; Vol. 62 no.5 pp.515-526 (12)
Public Management	0033-3611	12	*Keeping up with telecom: convergence, broadband, and access.* Bennett, Tom. July 2002 Vol.84 no.6 pp.6-11 (6)
Public Management Review	Print: 1471-9037 Online: 1471-9045	4	*Management Of Telecommunications Service Provision: An Analysis Of The Tele Danmark Company 1990-8* Greve, Carsten and Kim Viborg Andersen Vol. 3 no.1 pp.35-52 (18)

As Table 1 shows, very little research is being published in this area that is central to the functioning modern societies. During that same period, these journals list many articles related to various forms and aspects of privatisation. That is undoubtedly an important area of responsibility for public sector managers, but it does not diminish the need to investigate the management of policy affecting far larger sections of national economies. Major works on public management give little or no attention to the management of the legal and policy infrastructure within which corporations operate and on which they are often dependent for efficient functioning of the market and the reconciliation of corporate objectives with social goals (e.g. see (6 et al., 2000, Bearup, 2000, Brudney et al., 2000, Hughes, 1998, Lane, 2000, Lawler et al., 1998, Minogue(ed), 1998, Miyakawa, 1999, Miyakawa(ed), 1999, Pierre and Peters, 2000, Wollmann and Schroter(eds.), 2000). There is a significant literature on the regulation of the labour market including industrial relations, which is one important element of the environment in which corporations operate e.g. Clark (2000).

Corporations account for the overwhelming majority of economic activity in most societies. They are dependent on the existence and maintenance of a legal infrastructure providing fundamental features of the environment in which they operate. For example, without secure property title, corporations would lead a precarious existence. Indeed, the creation of a secure and efficient land title system is a major challenge facing many former communist nation-states.

Similarly, contract law, banking services, share stock and securities exchanges and various other aspects of the environment that directly affect corporations profoundly impinge on their operations. These have implications not just for the corporations themselves but in turn affect the forms and levels of employment, the quality of life and the achievement of many goals with which we are concerned and which we seek to fulfil.

Only the state has the exclusive legislative authority to provide this legal infrastructure.

This paper is intended as one small step to an improved understanding of the role performed by the state, with particular reference to its constant inter-relationships with sectors. Corporate failures, such as of HIH Insurance group and Enron Corporation[2], are used to examine the operation of relationships between sectors, drawing on literature and findings in the fields of public management, philosophy, complexity and fuzzy logic. Such cases demonstrate complex dynamic relationships

between public managers of regulatory regimes, policy makers, professional standards setters, business leaders and corporations. “Enron” has become a shorthand for the issues of corporate governance affecting significant numbers of corporations that have been addressed in the USA since late 2001.

3. HIH

HIH Insurance group was Australia’s largest corporate collapse when it failed in early 2001, several months before Enron. HIH was based in Sydney and was a dominant company in the Australian insurance industry. HIH also had major subsidiaries operating in the USA and UK. Losses by the subsidiaries were major factors in the collapse. The collapse was significant in two important ways. Investors lost the value of their investment and policy-holders were left without cover. In the case of people dependent on income from HIH policies and retirees dependent on HIH dividends, the effects were devastating. In addition, the entire Australian insurance industry was destabilised and certain categories of insurance cover became difficult, if not impossible, to obtain in the short term.

The response to HIH’s collapse has been more protracted and extended over a much longer period than Enron. The responses have overlapped with other reforms, some arising from unrelated events and processes.

The major procedural response was the appointment of the HIH Royal Commission. It was formally appointed on 29 August 2001[3] and reported on 4 April 2003 (HIH Royal Commission, 2003). The Report makes detailed findings indicating that the failure was overwhelmingly due to the incompetence and misconduct of directors and officers.

As a corporation whose shares were traded on the Australian Stock Exchange (ASX), HIH was bound by Australia’s continuous disclosure rules to advise ASX and thus investors of any event that might materially affect the value of its shares. It was similarly required by law to keep the Australian Securities and Exchange Commission (ASIC) informed. As an insurance company it was obliged to keep the Australia Prudential Regulatory Authority (APRA) informed. HIH failed to fulfil these requirements, but neither ASIC nor APRA acted vigorously to pursue these failures, despite some warning signs.

Thus, there was a combination of breaches of the law by HIH and ineffective performance by the regulators. The performance of APRA in

particular is ascribed directly to organisational reform from July 1998 continuing until the HIH collapse and the relocation of APRA's office from Canberra to Sydney. There were many resignations and a severe loss of corporate memory, exacerbated by the inevitable delays in recruiting and training staff.

ASIC saw APRA as having responsibility for insurance industry regulation, which although not entirely parallel, imposed more stringent requirements than Corporations Law (HIH Royal Commission, 2003).

Insurance cover

The failure of the market for certain insurance products lead to a flurry of activity by governments within Australia. The complex interaction of constitutional powers over certain areas such as tort law, which resides with the Australian States, and effective national government control of corporations law and the regulation of financial institutions including the insurance industry, led to creative and innovation solutions. Initially, the States with larger populations acted rapidly to address the crisis in the availability of cover, particularly for public liability. There was a serious risk of divergent legislation that would have added to the complexity and cost of operating in the relatively small national market.

The danger was dealt with through the appointment by the national, state and territory ministers of the Honourable Justice Ipp to prepare the Review of the Law of Negligence. Ipp received 100 submissions from individuals, diverse organisations using insurance products, the legal profession and the insurance industry (Ipp, 2002). Consideration and adoption of the recommendations is continuing at the time of writing (Queensland Parliamentary Library, 2003, p4).

There is no indication of HIH exerting or benefiting from political influence.

During the conduct of the Royal Commission, the Enron collapse intervened and led to reviews in Australia as elsewhere. One was the "Review of Independent Auditing by Registered Company Auditors" by the Parliamentary Joint Committee of Public Accounts and Audit. A number of common issues arose. A total of 73 submissions were received from individuals and organisations, many of them professional associations and academic experts (Joint Comittee of Public Accounts and Audit, 2002). The Report was tabled in September 2002.

4. Enron

Enron Corporation was a major company based in the USA operating in the energy sector within the USA and in a number of other countries including a major investment in an electricity generating plant in the Indian state of Maharashtra. In the 1990s Enron had diversified from directly supplying electricity and gas into trading in them as commodities and later other commodities and derivatives. It collapsed in late 2001.

The corporation was a large donor to both sides of US politics, but especially relevant were its large donations to George W Bush's campaigns both in Texas and for the presidency. Waxman has documented major decisions made by the administration that reflected Enron's preferred government policy or otherwise benefited Enron (Meek, 2002, TomPaine.comstaff, 2002). Lay, Enron's head, clearly felt he could influence appointments by Bush. In May 2001, he attempted to use support for an agency head seeking a new appointment as a basis for having the agency change policy affecting Enron (reporter, 2001).

A significant factor is the high level of interpersonal skills practiced by Lay. He was reputedly charming in personal dealings and had mounted a "charm offensive" with Clinton administration officials. When Enron collapsed he personally telephoned Bush officials, soliciting help (Gordon, 2002).

As a legally incorporated company whose share stocks were traded publicly, Enron was subject to the Securities Act of 1933, administered by the US Securities and Exchange Commission (SEC). Enron had to register its shares ("securities") and file essential facts including:

- a description of the company's properties and business
- a description of the security to be offered for sale
- information about the management of the company
- financial statements certified by independent accountants (SEC, 2003)

Although the SEC has extensive powers to investigate and deal with the activities of corporations whose securities are registered, "(a)t the heart of effective investor protection is an educated and careful investor" (SEC, 2003). The entire government machinery was, or at least should be, merely "a service industry" according to the SEC Chairman (Pitt, 2001). This "service industry" receives huge numbers of filings that would be

practically impossible to fully review or monitor. The SEC sees the major purpose of filing as to inform the market (Hunt, 2001).

Enron sent in large numbers of files – over 80 in 1999. Many were routine annual reports, but also included was a partnership arrangement between Enron and its Chief Financial Officer, Andrew Fastow (Wall Street Journal, 2001). Analysts found great difficulty in unravelling and understanding the descriptions of financial arrangements revealed in the filings lodged by Enron (Steiger, 2002). The effect was to cause all but the most sceptical to revert to trust in the integrity and capacity of Enron personnel.

The effect of the partnership arrangement was to remove liabilities from Enron's reported financial results, artificially inflating its reported profit. For almost two years, that arrangement failed to attract the attention of the market (Wall Street Journal, 2001) – in this case the market in securities operating at stock exchanges. It appears to have been investigations by diligent Wall Street Journal writers that alerted the markets and ultimately regulatory authorities to these arrangements and to their significance. In September 2000, The Wall Street Journal carried a report first raising issues about Enron, but these were not followed up.

However, in August 2001, Enron's Chairman, Skilling, stepped down as CEO (Emshwiller, 2001). It seems that speculation over his reasons for doing so must have sparked the interest of Emshwiller and Smith, who began serious investigations. In mid-October they published three articles on successive days that exposed the nature and extent of Enron's manipulation of financial arrangements. They showed that the arrangements concealed the true nature and extent of Enron's assets and profitability (Emshwiller and Smith, 2001a, Emshwiller and Smith, 2001b, Emshwiller and Smith, 2001c).

Whilst many conclusions can be drawn from the actions which led to this point, the subsequent responses and actions are especially revealing. They reveal the nature, extent and effect of inter-relationships on the outcomes of this generally unexpected disturbance to the economic and social system.

The Bush White House's first public response was in answer to a question to Fleischer (Bush's spokesman) on 28 November 2001, in which he merely said its situation was "being monitored by the Treasury Department" (Fleischer, 2001a, Fleischer, 2001b). In December, Bush responded to a question by saying there a was "a lot of government

inquiry into Enron and what took place" but made no commitment to Presidential intervention (Bush, 2001). His preferred position was that his agencies such as the SEC should handle matters arising. Chairman at the time was Pitt, a Bush appointee. Pitt's values in relation to the role of government were reflected in speeches he made prior to the collapse of Enron. In these he very deliberately outlined a view that the role of government was that of a service industry[4,5]. In the case of the SEC, it was seen as little more than a mail-house for the public posting of information provided by corporations.

Bush's first substantive response was announced following his meeting with his Economic Team in January 2002. He announced he had asked his Secretaries of Treasury, Labor and Commerce to look into reforms to limit risks to life savings in cases such as corporate bankruptcy (Bush, 2002). He eschewed opportunities to offer compensation or other special government assistance to those who had lost their life savings as employee contributors to Enron pension funds based on company shares.

The Congress had several vehicles through which it could respond to the issues raised by Enron. One of the most powerful is the General Accounting Office (GAO), which has extensive powers to act on behalf of Congress similarly to auditors general.

Moves by the GAO to obtain certain documents held by the administration were resisted by Bush, claiming that the GAO was acting beyond its authority and that to make them available would prejudice the "right of all future Presidents to receive advice without it being turned into a virtual news release" (Fleischer, 2002a). The nature of the alleged overstepping of authority was not explained, leaving open the suspicion that litigation against the GAO's action amounted to a "stop writ".

Later, following a request from Congress, GAO convened a forum on 25 February 2002, "on corporate governance, transparency, and accountability. Forum participants included individuals from federal and state government, the private sector, standards setting and oversight bodies, and a variety of other interested parties" (Walker, 2002).

Eventually, large numbers of documents were made available to the Senate Government Affairs Committee in June - months later (Fleischer, 2002b).

Both the House of Representatives and the Senate have committees to examine such matters. It is a feature of the US Congressional system that

committees function on highly partisan lines, down to chairs going to the majority party and the minority party having its own office. The Committee hearings and witnesses are listed in the Appendix.

The Senate Committee on Banking Housing and Urban Affairs conducted an inquiry. On 21 March 2002 Pitt advised it that the SEC "Division of Enforcement (was) conducting a thorough investigation" (Pitt, 2002). However, no litigations were listed by the SEC up to 10 Feb 2003 (U.S. Securities and Exchange Commission, 2001-2003).

Late in the year and long after the passage of the legislation, the Senate Government Affairs Committee (then chaired by Democrat Sen. Lieberman) issued its critical report "Financial Oversight of Enron: The SEC and Private –Sector Watchdogs" (U.S. Senate Government Affairs Committee, 2002).

Business voice

The Business Roundtable (the peak US business body) response is encapsulated in its prepared testimony to the House Financial Services Committee. The testimony supported the "inherently self-correcting nature of the market system" but went on to endorse many legislative proposals then before the House and ultimately adopted in the Sarbanes-Oxley Act. Significantly, it did not question the highly prescriptive rule based "black letter law" approach to some matters, such as limiting the proscription of certain activities to specified categories of personnel (Raines, 2002). Such a proscription would allow the undesirable activities to be executed by other personnel, perhaps under the authority or at the instigation of the specified personnel.

Profession's voice

The Institute of Internal Auditors (IIA) was an active advocate of reform from at least 2000 (The Institute of Internal Auditors, 2000) and provided testimony proposing reform (The Institute of Internal Auditors, 2002b) and expert advice on the reconciliation of House of Representatives and Senate legislation in 2002 (The Institute of Internal Auditors, 2002a). The IIA took a public stance critical of limited steps taken by the "Big Five" consulting firms to restrict activities which could lead to conflicts of interest (The Institute of Internal Auditors, 2002c).

5. Principle-based v rule-based regulation

A major difference claimed to exist between US regulatory approaches and some other jurisdictions such as Australia (& the UK) is the very

nature of regulation. The difference is exemplified by the regulation of auditor independence. The Australian approach is shown by the JPCAA recommendation that the Corporations Act provide: “The Auditor must be independent of the company in performing or exercising his or her functions or powers under this Act” (Joint Committee of Public Accounts and Audit, 2002).

The UK is relying on professional self-regulation (Hewitt, 2003).

The US Securities Exchange Act 1934 now has a long, detailed Section 10A (g) running to 178 words, plus Section 10A (h) enabling certain exemptions (1934).

Moore asserts the value of principle-based regulation but claims that regulation (in the US) is always likely to be more prescriptive. There are cultural reasons, such as the prevalence of lawyers in US society and the sheer scale of the country, which require a more formal approach than most (Moore, 2002).

There may be other factors. One may be the very constitutional structure of an executive presidency. It may predispose towards prescriptive detail. The division of powers militates against cohesive political parties. One result is that individual congressmen and congresswomen seek to put their own imprint on legislation through amendments drafted and submitted to their House. The more incentive and opportunity for individual issues to be addressed by specific legislation, the less likely it is that that legislation will introduce a general principle to be observed by those to whom it applies.

This also militates against legislation being structured to address a general purpose or objective, either by way of the long title (e.g. see *Company Directors' Performance and Compensation Bill* 2003 (UK)) or in a specific section, against which its particular provisions are then to be interpreted, as is standard practice in many other jurisdictions.

An example of this effect can be seen in the very large number of legislative proposals that were introduced into Congress following the collapse of Enron and other problems of US corporate governance (Appendix 2 for those leading to the Sarbanes-Oxley Act). The Executive is in a weak position to provide leadership in the legislature’s legislative process. The consequence is extensive bargaining amongst members of Congress over specific matters to be incorporated in the final form of an act.

A second explanation may be that a culture of a particular legislative drafting style is very resistant to change. A legislature in which the membership generally and the political parties are weakly cohesive has a very limited capacity to review and challenge such a culture.

A further factor is the strong, long-standing ideological tradition in the USA opposing intervention by the state in almost all spheres including corporate governance, reflected in Pitt's assertion above that the role of government is as a service industry. This tradition stands in stark contrast to the history of an active role for government in jurisdictions such as the UK and Australia.

It is noted that US rhetoric has not always been honoured in the form of an absence of regulation. Indeed Enron was a very active and successful lobbyist for regulatory decisions and public funding that favoured its business interests (Engler and Martinez, 2002). Nonetheless, the rhetoric appears to reflect an underlying ideological value.

6. Values

The ideological values applied by the legislature and the administration underpin and drive the nature and extent of regulation applying to governance of the corporate sector. The assertion by one of Bush's most senior appointees that government is a service industry and that his own agency's role was primarily to provide a vehicle for information to be made available by corporations to investors (Pitt, 2001) was a revelation of an extraordinarily narrow ideological view of the role government executes on behalf of the citizens whose democratic authority it exercises.

If different values were being applied, it is reasonable to assume correspondingly different policy prescriptions, legislative proposals and administrative practices would be pursued.

7. The complexity of regulation

The cases of Enron and to a lesser extent HIH demonstrate a remarkable complexity in the factors affecting corporate governance within a jurisdiction. This examination has not considered the policy responses that have occurred at the levels of foreign and international actors in the public sector, corporate sector and civil society.

The three domestic sectors of governance are strongly interrelated. Each sector and actors within each sector have been influenced or more directly affected by the actions of other actors. Even the President as head of government and head of state has been affected in his actions by the actions of other actors.

These interrelationships can be categorised into three types:

a. interconnectedness
b. interdependence
c. interaction

Interconnectedness

Interconnectedness refers to shared factors. Culture is one fundamental factor in interconnectedness, capable of both uniting and being the basis of division between peoples. Given the relative homogeneity of US culture, any role in this case may seem to be at most marginal. However, Hutton argues that current US Bush Administration ideology reflects a resurgent dominance by the values of the American South (Hutton, 2002). Thus US corporate governance policy may be influenced by cultural values that are not universally shared but notwithstanding are imposed generally through the operation of the system for the allocation of political power. Australia does not display great diversity in values affecting corporate governance.

Underlying corporate governance in both Australia and the USA is an acceptance of the supremacy of the rule of law, the right of the legislature to legislate in the area.

Although there were some severe reservations about the Sarbanes-Oxley Act even before the final votes, the differences were not profound and it gained wide support (LaFALCE, 2002). Oxley has conceded that it "passed in almost a panic sort of situation" and may require review (Hill, 2002).

In this case it appears that there were profound differences between the values applied by senior personnel in certain corporations including HIH and Enron and those in most other corporations. These values extended to failures by certain actors to accept that the rule of law should determine their acts. However, there were also lawful acts that demonstrated a rejection of values such as fairness and equity.

These acts were subject to the jurisdiction of regulatory authorities, principally the ASIC, APRA and SEC. In the USA, the severely restricted role for government and the agency adopted and applied by the SEC prevailed regardless of any divergence between those values and views held by any other actors. This may be attributed to the status enjoyed by the SEC associated with the power which it exercised and the dominant ideology prevailing within the USA.

Although other ideologies may be and are aired in the USA, they have not attracted levels of political support sufficient for them to be interpreted and applied. The structure of political power and the nature of political debate in Australia diminishes the possibility of one ideology prevailing, although there is not a great divergence between the major voices.

Interdependence

Interdependence refers to the extent to which institutions are dependent on each other, such as the dependence of the President or Executive Government on the appropriation of funds to carry out the functions of the various agencies of their offices.

However, there are many interactions involving interdependence that are of profound relevance to corporate governance.

Society has a fundamental interest in the production of goods and services and in the generation of employment and wealth. Whilst virtually all successful modern societies rely on corporate governance to address that interest, there is almost no production of goods or services that is not at least partly dependent on some aspect of public governance or civil society or both.

In this case study, HIH was compromised of a small number of inter-related corporate entities whilst Enron was actually comprised of over 2000. These were incorporated under public laws subject to public governance. Those laws were themselves the product of a long history of interrelationships which are beyond the scope of this paper. However, none of these entities would not have been able to operate credibly if not incorporated.

Stock Exchange

As corporations which raised capital through the public issue of tradeable shares, HIH and Enron were heavily dependent on a secure trading environment. That environment was provided most immediately by stock

exchanges such as the Australian Stock Exchange and New York Stock Exchange.

The NYSE operates under the regulatory authority of the SEC. Thus Enron was interdependent with stock exchanges on which they were listed, the SEC as the regulator, the analysts and others who informed and advised the market, the large institutional investors with their market power and the larger number of smaller investors. HIH was in a similar position.

Both were dependent on legislated authority to provide their range of goods and services. Consumers of its energy products were dependent on Enron and competing suppliers for energy products. Contract law enabled the corporation to operate in a secure business environment and to recover its debts. Land title law creates security of tenure and, perhaps less important for large corporations, a capacity for debts to be secured.

Various other laws added to the creation of a legal infrastructure that created specialist markets such as commodity and derivatives, or facilitated their operation. These markets helped satisfy social needs.

Professional Standards

Professional standards setting is generally the prerogative of voluntary associations of members of a profession. As such these associations are part of civil society, not subject to control by the public or private sector institutions, although usually formally incorporated under general legislative provisions.

Professional standards setting in areas such as auditing serves a number of important purposes. It assists regulators in specifying reporting and other standards that would prove difficult for a bureaucracy to prepare and maintain. It greatly assists the market by enabling both the assurance of compliance with legislated requirements according to commonly accepted measures and also the comparison of the performance of different corporations. Professional standards setting thus sets up interdependence between the professional body, corporations and the public sector.

Money Politics

Political donations establish a particular type of interdependence that reaches to the most critical decision-making areas. It has the potential to distort and corrupt decision-making away from the public interest to

favour the interests of those making substantial donations (Rich, 2002). Enron was an especially generous donor to a wide range of political actors, including to George W Bush over most of his political career.

Political donations have a special significance in executive presidencies such as the USA. It is a feature of these that there is weak cohesion of political parties represented in the legislature. Individual politicians are much more dependent on attaining personal support both within legislative deliberations and within their constituencies than in mature parliamentary systems (e.g. UK, Australia, Canada). Within their constituencies they are heavily involved in personal fundraising rather than relying on fundraising by the party with which they are associated. Thus there are strong incentives towards attracting campaign funds from more generous sources. The wealthiest and potentially most generous sources are usually corporations. Corporations are subject to legislative decisions that may restrict or even advance the interests of the corporation or, more directly, those executives managing the corporation and deciding on donations. Those same corporate executives have an incentive to make donations, having regard to the most likely decisions of political candidates, based on the legislative voting record of incumbents and proclaimed policy positions.

In mature parliamentary systems, strong party cohesion leads to collective decision-making on all major policy questions, insulating individual candidates, members of parliament and members of the political executive from direct influence by donors. Furthermore, in these systems political parties have a much stronger role in raising campaign funds, again largely isolating candidates from direct influence by donors.

There is interdependence between corporations and political decision-makers created by political donations. Its potential to corrupt decision-making is high in the US presidential system. There is abundant evidence of attempts by Enron to seek favourable decisions from the public sector that, at the very least, coincided with lavish campaign donations.

Interaction

Interaction refers to the effects of one institution's actions on the actions of one or more other institutions. Interactions are facilitated by interconnectedness. If values are not shared or cultural practices are inconsistent with each other, then interaction may be difficult, almost impossible or executed through means other than deliberation, e.g. violence.

In all regulatory matters, Enron as a corporation, the industry in which it operated and representative bodies such as The Business Roundtable, used their opportunity to influence the content and application of regulatory provisions.

Their representations, those of civil society organisations and the receptiveness and response of the legislators, were all conditioned by their particular underlying social values. These will have been influenced by the social values held more generally in the community. It seems likely that the widespread support in testimony for limitations on non-audit work being undertaken by a firm auditing the same corporation reflected a groundswell of opinion in support that had been lacking previously.

As Waxman has demonstrated, Enron was successful in obtaining exemption from the application of certain regulations affecting its derivatives trading (TomPaine.comstaff, 2002). Such exemptions occur where the law is not rigidly prescriptive, but does allow some discretion to be exercised by officials. Key factors then become the specification of clear criteria to guide the exercise of such discretion and accountability for each decision made.

The integrity and efficiency of the administration of justice is a further factor affecting the operation of governance. The administration of justice is a major mechanism for mediating apparent or actual conflicts between public governance and corporate governance, such as the prosecution of breaches of rules established by the public sector. No evidence has been found to date of a failure of that to operate satisfactorily in respect of Enron. However, there are extremely grave concerns about the operation of the highest judicial forums in the USA, with perceptions that partisan factors influenced key decisions affecting the election of George W Bush as President.

Machine or Normative Model?

However, the very form of the law that is interpreted and applied is crucial. If the law is narrowly defined prescriptive, rule based “black letter” law, then the public policy objectives of the legislators may be subverted by skilful circumvention of the precise provisions of the law. The interactions are affected by the manner in which rules are framed. Principle bases laws clearly indicate the objective of the rules to those bound by them, providing incentives to conform to the objectives. Rule based law merely prescribes particular actions that may or may not be

undertaken, sometimes even confining its application to particular categories of actors.

If rule based, the system's functioning is likely to closely resemble Mintzberg's Government as Machine Model, with all the limitations he describes; if principle based, then it will be closer to his Normative-Control Model (Mintzberg, 1996).

Rational fools

Another form of interaction affecting the governance of society is capital raising by corporations via share issues. There is an underlying assumption of the rational actor, yet examples abound where investors operating in the stock market have not acted in accordance with rational analysis of either individual corporations or the stock market in general or with reasonable assessments of overall economic conditions. Investors have been seen acting in accordance with a herd mentality. "Rational fools" in Sen's terminology (Sen, 2002).

In Enron's case, the interactions between corporations and investors were severely inhibited by the complexity of the corporate structures and their financial inter-relationships. Extensive information in filings was available through the SEC as the public source whose legislated and self-proclaimed function was to do so. The problem was not one of transparency as suggested in Rich's analysis (Rich, 2002).

In fact, the effectiveness of the interactions was compromised by human limitations –the capacity to assimilate, process and analyse the data. Thus, the best intentions of the legislators and no doubt the administrators as expressed in comprehensive formal rules did not, and it is argued, could not ensure the adequacy of the fuzzy logic processes through which affected human actors to come to decisions and act.

Accountability is the underlying issue at stake in many of these aspects of interaction. Included is:

- the accountability to citizens for the exercise of their democratic authority by the legislature and the executive;
- the accountability of corporations to existing shareholders, to potential investors to whom shares are on offer through stock exchanges;
- the accountability of corporations to their other stakeholders;

- the accountability of auditors to stakeholders beyond their own firms; and,
- the accountability of professional associations and standards setters for the roles they play in their privileged positions with respect to the public interest.

Where the GAO or any other accountability agent is blocked in the discharge of their responsibilities, or the media is unable or unwilling to report, flows of information are distorted and decision-making within the system can be corrupted.

A final consideration on interactions is to note the effect of time. Enron's labyrinthine financial structures were not understood publicly until almost two years after the filing of the key information with the SEC. It seems a trigger (in this case, Skilling's resignation) was the "tipping point" necessary to precipitate the investigation that led to the analysis and revelation. The information produced an avalanche effect, first on the stock market, but spreading to other aspects of Enron, to other corporations, and to judicial, legislative and administrative responses, some of which are still underway. More rapid responses would likely have led to less well-considered adaptation of law and administration. Slower responses would have facilitated even stronger resistance by actors sensing disadvantages to their interests from reform as with earlier attempts to address some problems highlighted by Enron.

8. Complex evolving system

What we see here is highly complex interplay of actors and factors. The actors – some functioning in aggregate as institutional actors (e.g. Congress) – are inter-related at a number of levels. How they inter-relate depends on factors ranging from formal rules to the most subtle interpretation and practice of values and ethics. They are bound by shared factors that interconnect them, there are degrees of interdependence and they are affected by their interactions with other actors.

The socio-political system described in this instance has the characteristics of a complex evolving system. It is a complex adaptive system, "able to adapt and change within, or as part of, a changing environment" (Mitleton-Kelly, 1998) of the particular type with the distinguishing features of human language that facilitates learning and the capacity of humans to design changes to the system itself (Centre for Information and Organisation Studies).

However, it would be mistaken to think that a social system is capable of being modelled to the extent that a precise model of its structures and rules could be constructed and changes tested to assess their effectiveness in avoiding the types of behaviours observed in this case study. The fact of the capacity of the many human and institutional actors to act independently and unpredictably and to defy both rational choice theory and binding rules renders such modelling unreliable. Not only would it be unreliable but also it would be potentially extremely dangerous in that re-design based on the model could produce catastrophic unintended outcomes.

However, even that analysis assumes that it would be possible to design and construct such a model. Stewart (2002) has drawn attention to the incalculability of the huge number of variables involved in such modelling (Stewart, 2002).

Thus whilst the complex evolving system is a useful metaphor, it has limited usefulness in helping us understand just how governance is actually operating. Habermas suggests that system effects can come into conflict with and undermine what he describes as "lifeworld" – the ordinary aspects of life which are outside the realm of public and corporate governance and even the formal aspects of civil society. "Culture and personality come under attack for the sake of warding off crises and stabilising society" (Habermas, 1996)(317), as seen in responses by the socio-political system to Enron, in which victims were left to the mercy of the market and highly prescriptive rules were imposed on certain corporate sector actors.

9. Communicative Action

Habermas has proposed a theory of communicative action to describe the governance of societies. This relies on conception of rationality that is communicative, "grounded in interactions between human subjects" (Outhwaite, 1996)(15). It is summed up by:

In modern societies there is such an expansion of the scope of contingency for interaction loosed from normative contexts that the inner logic of communicative action "becomes practically true" in the deinstitutionalized forms of intercourse of the familial private sphere as well as in a public sphere stamped by the mass media. At the same time, the systemic imperatives of autonomous subsystems penetrate into the lifeworld and, through monetarization and bureaucratisation, force an assimilation of communicative action to formally organized domains of

action – even in areas where the action-coordinating mechanism of reaching understanding is functionally necessary (Habermas, 1996)334).

The case of Enron provides support for this approach. The events leading up to the collapse and bankruptcy of Enron were very much expressions of the operation of communicative action. The events cannot be explained by the nature of the structures and rules affecting governance. They were a product of communications, or more precisely, failures of communications to address and redress actions intended to deceive investors and others for the purposes of personal greed.

The events and actions which followed were clear illustrations of communicative actions, although the interests or involvement of those whose lifeworlds were most affected are noticeably absent. Nonetheless, the measures taken arose through iterative processes of communicative action involving a large range of mostly institutional actors.

10. Fuzzy logic

What emerges is a picture of communicative actions that are highly variable in their nature, functioning and effects. Some actions such as legislative deliberations occur according to highly structured, formulaic rules, but many such as the "behind the scenes" development of legislation involve much more complex and subtle processes. We see that such matters as the availability, selection and interpretation of information, assessments, estimation, judgment, values, trust, negotiation and bargaining affect actions. These types of processes for dealing with complex information are analogous with fuzzy logic (1). Fuzzy logic is used here as metaphor (Mesjasz, 2001).

Fuzzy logic is proposed as the term can be used to encapsulate a range of processes involving the handling of approximate information and uncertainty. It is also a term that implies a lack of precision in processes that do produce outcomes accepted as logical.

The collapse of Enron is more clearly understood if the events are recognised as the product of communicative action that involved high levels of complexity and operated according to fuzzy logic. There was no pattern of rational behaviour conforming to some model of the behaviour of individual and institutional actors.

Individuals within Enron and its advisers, principally Arthur Anderson, selected and interpreted financial structural and reporting options in ways

that were unintended, unexpected and possibly illegal. The Administration and its SEC applied neo-liberal values to their responsibilities in an extraordinarily minimalist way, facilitating Enron's actions. Market analysts and the market placed trust in Enron in their interpretation of filings with the SEC. Only the inquisitive actions of two Wall Street Journal investigators, unwilling to accept Enron's information at face value, led to the publication of analysis that caused a dramatic reassessment by the market. Only then was Enron's political influence checked.

Many of the processes involved in the aftermath of the Enron case similarly involved actors in a range of processes in which there were not clear rules and it was not possible to use formulae to determine the optimum measures to achieve desired outcomes in corporate governance. The processes were fuzzy but they did achieve outcomes that were broadly accepted as an appropriate way of creating a quick response to a generally unexpected disturbance to the economic and social system.

However, there are also serious reservations about the Sarbanes-Oxley Act. These relate to some differences over which matters it addressed and the manner in which they were handled. The matters included were inevitably determined by political judgments both as to the most urgent issues and as to how wide-ranging it was practical for an individual statute to be. The strong competition for the limited time available to members of Congress, Administration officials and their advisers was certain to have been a factor. Again, there is no simple, or complex, formula by which to compute such a decision.

The manner in which the Act dealt with matters relates to such issues as principle-based versus rule-based regulation. In that case, the established custom of rule-based regulation seems not to have been challenged. This was another case where practice was adopted for reasons that did not reflect comprehensive or rational analysis.

There were also some amendments that proposed the creation of highly interventionist agencies. Their rejection may be a reflection of prevailing neo-liberal values; there is little sign in the Congressional Record that it was evidence-based policy making.

A related issue is the manner of processing the legislation through Congress. Although there were Committee Hearings at which expert witnesses and representatives of peak bodies gave testimony, the manner in which their advice and the deliberations of the committees contributed

to the final form of the legislation is unclear. They undoubtedly did contribute, but the details are fuzzy. Once the final debate occurred, it was highly orchestrated, with little fuzziness and heavy reliance on the capacity of Congressional leaders to assemble coalitions of support for key contested provisions.

11. Conclusion

The paper suggests that viewing the relationship between public management as regulators, corporations and others in this way will assist understanding the role of unanticipated events and the management of responses and adaptation to uncertainty in a society's internal and external environments. In particular, it has shown how governance can join up, in a different sense to the "joined up" government of the Blair Labour Party UK Government.

In this case, the three major aspects of socio-political governance each joined to play a significant role in addressing an issue with major economic and social implications. Their roles were not separate. Each interacted with the other two and the effectiveness of those inter-relationships was crucial to the outcome. These inter-relationships operated similarly to Habermas' communicative action, but they can also be better understood if seen as occurring according to fuzzy logic.

Improved understandings of these inter-relationships between governance sectors could assist public management in working with the corporate sector and civil society for the protection and advancement of the public interest.

Appendix 1.
Witnesses to US Congressional Committee Hearings (2002) following the collapse of Enron Corporation

House of Representatives Committee on Financial Services Hearings on H.R. 3763, the Corporate and Auditing Accountability, Responsibility, and Transparency Act of 2002 Wednesday, March 13, 2002 Wednesday, March 20, 2002 Tuesday, April 09, 2002	Senate Committee on Banking, Housing and Urban Affairs Hearings on Accounting and Investor Protection Issues Raised by Enron and Other Public Companies: Oversight of the Accounting Profession, Audit Quality and Independence, and Formulation of Accounting Principles. Tuesday 12 February 2002 Thursday 14 February 2002 Tuesday 26 February 2002 Tuesday 5 March 2002 Wednesday 6 March 2002 Thursday 14 March 2002 Tuesday 19 March 2002 Wednesday 20 March 2002 Thursday 21 March 2002
Marc E. Lackritz, President, Securities Industry Association	The Honorable Roderick M. Hills Chairman, Securities and Exchange Commission 1975-77
Barry C. Melancon, President and CEO, American Institute of Certified Public Accountants	The Honorable Harold M. Williams Chairman, Securities and Exchange Commission 1977-81
James Glassman, Resident Fellow, American Enterprise Institute	The Honorable David Ruder Chairman, Securities and Exchange Commission 1987-89
Ted White, Director of Corporate Governance, California Public Employees' Retirement System	The Honorable Richard C. Breeden Chairman, Securities and Exchange Commission 1989-93
Roderick M. Hills, Former Chairman, Securities and Exchange Commission	The Honorable Arthur Levitt, Jr. Chairman, Securities and Exchange Commission 1993-2000
Barbara Roper, Director of Investor Protection, Consumer Federation of America	The Honorable Paul Volcker Chairman of the Trustees of the International Accounting Standards Board; Chairman of Arthur Andersen's Independent Oversight Board; and Former Chairman, Board of Governors of the Federal Reserve System
Lynn Turner, Director, Center for Quality Financial Reporting	Mr. Walter P. Schuetze Chief Accountant, Securities and Exchange Commission 1992-95
The Honorable Harvey L. Pitt, Chairman, U. S. Securities and Exchange Commission	Mr. Michael H. Sutton Chief Accountant, Securities and Exchange Commission1995-98
Mr. Franklin D. Raines, Chairman and CEO, Fannie Mae, on behalf of The Business Roundtable	Mr. Lynn E. Turner Chief Accountant, Securities and Exchange Commission1998-2001

Mr. H. Carl McCall, Comptroller, State of New York, Office of the State Comptroller	Mr. Dennis R. Beresford Chairman, Financial Accounting Standards Board1987-97
Mr. Joseph V. DelRaso, Partner, Pepper Hamilton, LLP	Sir David Tweedie Chairman of the International Accounting Standards Board; and Former Chairman of the United Kingdom's Accounting Standards Board
Mr. Philip B. Livingston, President and CEO, Financial Executives International	Mr. David M. Walker Comptroller General of the United States General Accounting Office
Mr. Jerry J. Jasinowski, President, National Association of Manufacturers	Professor Joel Seligman Dean and Ethan A.H. Shepley University Professor Washington University School of Law
Mr. Peter C. Chapman, Senior Vice President and Chief Counsel, Corporate Governance, TIAA-CREF	Mr. Robert Glauber Chairman & CEO National Association of Securities Dealers, Inc
The Honorable Peter R. Fisher, Under Secretary for Domestic Finance, Department of the Treasury (submitted for the record)	Professor John C. Coffee, Jr. Adolf A. Berle Professor of Law Columbia University School of Law School
David Walker, Comptroller General of the United States, U.S. General Accounting Office	Mr. Shaun O'Malley Chair of the 2000 Public Oversight Board Panel on Audit Effectiveness (O'Malley Commission) and Former Chair, Price Waterhouse LLP
Richard C. Breeden, Former Chairman, Securities and Exchange Commission, Richard C. Breeden & Co.	Mr. Lee Seidler Deputy Chairman of the 1978 AICPA Commission on Auditor's Responsibilities, and Managing Director Emeritus, Bear Stearns & Co.
Donald C. Langevoort, Professor, Georgetown University Law Center	Mr. Arthur R. Wyatt Past President American Accounting Association Former partner, Arthur Andersen & Co. and Professor of Accountancy Emeritus University of Illinois
Damon Silvers, Associate General Counsel, AFL-CIO	Professor Abraham Briloff Emanuel Saxe Distinguished Professor Emeritus, Baruch College City University of New York
	Mr. Bevis Longstreth Member of the O'Malley Commission Member of the Securities and Exchange Commission (1981-1984) and retired partner, Debvoise & Plimpton.
	Mr. James G. Castellano, CPA Chairman, Board of Directors American Institute of Certified Public Accountants (AICPA) Managing Partner, Rubin, Brown, Gornstein Co., LLP
	Mr. James S. Gerson, CPA Chairman, Auditing Standards Board, AICPA Partner, National Office of PricewaterhouseCoopers, LLP

	Mr. William E. Balhoff, CPA, CFE Chairman, Executive Committee AICPA Public Company Practice Section Senior Audit Director Postlethwaite & Netterville, A.P.A.C.
	Ms. Olivia F. Kirtley, CPA Former Chair, Board of Directors AICPA (1998-99) Retired Vice President and CFO Vermont American Company
	Mr. James E. Copeland, Jr., CPA Chief Executive Officer Deloitte & Touche
	Mr. Robert E. Litan Director, Economic Studies Program The Brookings Institution
	Mr. Peter J. Wallison Resident Fellow and Co-Director Financial Deregulation Project American Enterprise Institute
	Mr. Charles A. Bowsher Chairman Public Oversight Board Former Comptroller General of the United States
	Ms. Aulana L. Peters Member Public Oversight Board
	Mr. L. William Seidman Former Chairman of the Federal Deposit Insurance Corporation and Resolution Trust Corporation
	Mr. John C. Whitehead Former Co-Chairman of Goldman Sachs & Co. Former Deputy Secretary of State
	Mr. Michael Mayo Managing Director Prudential Securities, Inc. Head of Financial Services Research Group
	The Honorable Howard M. Metzenbaum Chairman Consumer Federation of America Former U.S. Senator
	Mr. Damon Silvers Associate General Counsel AFL-CIO
	Ms. Sarah Teslik Executive Director Council of Institutional Investors
	Mr. Thomas A. Bowman President and CEO Association for Investment Management and Research
	The Honorable Harvey L. Pitt Chairman Securities and Exchange Commission

Sources: U.S. House of Representatives Committee of Financial Services. Available at: http://financialservices.house.gov/hearings.asp?formmode=printed&congress=8 Accessed 11 March 2003; U.S. House of Senate Committee of Banking Housing and Urban Affairs. Available at: http://banking.senate.gov/hrg02.htm Accessed 11 March 2003

Appendix 2.
Sarbanes-Oxley Act of 2002 – related bills and amendments

Versions

There were 6 versions of the Bill, Number H.R.3763 for the 107th Congress

1. Public Company Accounting Reform and Investor Protection Act of 2002 (Engrossed Amendment as Agreed to by Senate)[H.R.3763.EAS]
2. Corporate and Auditing Accountability, Responsibility, and Transparency Act of 2002 (Engrossed as Agreed to or Passed by House)[H.R.3763.EH]
3. Sarbanes-Oxley Act of 2002 (Enrolled as Agreed to or Passed by Both House and Senate)[H.R.3763.ENR]
4. Corporate and Auditing Accountability, Responsibility, and Transparency Act of 2002 (Introduced in House)[H.R.3763.IH]
5. Corporate and Auditing Accountability, Responsibility, and Transparency Act of 2002 (Referred to Senate Committee after being Received from House)[H.R.3763.RFS]
6. Corporate and Auditing Accountability, Responsibility, and Transparency Act of 2002 (Reported in House)[H.R.3763.RH]

Related bills

H.R.5070

Title: To improve quality and transparency in financial reporting and independent audits and accounting services for public companies, to create a Public Company Accounting Oversight Board, to enhance the standard setting process for accounting practices, to strengthen the independence of firms that audit public companies, to increase corporate responsibility and the usefulness of corporate financial disclosure, to protect the objectivity and independence of securities analysts, to improve Securities and Exchange Commission resources and oversight, and for other purposes.

Sponsor: Rep LaFalce, John J. [NY-29] (introduced 7/9/2002)

H.R.5118

Title: To provide for enhanced penalties for accounting and auditing improprieties at publicly traded companies, and for other purposes.

Sponsor: Rep Sensenbrenner, F. James, Jr. [WI-9] (introduced 7/15/2002)

S.2673

Title: An original bill to improve quality and transparency in financial reporting and independent audits and accounting services for public companies, to create a Public Company Accounting Oversight Board, to enhance the standard setting process for accounting practices, to strengthen the independence of firms that audit public companies, to increase corporate responsibility and the usefulness of corporate financial disclosure, to protect the objectivity and independence of securities analysts, to improve Securities and Exchange Commission resources and oversight, and for other purposes.

Sponsor: Sen Sarbanes, Paul S. [MD] (introduced 6/25/2002)

Amendments

House of Representatives

H.AMDT.454 (A001) 4/24/2002
Amendment (A001) offered by Mr. Oxley. (consideration: CR H1563-1564; text: CR H1563)
Amendment clarifies language contained in the bill to make various technical and conforming changes; to strike provisions requiring companies listed on the stock exchanges to a code of ethics for senior corporate officers due to workability issues; and to retain provisions regarding disclosure of changes in issuer codes of conduct.

H.AMDT.455 (A002) 4/24/2002
Amends: H.R.3763 Amendment (A002) offered by Mr. Capuano. (consideration: CR H1564-1565; text: CR H1564)
Amendment provides that at least one member of the five-member public regulatory organization (PRO) established under the bill be a person who has never been licensed to practice public accounting and clarifies that two members of the public regulatory organization (PRO) must be individuals licensed to practice public accounting, two members may be individuals licensed to practice public accounting if they have not practiced within two years of being appointed, and one member must not

be licensed to practice public accounting. The amendment also specifies that all members of the PRO board must meet a standard of financial literacy as determined by the SEC.

H.AMDT.456 (A003) 4/24/2002

Amendment (A003) offered by Mr. Sherman. (consideration: CR H1565-1567; text: CR H1565)

Amendment sought to establish capital standards for accounting companies that audit publicly traded companies; and require the SEC to set capital standards at a level no lower than half of the firm's annual audit revenues. It would require auditors of publicly-traded companies to meet a minimum net capital requirement of not less than one-half of the annual audit revenue received by the accountant from issuers registered with the SEC.

H.AMDT.457 (A004) 4/24/2002

Substitute amendment in the nature of a substitute offered by Mr. Kucinich. (consideration: CR H1567-1574; text: CR H1567-1568)

Amendment in the nature of a substitute sought to create the Federal Bureau of Audits to conduct an annual audit of the financial statements that are required to be submitted by reporting issuers and to be certified under the securities laws, rules or regulations. It would create the Federal Bureau of Audits (FBA) to monitor corporate America's books by auditing all publicly-traded companies. The new agency would be a part of the SEC, but would maintain appropriate independence. The SEC would set the basic rules of auditing by incorporating the generally accepted auditing standards rules and making further refinements that are "necessary and appropriate in the public interest and for the protection of investors." The FBA's integrity will be ensured by several conflict of interest provisions designed to make certain that American taxpayers, investors, and employees get an accurate assessment of a corporation.

H.AMDT.458 (A005) 4/24/2002

Amendment (A005) offered by Mr. LaFalce. (consideration: CR H1574-1589; text: CR H1574-1583)

Amendment in the nature of a substitute sought to provide for the creation of a Public Regulatory Organization, define the nature and composition of the organization, and delineate its specific roles and responsibilities. It would replace the regulatory structure in the bill with one that requires establishment of a public regulator with specified duties and authority; to modify definitions of non-audit services to make the two bans on non-audit services included in the bill effective; to provide for approval of non-audit services by the audit committee; to replace the executive

responsibility provisions in the bill to require executive certification of financial statements; to improve the ability of the SEC to bar officers and directors from future service in public companies; to enable the SEC to obtain disgorgement of stock bonuses from executives who have falsified financial statements; to place limits on analyst conflicts of interest and improve corporate governance by giving audit committees oversight of auditors; and to establish an independent nominating committee for independent directors.

Senate

S.AMDT.4173 7/8/2002:

Amendment SA 4173 proposed by Senator Sarbanes. (consideration: CR S6340; text: CR S6340)

To make technical and conforming amendments.

S.AMDT.4174 7/9/2002:

Amendment SA 4174 proposed by Senator Daschle for Senator Leahy. (consideration: CR S6436-6438)

To provide for criminal prosecution of persons who alter or destroy evidence in certain Federal investigations or defraud investors of publicly traded securities, and for other purposes.

S.AMDT.4175 7/9/2002:

Amendment SA 4175 proposed by Senator Gramm for Senator McConnell to Amendment SA 4174. (consideration: CR S6438-6443, S6491-6496; text: CR S6438-6439)

To provide for certification of financial reports by labor organizations and to improve quality and transparency in financial reporting and independent audits and accounting services for labor organizations.

S.AMDT.4176 7/9/2002:

Amendment SA 4176 proposed by Senator Miller. (consideration: CR S6443-6444, S6491; text: CR S6443)

To amend the Internal Revenue Code of 1986 to require the signing of corporate tax returns by the chief executive officer of the corporation.

S.AMDT.4184 7/10/2002:

Amendment SA 4184 proposed by Senator Gramm to Amendment SA 4174 Division I. (consideration: CR S6537-6538; text: CR S6538)

To provide the Board with appropriate flexibility in applying non-audit services restrictions to small businesses.

S.AMDT.4185 7/10/2002:

Amendment SA 4185 proposed by Senator Daschle for Senator Leahy. (consideration: CR S6538-6541)

To provide for criminal prosecution of persons who alter or destroy evidence in certain Federal investigations or defraud investors of publicly traded securities, and for other purposes.

S.AMDT.4186 7/10/2002:

Amendment SA 4186 proposed by Senator Daschle for Senator Biden. (consideration: CR S6541-6542; text: CR S6541-6542)

To increase criminal penalties relating to conspiracy, mail fraud, wire fraud, and certain ERISA violations, and for other purposes.

S.AMDT.4187 7/10/2002:

Amendment SA 4187 proposed by Senator Edwards. (consideration: CR S6551-6552, S6559; text: CR S6552; text as modified: CR S6559)

To address rules of professional responsibility for attorneys.

There were eight amendments to this amendment: S.AMDT.4200, S.AMDT.4283, S.AMDT.4284, S.AMDT.4286, S.AMDT.4289, S.AMDT.4290, S.AMDT.4291, S.AMDT.4292

S.AMDT.4188 7/10/2002:

Amendment SA 4188 proposed by Senator Lott. (consideration: CR S6542-6543, S6545, S6549-6551; text: CR S6542-6543)

To deter fraud and abuse by corporate executives.

S.AMDT.4189 7/10/2002:

Amendment SA 4189 proposed by Senator Gramm to Amendment SA 4188. (consideration: CR S6543, S6548; text: CR S6543)

To deter fraud and abuse by corporate executives.

S.AMDT.4190 7/10/2002:

Amendment SA 4190 proposed by Senator Daschle for Senator Biden to Amendment SA 4186. (consideration: CR S6544-6545, S6547-6548; text: CR S6544-6545; text as modified: CR S6547-6548)

To increase criminal penalties relating to conspiracy, mail fraud, wire fraud, and certain ERISA violations, and for other purposes.

S.AMDT.4200 7/10/2002:

Amendment SA 4200 proposed by Senator Gramm for Senator McConnell to Amendment SA 4187. (consideration: CR S6552-6557)

To modify attorney practices relating to clients, and for other purposes.

S.AMDT.4206 7/10/2002:

Amendment SA 4206 proposed by Senator Miller. (consideration: CR S6557; text: CR S6557)

To express the sense of the Senate that the chief executive officer of a corporation should sign the corporation's income tax returns.

S.AMDT. 4215 7/12/2002:

Amendment S.AMDT. 4215 proposed by Senator Dorgan. (consideration: CR S6688-6689)

To clarify that the requirement that certain officers certify financial reports applies to domestic foreign issuers.

S.AMDT.4269 7/11/2002:

Amendment SA 4269 proposed by Senator Daschle for Senator Levin. (consideration: CR S6620-6625, S6636-6643)

To address procedures for banning certain individuals from serving ax officers or directors of publicly traded companies, civil money penalties, obtaining financial records, broadened enforcement authority, and forfeiture of bonuses and profits.

S.AMDT.4270 7/11/2002:

Amendment SA 4270 proposed by Senator McCain. (consideration: CR S6625; text: CR S6625)

To require publicly traded companies to record and treat stock options as expenses when granted for purposes of their income statements.

S.AMDT.4271 7/11/2002:

Amendment SA 4271 proposed by Senator Reid for Senator Edwards to the instructions of the Motion to Recommit.. (consideration: CR S6625; text: CR S6625)

To address rules of professional responsibility for attorneys.

S.AMDT.4272 7/11/2002:

Amendment SA 4272 proposed by Senator Reid for Senator Levin to Amendment SA 4271. (consideration: CR S6625)

To address procedures for banning certain individuals from serving as officers or directors of publicly traded companies, civil money penalties, obtaining financial records, broadened enforcement authority, and forfeiture of bonuses and profits.

S.AMDT.4295 7/12/2002:

Amendment SA 4295 proposed by Senator Schumer. (consideration: CR S6689-6690; text: CR S6690)

To enhance conflict of interest provisions by prohibiting personal loans by issuers to chief officers of the issuer.

S.AMDT.4296 7/12/2002:
Amendment SA 4296 proposed by Senator Schumer. (consideration: CR S6690-6691; text: CR S6690)
To require a study of the accounting treatment of special purpose entities.

Sources: U.S. Congressional Record. Available at:
http://thomas.loc.gov/i107/i107CONSUMER.html
Accessed 11 March 2003

Notes

[1] Fuzzy logic is shorthand for a family of related theories arising from pioneering work by Zadeh. It is summarised in the brief outline which follows:

What is Fuzzy Logic?

Many decision-making and problem-solving tasks are too complex to be understood quantitatively, however, people succeed by using knowledge that is imprecise rather than precise. Fuzzy set theory, originally introduced by Lotfi Zadeh in the 1960's, resembles human reasoning in its use of approximate information and uncertainty to generate decisions. It was specifically designed to mathematically represent uncertainty and vagueness and provide formalized tools for dealing with the imprecision intrinsic to many problems. By contrast, traditional computing demands precision down to each bit. Since knowledge can be expressed more naturally by using fuzzy sets, many engineering and decision problems can be greatly simplified.

Fuzzy set theory implements classes or groupings of data with boundaries that are not sharply defined (i.e. fuzzy). Any methodology or theory implementing "crisp" definitions such as classical set theory, arithmetic, and programming, may be "fuzzified" by generalizing the concept of a crisp set to a fuzzy set with blurred boundaries. The benefit of extending crisp theory and analysis methods to fuzzy techniques is the strength in solving real-world problems, which inevitably entail some degree of imprecision and noise in the variables and parameters measured and processed for the application. Accordingly, linguistic variables are a critical aspect of some fuzzy logic applications, where general terms such a "large," "medium," and "small" are each used to capture a range of numerical values. While similar to conventional quantization, fuzzy logic allows these stratified sets to overlap (e.g. an 85 kilogram man may be classified in both the "large" and "medium" categories, with varying degrees of belonging or membership to each group). Fuzzy set theory encompasses fuzzy logic, fuzzy arithmetic, fuzzy mathematical programming, fuzzy topology, fuzzy graph theory, and fuzzy data analysis, though the term fuzzy logic is often used to describe all of these.

Fuzzy logic emerged into the mainstream of information technology in the late 1980's and early 1990's. Fuzzy logic is a departure from classical

Boolean logic in that it implements soft linguistic variables on a continuous range of truth values which allows intermediate values to be defined between conventional binary. It can often be considered a superset of Boolean or "crisp logic" in the way fuzzy set theory is a superset of conventional set theory. Since fuzzy logic can handle approximate information in a systematic way, it is ideal for controlling non-linear systems and for modeling complex systems where an inexact model exists or systems where ambiguity or vagueness is common. A typical fuzzy system consists of a rule base, membership functions, and an inference procedure. Today, fuzzy logic is found in a variety of control applications including chemical process control, manufacturing, and in such consumer products as washing machines, video cameras, and automobiles.

URL: http://www.emsl.pnl.gov:2080/proj/neuron/fuzzy/what.html
accessed 13 January 2000

[2] Enron Corporation was undergoing bankruptcy proceedings related to reorganising the company's structure and operations at the time of writing – see < http://www.elaw4enron.com/default.asp> accessed 16 May 2003

[3] Formally, royal commissions are appointed by and report to the Governor General as the representative of the head of state, the Queen; in practice, the executive government makes all relevant decisions, including the terms of reference and the definition of the wide-ranging powers of inquiry available under the *Royal Commissions Act 1902 (Australia)*.

[4] The same terminology was used in 2001 by another Bush appointee, Federal Communications Commissioner Abernathy <http://www.entelec.org/p.php3?wr=fall2001> 19 February 2003

[5] Pilon has argued that "Modern Democrats, and many Republicans as well, have come to view government as a service industry, with citizens as its customers… That is a far cry from the Founders' conception of limited government. And it is fundamentally inconsistent with the Constitution." <http://www.cato.org/new/08-02/08-06-02r.html> 19 February 2003

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