

# PRICE

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### THE VALUE OF INVESTMENT BANKING RELATIONSHIPS: EVIDENCE FROM THE COLLAPSE OF LEHMAN BROTHERS

Chitru S. Fernando, Anthony D. May and William L. Megginson



From left, William Megginson, Rainbolt Chair in Finance; Anthony May, PhD graduate in Finance; and Chitru Fernando, John and Donnie Brock Chair in Finance

The nature of competition in the market for investment bank services, and especially the question of whether these services are best provided through established relationships between investment banks and client firms or can result from arms-length market transactions, has been the topic of considerable recent debate. This discussion has paralleled the debate in commercial banking on whether banks play a special role in generating information about their borrowers through established lending relationships, or whether bank lending also is now purely transactional. Whether the provision of investment bank services is relationship-based or transactional is especially relevant now due to recent trends that have blurred the distinction between commercial and investment banks, and changed the competitive landscape for investment bank services. It also is important from the standpoint of whether Lehman should have been prevented from failing under the too-big-to-fail doctrine

that guided the rescue of all the major commercial banks that encountered distress during the recent financial crisis.

In this study, the authors examine whether investment bank-client relationships create valuable relationship-specific capital, using stock market evidence from the period surrounding the collapse of Lehman Brothers. Specifically, they study the impact of the Lehman collapse on firms that employed Lehman for all major investment banking services: (1) underwriting equity offerings; (2) underwriting debt offerings; (3) providing advice on mergers and acquisitions; (4) providing analyst research services; and (5) providing market-making services. They specifically address two questions – first, which investment

bank services, if any, are associated with the creation of relationship-specific capital, and second, what are the value drivers of this relationship capital? These questions are central to understanding whether investment bank services are relationship-based or transactional and, more broadly, how financial intermediaries create value for their clients.

The authors find that firms that used Lehman as the lead underwriter for public equity offerings experienced significantly negative abnormal stock returns in the days

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## FROM THE DEAN

We are pleased to share with you our most recent edition of *Price Business Research*. Yet again the topics are diverse and intriguing. Our lead article is the combined effort of Dr. Fernando and Dr. Megginson along with Dr. Anthony May, a Price College PhD graduate. The article investigates the effects of relationship-specific capital in investment bank relationships with clients. Their findings highlight the importance for investment banks in establishing and maintaining reputation.

Dr. Ostas addresses the issues of ethical versus legal behavior by corporate executives in his article. He focuses on their economic and ethical obligation within the context of legal prerogatives and duties. While exploring legal loopholes has economic value for the firm, it also is accountable to its social responsibility. Ostas goes on to discuss the rule of law in this context being both advocacy (rule of law) versus advising (a more balanced interpretation of the client's legal obligations).

Dr. Shaft and her collaborators identify four cognitive qualities of information technology – interactivity, fit, cooperativity and affordance. A summary of the literature addressing these artificial IT cognitive qualities suggests that the continued vitality of research in these topic areas are likely to sustain interest in how they inform our understanding of IT.

Dr. Short and his colleagues investigate the role of organizational web sites in recruiting employees. Among their findings they note a potential recruit's familiarity with the organization significantly influences how certain web site characteristics are perceived. Caution is advanced in experiencing unintended consequences with web site messages.

Dr. Wang's *Marketing Science* article addresses the human qualities of organizations, in particular their memories and personalities. She suggests that suspicious behavior can surface when a firm (partner) behaves better than expected. Ironically, the consequences of such behavior can be more damaging than a firm that behaved worse than expected. While Wang's observations are more far reaching, the notion of not deviating from mutual expectations appears to be a strong theme.

Dr. Thomas and colleagues investigate the effects of credible financial accounting information on the ability of firms to secure external financing. Using private firms from a World Bank survey, they were able to ascertain that the private firms in their sample who choose to have their financial statements audited had lower perceived financial constraints.

Dr. Bakke and his colleague seek to explore whether firms adjust to sudden reductions in their cash holdings. They use the critical incident of mandatory contributions to pension funds as a condition of severe cash depletion. Their evidence suggests that during periods of sudden cash reductions, firms react to these shortfalls by cutting research and developmental spending, by firing workers and by cutting accounts receivable.

You will find throughout this issue other recognitions of Price College faculty research and its impact on advancing scholarship, business practice and policy formation. In many cases these research projects involve present and past doctoral students. No doubt the Price College network of scholarship is far reaching.

Kenneth R. Evans, Dean and Fred E. Brown Chair

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surrounding Lehman's bankruptcy announcement. In contrast, they find no significant reaction to the bankruptcy announcement among Lehman's debt underwriting clients or any of the other client categories that they examine. While most of the investment bank services they study have potential to create relationship-specific capital, their findings suggest that except for equity underwriting, all the other investment bank services appear to be transactional rather than relationship-based. Indeed, even across Lehman's equity underwriting clients, they observe significant differences. Their cross-sectional analysis shows that an equity underwriting relationship with Lehman was especially valuable for firms that had a high degree of dependence on Lehman to access the capital market, especially smaller, younger, and more financially constrained firms. This finding also implies that larger and financially stronger firms

(who typically generate the highest volume of business for investment banks) adopt a relatively more transactional stance toward investment banks, even when they seek equity underwriting services.

This study has significant implications for investment banks and the corporate clients they serve. While clearly establishing the presence of relationship-specific capital in equity underwriting, the findings highlight the importance for investment banks of establishing and maintaining reputation, which persists as the primary means by which investment banks can attract and retain higher quality clients. At the same time, however, equity underwriting client firms that switch banks should factor in the cost of any lost relationship-specific capital in their decision to switch.

*Journal of Finance*, February 2012



# THE ETHICS OF CORPORATE LEGAL STRATEGY: A RESPONSE TO PROFESSOR MAYER

Daniel T. Ostas

Suppose that an environmental regulation prohibits the emission of compounds X and Y. A business executive discovers a way to transform X and Y into XY. The transformed compound has the same effect on the environment as either X or Y standing alone, but XY is not listed as legally prohibited. Is it legal to emit XY? Is it ethical? Daniel Ostas addresses these and other issues in a series of articles under the rubric of “corporate legal strategy” – broadly defined as decisions taken on behalf of a corporation in anticipation of a legal claim. Professor Don Mayer of the University of Denver recently published a critique of Ostas’ works, and Ostas published a response to that critique.

Corporate executives typically formulate legal strategies under the advice of corporate counsel, and both executives and counsel tend to approach the topic with an economic orientation. Yet using legal strategies for private gain poses a series of thorny ethical issues. Ostas previously has examined the ethics of corporate legal strategies in the context of underenforced laws, inane laws, ambiguous laws and potential abuses of lobbying power. Each work offers definitions and illustrations grounded in legal philosophy, political economy and professional ethics. Taken collectively, the works sort out a corporate executive’s economic and ethical obligations within the context of legal prerogatives and legal duties.

One recently-critiqued prior work focuses on the topic of “legal loopholes.” A legal loophole refers to a linguistic imperfection – such as a gap, ambiguity, or conflict – in a legal text, like the environmental regulation above, that seemingly permits one to live to a literal interpretation of the text while simultaneously evading the text’s underlying purpose. In essence, a loophole pits a literal interpretation of a text against a more purposeful one. Because literal interpretations sometimes prevail in court, exploiting legal loopholes has economic value for the firm. The question is whether there is anything wrong with constructing

potentially strained and disingenuous interpretations of one’s legal obligations as a guide to corporate conduct.

Perhaps in a competitive system, corporate counsel and corporate executives have become accustomed to taking full advantage of all cost-effective legal recourse, including the exploitation of legal loopholes. Yet, such a predisposition does not fully conform with American Bar Association rules of professional conduct nor with widely-shared notions of corporate social responsibility. ABA rules state that once litigation begins, a lawyer must argue for an interpretation of law that best suits the client’s needs; however, in transactional settings, where advising rather than advocacy provides the norms, the rules require a more balanced interpretation of the client’s legal obligations. A similar ethic must guide corporate executives. Executives, though generally free to pursue shareholder wealth, have a prior and more fundamental duty to support reasonably just social institutions, including the formation, implementation and reform of business regulations. Ostas’ work brings these issues to the fore.

*American Business Law Journal*, Winter 2011



Daniel T. Ostas, James G. Harlow, Jr. Chair in Business Ethics and Community Service and Professor of Legal Studies





Teresa Shaft, Associate Professor of Management Information Systems

# COGNITION MATTERS: ENDURING QUESTIONS IN COGNITIVE IS RESEARCH

Michael Davern, Teresa Shaft and Te'eni Dov

In this paper, the authors explore the history of cognitive research in information systems across three major research streams in which cognitive processes are of paramount importance: software development, decision support systems, and human-computer interaction. From the historical

of develop-test-refine has been present from the early days of programming. In decision support systems, the concern is the balance between computer-based models (representations) and the user. In human-computer interaction, by definition, interactivity is a central idea.

“Fit” refers to how well an IT representation supports the cognitive representation of a task or the mental representation of a developer or user. When the IT representation “fits” the task (or mental representation) cognitive complexity is reduced. Hence, work on tools, techniques and practices that reduce the cognitive complexity of development, interaction or problem solving continue to be important.

“Cooperativity” describes the extent to which IT supports and enables distributed cognition. A trend Shaft and her coauthors observe is the shift from a focus on individual cognition to considering cognition beyond the individual, such as group, organizational or network. However, investigations into knowledge sharing and support for collaboration have only rarely used a cognitive perspective and practice would benefit from an understanding of how to support such cognitive functions. A further step is to consider other psychological factors such as emotion and attitudes.

“Affordances” reflects the ability of IT to improve performance by introducing structure to the tasks and environment in which cognition takes place. Properly designed IT provides a structure that allows us to conduct tasks that would otherwise be impossible. A better understanding of individual, group and organizational cognition facilitates the development and use of more effective IT.

analysis, they identified four cognitive qualities of information technology: interactivity, fit, cooperativity and affordances. Cognitive qualities are design relevant aspects of IT and explain the relationship between the design and implementation of an IT artifact and task performance. An IT artifact encompasses software solutions as broad as an enterprise resource planning (ERP) system and as focused as a mobile application. The four cognitive qualities, described below, identify areas that have been and will continue to be important to understanding IT and its ability to support cognition.

“Interactivity” implies a feedback loop of some form (e.g., in a sequence of messages, or in the manipulation of objects). Within development, the feedback loop

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A UNIVERSITY OF OKLAHOMA TEAM, INCLUDING MATT JENSEN, ASSISTANT PROFESSOR OF MANAGEMENT INFORMATION SYSTEMS, HAS BEEN AWARDED A \$10.7 MILLION MULTI-YEAR CONTRACT FROM THE AIR FORCE RESEARCH LABORATORY IN SUPPORT OF THE INTELLIGENCE ADVANCED RESEARCH PROJECTS ACTIVITY TO DEVELOP AN EDUCATIONAL VIDEO GAME TO TRAIN INTELLIGENCE ANALYSTS AND MEASURE THEIR PROFICIENCY IN RECOGNIZING AND MITIGATING THE COGNITIVE BIASES THAT AFFECT INTELLIGENCE ANALYSIS.



# SO WHAT DO YOU THINK OF THE ORGANIZATION?

A CONTEXTUAL PRIMING EXPLANATION FOR RECRUITMENT WEB SITE CHARACTERISTICS AS ANTECEDENTS OF JOB SEEKERS' ORGANIZATIONAL IMAGE PERCEPTIONS.

H. Jack Walker, Hubert S. Feild, William F. Giles, Jeremy B. Bernerth and Jeremy C. Short

Successful recruitment of new organizational members is a key challenge for businesses worldwide. In recent years, recruiters have realized the value of organizational web sites as one powerful tool to aid in the recruitment of new employees. Consequently, scholars who study human resource management are beginning to incorporate knowledge of effective marketing practices to better understand effective recruitment practices.

The logic behind this research supports the notion that a company's ability to create a favorable and unique brand image provides a powerful determinant of recruitment success. Objective characteristics that serve to create such an image for job seekers include pay, benefits, work conditions, and geographic location. Additionally, intangible characteristics such as the degree to which an organization is seen as interesting, rugged, and/or sophisticated also play an important role in the recruitment process.

Despite the importance of this topic, little is known about how job seekers form and modify their organizational image perceptions. To tackle this issue, the authors examined how organizational image perceptions may be altered by web site characteristics. The motivation behind this research was to examine the effects of web site characteristic priming – a process in the presentation of one stimulus (the prime; e.g., web site characteristics) influences evaluation of an otherwise ambiguous stimulus (e.g., organizational image perceptions); for example, previous marketing research has shown that certain web page design elements such as the use of colors and pictures can positively influence product evaluations.

To build knowledge concerning the use of priming in a recruitment context, two studies using more than 1,000 participants over several time periods showed that having technologically advanced web site features and depicting racially diverse organizational members serve as contextual primers and influence participants' organizational image perceptions. For example, minority participants perceived the workplace as more interesting, unique, exciting, stylish and fashionable when the recruitment web site portrayed higher workplace diversity. However, it appears the potential influence of web site characteristics on



Jeremy Short, Rath Chair in Strategic Management

organizational image perceptions is influenced by the degree to which participants are familiar with the recruiting organizations. That is, priming effects associated with web site characteristics were weaker for more familiar organizations.

For firms, the findings of this research suggest that organizations can manage job seekers' organizational image perceptions through strategic recruitment web site design; however, such attempts may be tempered by job seekers' familiarity with the organization. These findings emphasize the need for organizations to carefully evaluate recruitment web sites to ensure they are communicating desired messages to job seekers and not unintentionally deterring them. In particular, less well-known organizations should consider devoting resources to the design of their recruitment web sites to project organizational images that are consistent with their preferred organizational values and cultures.

*Organizational Behavior and Human Decision Processes*, June 2011

# THE SEEDS OF DISSOLUTION: DISCREPANCY AND INCOHERENCE IN BUYER-SUPPLIER EXCHANGE

Qiong Wang, Ujwal Kayande and Sandy Jap



Qiong Wang, Assistant Professor of Marketing

According to Qiong Wang and her coauthors, firms have memories and personalities that mimic human beings. Firms, like people, have friends with whom they share history together. Rooted in this history, firms' beliefs are constructed based on how business partners shall act in certain situations. However, if a partner behaves either better or worse than expected, uncertainties arise. This incoherence has the power to damage the relationship.

Companies want to know what they can do to prevent this from happening. The authors say the answer lies in the history of the relationships. They urge relationship managers and top-level management teams, especially in a business-to-business environment, to be aware of the beliefs rooted in the company's past. The researchers explain that this is especially important for top managers who are new to a company, adding that they should not only be aware of the current facts, but also of the

shared beliefs held between the company and its partners. The authors find that under certain circumstances, a firm behaving better than expected could be surprisingly even more damaging to the relationship than a firm behaving worse than expected. And while both firms should aim to share a common goal, the researchers claim that this is not always the case, admitting that firms are opportunistic and concerned with profits.

Firms can apply the following approaches to help repair or prevent the damage caused by these uncertainties. First, they can look at the level of dependence they have on one another. If one firm is more dependent on the other firm, then it is most likely more tolerant of the other's behavior. Firms can work on equalizing this dependence to decrease the likelihood of hurting the relationship. Secondly, firms who have been doing business for longer periods of time have more mature relationships. When this is the case, incoherence becomes more damaging to a relationship because both firms are more familiar with one another's behavior. Deviating from this expectation can create problems. Lastly, the researchers suggest that both companies make more relationship-based investments. For example, a buyer could build a warehouse closer to its supplier. In return, the supplier could send some of their employees to the buyer for training, creating joint value for both firms. This is the most preferable strategy if both parties invest a lot into the relationship, then they will become more tolerant of one another when uncertainties surface.

*Marketing Science*, November–December 2010



LOUIS EDERINGTON, PRICE CHAIR IN FINANCE; CHITRU FERNANDO, BROCK CHAIR IN FINANCE AND RESEARCH DIRECTOR OF THE BUSINESS ENERGY SOLUTIONS CENTER; AND KATE HOLLAND, FINANCE PhD CANDIDATE, RECEIVED A RESEARCH CONTRACT BY THE U.S. ENERGY INFORMATION ADMINISTRATION TO STUDY THE EFFECT OF FUTURES TRADING ON SPOT OIL PRICES.



# FINANCIAL CREDIBILITY, OWNERSHIP, AND FINANCING CONSTRAINTS: AN INTERNATIONAL STUDY USING PRIVATE FIRMS

Ole-Kristian Hope, Dushyant Vyas and Wayne B. Thomas



Wayne Thomas, John T. Steed Chair  
and Professor of Accounting

The World Bank has conducted surveys of almost 50,000 manufacturing and service firms in mainly developing and emerging market countries. An important motivation for this survey is to better understand the constraints to external financing faced by these firms in their efforts to develop functioning economies. Thomas and his coauthors investigate one potentially

important aspect of external financing – the credibility of financial accounting information. Prior research shows that credible financial information helps business managers identify good projects and increase investment efficiency and also allows providers of capital to better assess the firm's investment opportunities and monitor managerial actions. In other words, credible financial accounting information should ease external financing constraints by reducing the adverse selection or moral hazard costs associated with information asymmetry.

Using a sample of private firms from 68 countries, the authors examine the relation between firms' financial

reporting credibility (i.e., firms that subject their financial statements to an external audit) and their perceived external financing constraints (i.e., more difficult access to financing and higher financing cost). They find that private firms which choose to have their financial statements audited have lower perceived financing constraints. This finding is consistent with theory, which suggests that information and incentive problems impede firms' access to external capital (e.g., Jensen & Meckling, 1976). More credible financial reporting alleviates information problems and also can make managers more accountable to outsiders.

The study using private firms from the World Bank survey is unique in at least two ways. First, they focus on private firms. While all public firms throughout the world are generally required to have their financial statements audited, this is not true for the sample of private firms. In some countries (e.g., Norway and South Africa), nearly all private companies provide audited financial statements, while in other countries (e.g., Brazil) audits of private companies are rare. Across the entire sample, the researchers observe that approximately one-half of private firms choose not to have their financial information reviewed by an auditor.

Second, prior research on the relation between audited financial statements and financing constraints focuses almost exclusively on well-developed markets (e.g., the United States and the United Kingdom). However, groups such as the World Bank are directly interested in the factors that impact the economic development of lesser-developed countries. Given that the vast majority of economic activity in most countries is generated by private firms, especially in lesser-developed countries, the impact of audit on financing constraints for the sample is directly relevant to issues facing the World Bank.

*Journal of International Business Studies*, September 2011



## THRESHOLD EVENTS AND IDENTIFICATION: A STUDY OF CASH SHORTFALLS

Tor-Erik Bakke and Toni M. Whited

How do firms adjust to sudden reductions in their cash holdings? Do they fire employees and cut investment projects or simply make up the shortfall in the capital market? This is a tricky question to answer as it is difficult to correctly identify a 'sudden' reduction in cash holdings. For instance, cash shortfalls may coincide with reduced investment opportunities making it difficult to disentangle whether the worsening investment climate or the cash shortfalls were primarily responsible for the investment declines.

Looking at how firms react to cash shortfalls is interesting as it can tell us about the size of financial frictions versus real frictions. Research by Joshua Rauh in 2006, suggests that financial frictions may be more significant as firms seem to react to cash shortfalls (mandatory pension contributions) by cutting back on investment projects. This result is surprising in light of the large adjustment costs to cutting investment found in the literature.

In this paper, Bakke and Whited reexamine the evidence in Rauh (2006) using alternate, and more appropriate, statistical tests. They describe the pension example as a threshold event. This is because firms have to make mandatory contributions if the plan's level of underfunding falls below a government prescribed threshold. Threshold events can be interpreted as "quasi" experiments as firms that almost have to pay contributions are almost identical to firms that almost don't have to pay. If you compare these two groups

you can exploit the random variation in the data around the threshold to make casual inferences. That is you will be able to identify if the cash shortfalls cause declines in the investment.

Using this methodology Bakke and Whited show that, in contrast to Rauh (2006), that although pension contributions coincide with investment declines,

this relationship is not causal. That is firms do not react to mandatory pension contributions by cutting investments. Instead, their results indicate that firms react to shortfalls by cutting research and development spending, by firing workers and by cutting accounts receivables. In other words, firms make adjusts on both the real and financial side of the firm when faced with sudden reductions in cash.

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