SPRING/SUMMER 2004

STERNbusiness

The Latest Models

Robert Nardelli Remodels Home Depot

Arthur Levitt Calls for New Role Models

Stern's Nobel Laureate

Debating Europe's Financial Future

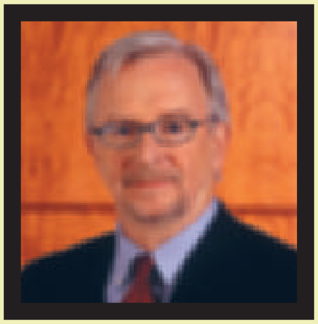
Unlocking Corporate Boards

Super Models: Inner-city Entrepreneurship

Social Responsibility

Organizational Silence

a letter from the **dean**



Business schools straddle the realms of theory and practice. Any sound business education provides students with an understanding of the basic principles – of everything from accounting to macroeconomics – and an appreciation of how issues play out in the world. An excellent business education affords students the opportunity to deal with both theory and practice at the highest level.

In our fields, we frequently construct models that describe how things are supposed to work, or how we think they should work. But we constantly test them by examining data, by working with and talking to practitioners, and by incorporating observations and experience into our thinking.

At NYU Stern, the boundaries between the campus and the business world are porous. And we have the great geographic fortune to be located in New York, which is home to an unrivaled concentration of businesses. As a result, our faculty and students have the opportunities to validate their theories and models with industry counterparts who are at the tops of their respective fields.

For example, NYU Stern's proximity to Wall Street – and the prospect for collaboration it affords – was one of the factors that attracted Robert Engle to Stern in 2000. Professor Engle, was named a Nobel Prize winner in economics last fall for his work in developing and applying models to analyze and forecast volatility. Every day, on trading floors a few miles to the south of our campus, investors and analysts put his models to work.

New York is home to a stunning array of non-profit organizations – symphonies and opera companies, giant foundations and hospitals, and small neighborhood economic development groups. All these organizations can benefit from the adaptation of management best practices, and our students can benefit from learning more about how these organizations work – and about the work they do. That's why we developed the Stern Consulting Corps (SCC) program.

Under this innovative consulting internship program, which involves about 50 students each semester, NYU Stern MBA students put into practice the skills and knowledge they gain in the classroom to help revitalize small and minority-owned businesses in New York City. SCC serves as the umbrella for a unique partnership among NYU Stern, non-profit organizations such as the Harlem Small Business Initiative, the Robin Hood Foundation and SEED-CO; and management consulting firms such as Booz Allen Hamilton and A.T. Kearney. Working in partnership, the non-profit organizations provide Stern MBA students with their assignments, and volunteers from the consulting firms serve as mentors on the projects. In turn, businesses and non-profits benefit from the Stern MBA students' expertise in everything from strategic and financial analysis to marketing and operations.

We take seriously our responsibility to be active and productive members of a larger community. And we believe that these initiatives – and our ongoing efforts to attract the highest quality faculty and students – are among the many factors that make NYU Stern a model for other business schools.

This issue of STERN*business* features a great deal of innovative thinking on the part of NYU Stern faculty members, and on the part of the many business and government leaders who participated in events at Stern last fall. I invite you to explore it.

Thomas F. Cooley
Dean

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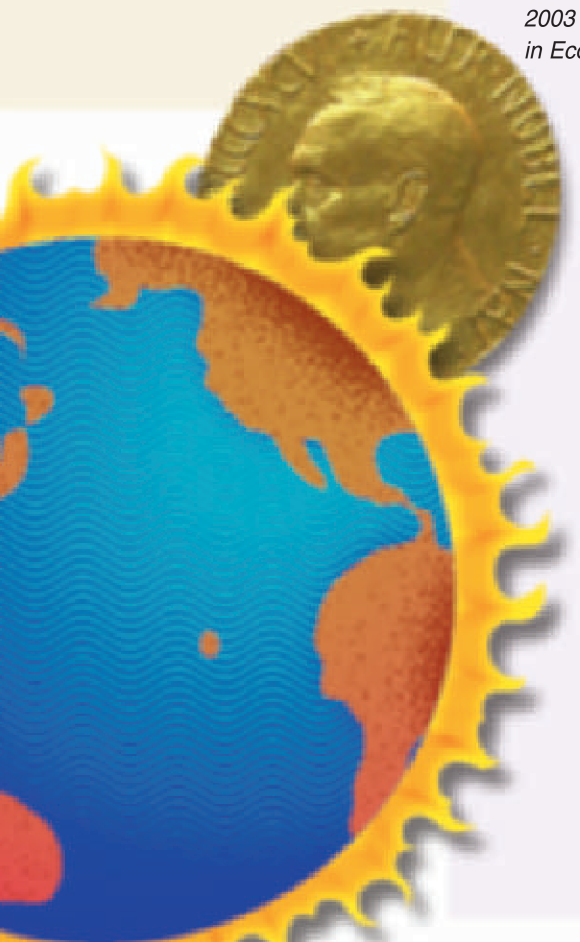

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STERN*business*

A publication of the Stern School of Business, New York University

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Robert Nardelli

chairman, president and chief executive officer

The Home Depot, Inc.

Robert Nardelli is Chairman, President and Chief Executive Officer of The Home Depot, Inc. With more than 1,600 stores in North America and 2002 sales of $58.2 billion, Home Depot is the world's largest home improvement retailer and the second largest retailer in the U.S.

Prior to joining Home Depot in December 2000, Mr. Nardelli was President and Chief Executive Officer at General Electric's power systems unit, where he transformed the division into a $20 billion worldwide leader in the energy industry. He began his career at GE in 1971. Mr. Nardelli received his B.S. in business from Western Illinois University and earned an MBA from the University of Louisville. Since Mr. Nardelli took the helm at Home Depot in 2000, the company has seen a 28 percent increase in annual sales, and a 42 percent increase in annual net earnings.

CH: *What did you find when you got to Home Depot?*
RN: It was a very rapid transition from General Electric to Home Depot. It took place in about a week. It was the first time in the history of this company that an outsider was CEO. Home Depot is a very young company. We're the youngest retailer to reach $30 billion, $40 billion, $50 billion. And this year we'll reach $60 billion. It is a company that had grown up with its co-founders. But, my assessment was that what got us here wouldn't get us where we wanted to go in the future. We had a very decentralized business model. What I found was that the fundamental infrastructure needed for sustainability in a variety of economic cycles was missing. The decentralization that had served the company well was a disadvantage going forward.

CH: *At that point, you had about 1,000 stores, each operating as a separate entity?*
RN: By design. The co-founders would go on a road trip and say "If you've got a fax from corporate, tear it up. If you get a voice mail, dump it. You're out here running the business." This was a company in start-up mode for 22 years. What I found was a need for some very strong infrastructure to put some pilings underneath this house called The Home Depot.

When I was transitioning in, there was a tremendous amount of anxiety. If there is one message I can leave you here tonight, it is think about succession planning. I was an outsider. This is a company

Carol Hymowitz, senior editor at *The Wall Street Journal,* interviewed Mr. Nardelli.

that prided itself on internal promotions, a family.

CH: *How did you handle it?*
RN: I have moved 11 times in my career. I had gone through it before. About 75 percent of what you learn is portable. The rest is something you have to immerse yourself in. This was like taking a dry sponge and immersing it in a bucket of water. You just have to absorb a plethora of things. While at the same time you're learning, you have to continually calm the waters that this new guy is not going to wreck the culture and bring order and discipline to a very entrepreneurial environment. When I came in December of 2000, I could not send an e-mail to every store manager. We have fixed that, of course.

CH: *While you were going through this transition did you hit some snags?*
RN: When I stepped in, this was a company that had had eight consecutive quarters of downward spiraling comparative sales. I visited nine different buying offices and I found different pricing, different terms and conditions. So we put in vendor buying agreements. We went from negative $800 million in cash when I got there in December, to $5 billion in cash today. That's after a $2 billion stock buy-back last year. And we will achieve another billion-dollar stock buy-back this year. We increased dividends last year over 20 percent. We've increased dividends this year over 20 percent and a quarter early. It's working, but it wasn't without a lot of skepticism. We've had to make a lot of changes. We changed merchandising. We changed operations. We changed systems. You are either going to be e-literate or you'll be illiterate. We're planning for the long term but we're delivering on the short term with some tremendous technology. We are reinvesting 100 percent of every hour of increased productivity. We'll spend about $400 million this year in technology, and we'll do that for the next two to three years to get caught up.

CH: *You've also made a lot of people changes.*
RN: I think you have to identify your strategy and then organize to support it. The real differentiator is resource allocation, both human capital and physical capital. At the leadership level we are going through a major transformation. But one of my strongest division presidents is a 20-year associate. He started as a lot attendant. I think we're getting a wonderful blend of experience and culture to form this new team.

CH: *What competitors worry you and what competitors do you learn from?*
RN: I have a great deal of respect for Wal-Mart. A couple of months ago Tom Coughlin, the head of Wal-Mart's U.S. stores, invited me down to the Saturday meeting at Bentonville and introduced me as "the enemy." I admire them because I think they have great logistics, they've got great operating systems, they have tremendous commitment and passion on the part of their associates. I think Target does a wonderful job in presentation. I think one of the things that has happened to Home Depot is success breeds complacency. Complacency breeds arrogance. Arrogance causes failure. Consumers today are stressed. We want to provide them with what I'll call the orange experience. When a customer walks into Home Depot, it's aesthetically pleasing. It's well lit. It's shoppable. It's navigable. We have to have a restlessness towards improving upon everything we do.

"We had a very decentralized business model . . . The decentralization that had served the company well was a disadvantage going forward."

CH: *Can you talk a little bit about your own background?*
RN: I had a wonderful set of parents who are first-generation Americans. They instilled in me a tremendous work ethic. I had one older brother. As a younger sibling, you're always in competition. I felt a need to compete both in high school and in college. I had great experiences in those academic environments, and I learned a lot about myself in athletics. I played high school football, got a scholarship and played college ball. I enjoyed the fact that you had to do your job as an individual, and you had to make sure the team was coordinated. So it's all about you, and it's about us. It gave me a great advantage from a leadership standpoint. Never ask anybody to do something you wouldn't do.

I've always believed in horizontal promotions to make your base as strong as it can be. For the trauma that it created, the wonderful thing about being new to Home Depot was that I wasn't tied to the past. I had a respect for the past. The toughest thing to change is what you put in place.

CH: *You spent a great many years at GE, but at one point, you left GE for a while and went to a smaller company. Tell us about that.*
RN: It was a gut-wrenching decision. I'm a second generation GE-er. Between my Dad and me, we've got over 50 years with General Electric. Leaving was emotional for me. And, I never left with the notion that I would come back. Then I got a call a couple of years later to come back to GE, which was one of the best days of my life. In typical Jack

Welch fashion, of course, I was exiled. I went up to Toronto and ran the Canadian appliance manufacturing company for a year. He could not bring me back and put me in a position that might reinforce that that is the way you get promoted. So I went up and did my penance in Toronto. I did that for nine months and then came back and took over GE transportation in Erie, and then a couple of years later took over GE power systems in Schenectady.

CH: *What was it like to be in the succession race at GE for several years and then not get the top job?*

"For the trauma that it created, the wonderful thing about being new to Home Depot was that I wasn't tied to the past."

RN: It's the Super Bowl, the last two minutes for two years. It's very tough. The pressure, the environment. You know that you're being looked at through a magnifying glass every day. For me it was about "How do I take a $5 billion business and broaden it?" We grew the business from $5 billion to $20 billion. We were the strongest cash generator in the company. We were the most profitable segment in the company. We had a phenomenal time during that three-and-a-half-year period.

CH: *You have said that being a leader, you're judged on your accomplishments, not on the time you put in. But you do put in an awful lot of time? What is your schedule like?*

RN: To use a sports analogy, at the end of 60 minutes, it's not about how hard you played, it's about whether you won or not. For me, having moved a number of times, I always felt that I was in a learning curve. You have to continually challenge yourself. My goal is not to meddle, but to understand. The more I understand, the more processes and systems I can put in place so that we have a continuum of performance improvement. Retail is very demanding. In the industrial sector on Friday nights, you kind of wind down. In retail, you build to a crescendo. The transactions happen Friday, Saturday and Sunday.

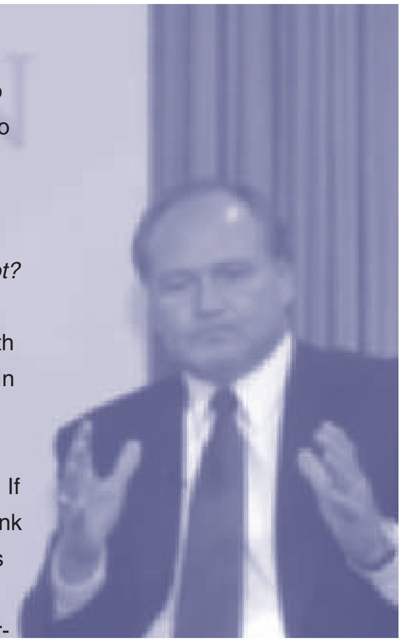
I met my wife while we were at school, in 1971. We've been together since then. She has been unbelievably supportive. I've got a great family. I've got one daughter and three sons. They have been supportive. I think it's a cop-out for you to look back and say, "could have, should have, would have." You know exactly what you're doing. Are you going to take four, five hours for a round of golf, or are you going to spend time with one of the children you haven't seen for a few days because of business demands? You have to make tradeoffs. You've got to set priorities.

CH: *What are the global opportunities for Home Depot?*

RN: Let's talk about North America. We'll open our 100th store in Canada this month. In Mexico we went from zero to number one in 18 months. That's a $12.5 billion market. If we look to Europe, I don't think it's any surprise real estate is pretty well taken. If we go to Europe, it would be an opportunistic acquisition of someone that is in the market over there. If you look to Asia, you're going to go to China. It is where the population and the economy are booming. The investments that U.S. companies have made in China are creating a tremendous financial base over there. I think when it's done, there will be three trading blocs. There will be the European trading bloc. There will be the Americas. There will be Asia. Somehow we've got to be able to coexist. We've got to create the globalism that allows three major trading blocs to get along. China is where we were at in the Industrial Revolution, head down, working hard. They are aspiring to be where we are today.

CH: *What are you trying to do at Home Depot to assure good governance?*

RN: I'm very fortunate. I have a great board. We had a



tremendous amount of corporate governance to start with. Before it became the vogue or mandatory, we required every director to walk our stores so they had a sense about what was going on out there. Every board meeting had an outside director's meeting without me there. Every director has to stand for re-election every year. Those are some of the things we already had in place and we're continuing to do it. In the last two and a half years I have personally set up teams of directors to visit our division presidents without me. Every quarter we're rotating our directors so that they have unfiltered access to our leadership team. We have put in a whole new compliance review process. We set up an entire new corporate compliance process where employees can go straight to the head of our audit committee if they have concerns about corporate governance. And, we have communicated it so that every associate, every leader has the comfort that they can get to the board.

CH: *What do you look for in young managers when you're hiring?*
RN: What we're looking for is someone that has demonstrated a tremendous amount of energy, who has an ability to energize, who has demonstrated the ability to balance academic and social. In this business, you've got to love people. We're looking for people who want to continue to learn, who understand the importance of individual accountability, but with the ability to think laterally.

Student questions
Q: *Will Home Depot be expanding into Manhattan?*
RN: We are going to put two stores in Manhattan. There are three customers that we're looking to serve here. First are the residential customers, people that live in this area. The second customer that we are excited about is the building superintendent. It's going to be very important to provide merchandise and service to that building superintendent. The third customer that we're excited about is the commuter. The commuter shops in the morning, shops at noon, shops at night, and then has it delivered. We may elect to deliver out of one of our local stores.

Q: *What sort of macroeconomic trends are you seeing now from your seat at Home Depot?*
RN: One of the first things I did when I got there was put together my own economic model. We look at about 50 different indices. So what are we seeing? We are seeing

"Before it became the vogue or mandatory, we required every director to walk our stores so they had a sense about what was going on out there."

sequential improvement in the economy today. One, because of the low interest rates we see tremendous family formation relative to housing. It is the American dream. People want to own a home. We're more excited about housing turnover than we are new housing at this point. We're seeing consumer confidence. What we saw post-9/11 was people were staying home. They were doing projects, but not big projects. But we're seeing bigger projects come back now. We have seen, since the fourth quarter through the second quarter of this year, a significant improvement in overall same-store sales. We saw sequential improvement May to June, June to July, July to August, August to September. We'll be reporting our earnings in a couple of weeks, and we're feeling good about the momentum and the direction, not only of our business, but the sector that we serve.

Q: *How do you retain a quality workforce?*
RN: What are we doing to make sure that our associates don't feel the need for third-party representation? One, we pay above industry average, at least 15 percent against market wages in those communities. Two, we offer one of the best benefits packages. We've implemented benefits for part-time associates for the first time in the history of the company. We accelerated tuition reimbursement. We put in what I'll call success sharing. That means if you hit the sales plan and other metrics within your store, you'll get a financial reward. Sixteen million dollars went to associates through that program. I firmly believe that when you invest in an associate, that skill is portable. We hope they stay with us and use it but it's something they can take wherever they go. We have a real passion, a real commitment about attracting, motivating and retaining a high-performance workforce. ■

M O D E L B

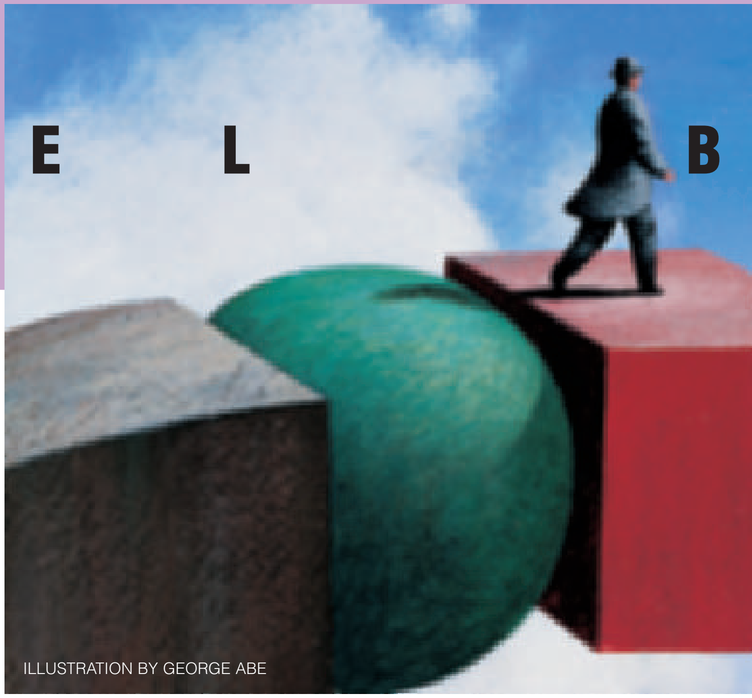


ILLUSTRATION BY GEORGE ABE

Which comes first, theory or practice?

Theory – whether it was Charles Darwin's Galapagos-inspired writings on evolution, or Sir Isaac Newton's apple-induced discovery of gravity – is informed by practice and observation. And yet practices frequently follow from theory. Think, for example, of how management models like Total Quality Management or Six Sigma have altered the strategy, actions, and bottom lines of massive companies.

In fact, innovation is the product of a constant cycle whereby theory and practice are continually informed by one another. As a result, bridging the gap between theoreticians and practitioners is crucial. And one of the best ways for doing so is by constructing, using, and revising models. Models represent the marriage of real-world observation to imaginative thinking. And they provide a framework for teaching, for discussion, for inquiry, for understanding, and, ultimately, for enacting change.

"Models represent the marriage of real-world observation to imaginative thinking. And they provide a framework for teaching, for discussion, for inquiry, for understanding, and, ultimately, for enacting change."

Each year, Sweden's Nobel Prize Committee recognizes researchers whose theoretical work finds applications in the real world. And last year, NYU Stern finance professor Robert Engle received a share of the 2003 Nobel Prize in Economics for developing an innovative and highly useful economic model called "Autoregressive Conditional Heteroskedasticity." In English? "It's a way of trying to model and describe and forecast this thing we call volatility," Engle said in a town hall meeting held in his honor last fall. ("Nobel Pursuit," pg. 20)

Currencies have been among the more volatile asset classes in the past year. After years of strength, the dollar has weakened substantially against currencies such as the British pound and the euro. The advent of the euro in 2000 was the latest step in a continuing effort to build a new model for European political, social and economic relocations. But last fall, the future of Europe's united fiscal and monetary policy seemed in doubt as countries faced a conflict between meeting Europe-wide financial mandates and internal policy goals. Amid the crisis atmosphere, a panel sponsored by NYU Stern and Blackwell Publishing, Inc. gathered to discuss present and future prospects for Europe and the Euro. ("Currency Event," pg. 40) While the panel's members, who included NYU Stern Dean Thomas Cooley, largely agreed on the diagnosis of Europe's ills, they offered different – and provocative – cures.

When something breaks down – a monetary system, a car, or a system of corporate governance – it's time to go back to the drawing board. And in the past few years, a series of boardroom scandals and failings have exposed the flaws in the ways publicly held companies are governed. In their article, ("Ties That Bind," pg. 8) Lawrence White and Eliezer Fich dissect the current model and analyze how the make-up of corporate boards, and chief executive officers' relationships with corporate directors, influence crucial outcomes such as compensation.

As Chairman of the Securities and Exchange Commission from 1993 to 2001, Arthur Levitt, Jr. implemented a series of reforms aimed at altering such relationships. In remarks prepared for the Citigroup Leadership and Ethics Program at Stern, ("Pocket Protector," pg. 36) Levitt called for a "cultural change" in the way directors and CEOs

E H A V I O R

approach their jobs. "We need private sector leaders at all levels to dedicate themselves to creating a culture of accountability and foster an ethic of service," he said. "We need to change who our role models are."

Whistle-blowers – employees within organizations that see unethical behavior and alert associates, regulators, or law enforcement agencies – are frequently crucial to creating accountability. But in corporations today, forces discourage employees from speaking out. "In many organizations, employees know the truth about certain issues and problems facing the organization yet they do not dare to speak that truth to their superiors," as Elizabeth Wolfe Morrison and Frances J. Milliken note. In their article, ("Sounds of Silence," pg. 30) drawing on sociological and psychological insights, they propose a model for understanding the phenomenon of organizational silence and suggest means through which managers can turn up the volume.

Whether you own a house or run a company, you're continually in a state of remodeling. Robert Nardelli, the chief executive officer of The Home Depot since 2000, is simultaneously trying to remodel the home improvement chain's massive store base while figuring out how best to help Americans remodel their homes. "We had a very decentralized business model," said Nardelli, who spoke as part of the Stern CEO Series. (Interview, pg. 2). "What I found was that the fundamental infrastructure needed for sustainability in a variety of economic cycles was missing. The decentralization that had served the company well was a disadvantage going forward."

Part of Home Depot's current growth strategy is to push into more heavily populated urban areas like New York. Indeed, the company plans to build a large store in East Harlem. In so doing, Home Depot is joining a long list of companies that are investing in what Gregory Fairchild and Jeffrey A. Robinson call "America's emerging markets." ("Going for Brokers," pg. 14). Fairchild and Robinson examine the phenomenon of white entrepreneurs and business owners operating in central city locations. Their suggestion: social brokers – institutions and individuals that can bridge the gaps between minority neighborhoods and non-minority business people – can help facilitate growth, profits, and development.

By opening stores in areas that have been historically underserved, companies like Home Depot can both do good and do well. Indeed, there's growing evidence that the reputed conflict between companies' social responsibilities and their responsibilities to shareholders to maximize profits may not be so great after all. A panel discussion jointly sponsored by NYU Stern and Resources for the Future brought together environmental activists and executives to discuss the ways in which being green can translate into more green in the corporate coffers. ("Responsible Parties," pg. 26) Pursuing a goal of zero waste and emissions has "saved us about two billion dollars in energy costs," said Paul Tebo, vice president of health, safety, and environment at DuPont. "Working on energy and keeping it flat while you grow is a terrifically good strategy."

Understanding business models – and creating new models for understanding business – is an important component of the work done at NYU Stern by students, by faculty, by administrators, and by the practitioners who are part of the larger Stern community. In challenging conventional wisdom, in bringing new insights to bear on longstanding issues, this issue of STERN*business* should stand as, well, a model for other periodicals.

DANIEL GROSS *is editor of* STERN*business*.

Ties That

Bind

When corporate directors serve together on multiple boards, the chief executive officers tend to earn more money and enjoy longer tenures. Such mutual interlocks are plainly good for the bosses. But are they good for shareholders? Not necessarily.

By **Eliezer M. Fich** and **Lawrence J. White**

In the recent wave of corporate scandals, from Enron to Tyco, poor corporate governance structures have clearly been a contributing factor. The tales of excess compensation, poor capital allocation, and, occasionally, outright theft, have shone a harsh spotlight on the relationships between chief executive officers and the boards of directors. Too frequently, directors – who are supposed to represent the shareholders – have acted in ways that enrich CEOs and other favored executives while impoverishing common shareholders.

On many boards, two (or more) directors serve together on a different company's board. For example, General Motors Corp.'s April 2002 proxy revealed that the GM board had two mutual interlocks: CEO John F. Smith, Jr., and Director George M.C. Fisher were also directors on the board of Delta Air Lines, Inc.; and Smith and Director Alan G. Lafley were also on the board of the Proctor & Gamble Co. (where Lafley is the CEO). We dub these associations "mutual interlocks." And in a sample of 366 large companies, 87 percent had at least one mutual interlock in 1991.

Director interlocks have clear consequences for shareholders. Our empirical analyses show that CEO compensation tends to increase and CEO turnover tends to decrease when the CEO's board has one or more pairs of board members who are mutually interlocked with another company's board. Why? On the one hand, mutual interlocks could be an indication of and a contributor to CEO entrenchment, from which higher compensation and lower turnover naturally follow. On the other hand, mutual interlocks may indicate the strengthening of important and valuable strategic alliances. And the higher CEO compensation and lower turnover may be a just reward for orchestrating such alliances. We believe that the first interpretation is more accurate.

Director Interlocks

Researchers from several disciplines have been looking into interlocks for several decades. And at first it appeared that interlocks were a sign of weakness. In one of the earliest such U.S. studies, economist Peter Dooley in 1969 found that less-solvent firms were likely to be director-interlocked with banks. Later studies also reported that firms with high debt-to-equity ratios, or that had an increased demand for capital were likely to have interlocks. The reason: Financially stressed firms may seek to add bank officers to their boards to receive more favorable consideration. Or banks may demand board seats so they can monitor firms more closely.

Organizational behavior experts have examined the extent to which a board is an instrument of management interests. Some have argued that companies use board interlocks as a mechanism to improve contracting relationships, or to reduce the information uncertainties created by resource dependencies between firms. This stream of research suggests that the composition of boards, including interlocks,

ILLUSTRATION BY MICHAEL GIBBS

is largely determined by the efforts of CEOs to influence the selection of new directors so that they are responsive to that particular CEO's interests.

Financial economists have examined interlocks as well. Kevin Hallock of the University of Illinois found that CEOs serving in *employee*-interlocked firms earn higher salaries than they otherwise would. Nevertheless, existing research has not documented a connection between *director* interlocks and total CEO compensation. And in our survey of previous studies, we did not find any associations between interlocks of various kinds and firm performance. That leads us to believe that interlocks aren't designed to serve a firm's strategic goals, and don't serve them in practice.

Compensation and Turnover

Several recent studies have examined the relation between top executive compensation and board composition. And they report mixed results. For example, some authors have found a positive association between CEO compensation and the percentage of outside directors on the board. Other studies have found no relation between a board majority of outside directors and top management compensation. The level of incentive-based executive compensation appears to be positively connected with firm performance, and incentive-based compensation appears to be used more extensively by outsider-dominated boards.

Other scholars have found an *inverse* relation between the probability of a top management change and prior stock price performance. After poor firm performance, CEOs are more likely to be dismissed if the board of directors has a majority of outsiders. Empirical analyses indicate that the probability of top management turnover is reduced if the top executives are members of the founding family or if they own higher levels of stock. Executive turnover is also negatively related to the ownership stake of officers and directors in the firm and positively related to the presence of an outside blockholder. Other studies have found that the likelihood of CEO departure is inversely associated with both the dollar value of stock option compensation in relation to cash pay and the amount by which a CEO's compensation is higher than would be expected from comparisons with the compensation of other CEOs. But thus far, no study has considered the possible effects that boards with mutual director interlocks have on CEOs' total compensation and turnover.

"After poor firm performance, CEOs are more likely to be dismissed if the board of directors has a majority of outsiders."

The Data

We looked at CEO compensation and CEO turnover for 452 industrial firms, first compiled by NYU Stern professor David Yermack. These firms were drawn from *Forbes* magazine's lists of the largest 500 U.S. companies in categories such as total assets, market capitalization, sales, or net income. The data set includes all companies meeting this criterion at least four times during the 1984-1991 period. Compensation data were collected from the corporation's SEC filings. Directors who were full-time company employees were designated as "inside" directors. Individuals closely associated with the firm – for example, relatives of corporate officers, or former employees, lawyers, or consultants, or people with substantial business relationships with the company – were designated as "gray" directors. All the rest were designated "outside" directors. We also drew on the data assembled by Kevin Hallock, who analyzed 9,804 director seats held by 7,519 individuals in 1992. We took as our final data set the 366 industrial firms for the 1991 proxy season that appeared in both the Yermack and the Hallock data sets. (Utility and financial firms were excluded from the study because government regulation may lead to a different role for directors.)

In order to examine how director interlocks may affect CEO compensation, we used a measure of total remuneration that included salary and bonus, other compensation, and the value of option awards when granted. We believe that this sum is a more accurate measure of what boards *intended to pay*, which could be different from what CEOs *earn*, since CEOs often exercise options early, thereby sacrificing a significant portion of the award's value.

As an estimate for CEO turnover, we used a dependent variable that was set equal to one if a CEO leaves office during the last six months of the current fiscal year or the first six months of the subsequent period. In order to control for retirement-related voluntary departures, we included in the analysis the CEO's age. Turnover events occurred in 9.0 percent of the sample (thirty-three firms).

Considering Interlocks

The key explanatory variable of this study was the number of mutual interlocks on the firm's board. While two boards can be interlocked if they share one director, they are *mutually* interlocked if they share at least two directors. For any given board, a director could be part of more than one pair of mutual interlocks, so it is quite possible that a board may have a greater number of mutual interlocks than directors. In our sample of industrial firms, board sizes ranged from four to 26, with an average of 12.18. The number of mutual interlocks ranged from zero to 42, with an average of 12.15.

Other independent variables used in the study were based on their likely relevance and effects on CEO compensation and CEO turnover, as established by other authors. As in numerous other studies, Tobin's Q (the market value of assets divided by the replacement cost of assets) was used as a proxy for the growth opportunities of the firm.

Table 1 presents descriptive statistics of the key variables in this study and their correlation with the number of board director interlocks. As seen, the mean number of directors who are CEOs of other firms is 1.94. This result is similar to that reported by James Booth and Daniel Deli, who found the mean to be 1.87 for 1989-90 data. The mean number of outside directors serving on the board was 6.94, which is also consistent with the previous literature.

Two Hypotheses

If the CEO dominates the selection process of directors to the board, and if the CEO is in fact filling the director positions with sympathetic members, then we would expect a positive association between the fraction of these favorable board members and the compensation of the CEO. In other words, our first hypothesis stipulates that boards with a larger number of mutual director interlocks will pay a higher compensation package to the CEO. Our second hypothesis states that there is an inverse association between the presence of mutual interlocks and the likelihood of CEO departure.

What do the results show? The correlations reported in **Table 1** suggest the existence of a relationship between the number of mutual director interlocks and the compensation of the CEO. It is not surprising that larger boards have more interlocks and that a preponderance of interlocks appears to be positively connected with outside directors and with directors who are CEOs of other organizations. Mutual director interlocks appear to be curtailed by close ownership and governance structures. Our results show a negative and significant correlation between this variable and the indicators for CEO-as-founder and for non-CEO chairman.

Since director interlocks could just be indicators of strategic power relationships between firms at the highest level, it cannot be automatically concluded that CEOs and interlocked directors exploit networks of board memberships for their personal gain simply because these multiple board affiliations exist. In fact, CEOs could be rewarded with additional compensation and long job durations for successfully establishing mutual interlocks that serve the strategic goals of the firm.

But the data show a *significant negative relationship* between the number of mutual interlocks and the number of "gray" directors, many of whom could represent companies that have supplier or customer relationships with the company. This negative relationship reinforces our skepticism as to the likelihood that the mutual interlocks serve the strategic goals of the firm.

Extra Compensation

To test our first hypothesis, we ran an ordinary least square regression to estimate the *effect* that mutually interlocking boards have on the total compensation of the CEO.

TABLE 1: **DESCRIPTIVE STATISTICS FOR KEY VARIABLES**

Variable	Mean	Standard deviation	Correlation with number of interlocks
Number of mutually paired director interlocks	12.152	8.852	1.00
Board Composition			
Board size	12.177	3.075	0.537***
Inside directors	3.943	1.989	-0.039
Outside directors	6.940	3.012	0.660***
Gray directors	1.294	1.501	-0.175***
Directors who are CEOs of other firms	1.943	1.667	0.565***
CEO Characteristics and Compensation			
CEO's age	58.269	6.612	0.016
CEO's percentage of stock owned	0.023	0.063	-0.296***
CEO's salary + bonus (in thousands of dollars)	1099.000	662.323	0.156***
CEO's other compensation (in thousands of dollars)	388.354	803.518	0.193***
Value of options when granted (thousands of dollars)	775.313	1739.000	0.197***
Tenure as CEO (in years)	9.103	8.533	-0.187***
Tenure in the firm (in years)	26.000	12.027	0.134***

*** Significant at the 1% level. s

TABLE 2: **EFFECT OF INTERLOCKS ON CEO COMPENSATION**

Variable	Estimate	Std. Error	p-value
INTERCEPT	4.956	0.304	0.0001
Director interlocks	0.010	0.005	0.0371
Natural log of total assets	0.288	0.038	0.0001
CEO tenure as CEO	0.019	0.005	0.0001
CEO tenure in firm	-0.012	0.003	0.0001
1991 stock return	0.428	0.107	0.0001
Stock ownership by CEO or family	-3.000	0.641	0.0001
Tobin's Q	0.170	0.047	0.003

These calculations took into account factors such as interlocks, firm size, tenure of the CEO, firm performance, and stock ownership of the CEO. The results of this estimation are presented in **Table 2**. As expected, the number of mutual director interlocks is found to be significant and positively associated with total compensation. This finding suggests that the links created by the mutual interlocking relations between boards actively benefit the CEO. In other words, with the aid of mutual interlocks, CEOs are able to extract significantly larger compensation packages from their firms. The robustness of this result is upheld through further investigations of the components of the CEO's pay package.

When we repeated the analysis using the natural log of only the sum of the CEO's salary and bonus as the dependent variable, the coefficient for mutual directors was positive and significant. That suggests that even just the sum of the CEO's basic salary and bonus tends to increase as a consequence of the mutual director interlocks. In fact, we found that a mutual interlock adds an average of $143,000 (approximately 13 percent) to the average CEO salary and bonus.

The evidence presented in **Table 2** is in line with the view that mutual interlocks may indeed assist the CEO in extracting lucrative remuneration packages from the firm. The networks and traffic of influences created by mutual interlocking directorships have probably been utilized by CEOs in exerting control over the majority of board members. This finding suggests that directors may not be making decisions that benefit the firm's shareholders the most. Mutually interlocking directorships could be weakening the control mechanisms put in place to ensure that directors fulfill their fiduciary duty and act in the best interest of the shareholders.

When we ran other regressions with these data we found that stock option compensation appears not to be judiciously used by boards in compensating their CEOs in the presence of mutual interlocks. We believe this reflects cronyism and weakens the board's monitoring function. This interpretation is consistent with the view of academics and corporate governance activists who perceive interlocks generally as corrupt. Thus, although other studies find that markets react favorably to the adoption of stock option plans to compensate top executives, we find that stock options can be misused if the board's monitoring activities are weakened by interlocks.

Other results in these regressions are consistent with the previous literature. We found that CEO pay is inversely related to the fraction of equity held by the CEO. And as economists Sherwin Rosen, Clifford W. Smith, Jr., and Ross L. Watts have found in other studies, we find that large companies and firms with greater growth opportunities pay more to their CEOs. A company's net-of-market stock return was found to have a positive and significant association with total CEO compensation, consistent with previous studies.

CEO Turnover

To test our second hypothesis, we investigated whether the presence of mutual interlocking directorships decreases the board's ability to monitor the CEO, thereby decreasing the likelihood that the CEO will depart. We analyzed the data, including CEO and company characteristics that should be associated with the probability of turnover. Michael Jensen and Kevin Murphy have suggested that one obvious CEO feature likely to affect the turnover process is age. To control for this influence we included the CEO's age in the estimation. And to control for firm performance, we included the firm's current and previous year stock returns net-of-market as well as the current period return on assets. Further control variables included proxies for growth opportunities (the ratio of research and development {R&D} over sales), the ratio of long-term debt to total assets, company size, and the fraction of common stock held by the CEO or his immediate family.

Table 3 presents coefficient estimates for the CEO turnover model. And the results are as hypothesized: The coefficient on the mutual interlock variable is negative and signifi-

"Interlocking directorships weaken the monitoring power that the board has over the chief executive."

cant as predicted, implying that the presence of mutual board interlocks is inversely associated with the probability of CEO turnover. We interpret this result to indicate that mutually interlocking directorships weaken the monitoring power that the board has over the chief executive. Further, mutual interlocks contribute to the possible entrenchment objectives of the CEO. This result is in agreement with the notion that boards are ineffective in controlling the CEO, who is likely to control the nomination and selection process of the directors.

These results are consistent with other theories and research on CEO turnover. As previous studies have noted, we found that CEOs are less likely to leave office if they own a large fraction of equity in the firm or if company performance is strong. And we found that age is positively associated with the probability of CEO turnover. Firm size, as proxied by the natural log of the firm assets, does not appear to play a role in the likelihood that the CEO leaves office.

Conclusion

Academics and the popular press have suggested that corporate boards are ineffective in monitoring CEOs, since CEOs frequently dominate the director selection process. Boards filled with CEO-sympathetic director appointees are likely to overcompensate and undermonitor the chief executive. Our view is that the mutually interlocking directorships that are prevalent among firms are responsible for the production of sympathetic directors. These directors have the opportunity to pay and re-pay each other favors because of their multiple board memberships and may well be doing so in league with the CEOs who nominated them.

Our results indicate that the power alliances created by directors with multiple memberships are used by self-serving CEOs to extract handsome remuneration packages from firms and to strengthen their entrenchment. Boards that overcompensate and undermonitor the CEO are not fulfilling their fiduciary duties to the shareholders. As a result, board mutual interlocks weaken the firm's governance structure, promote cronyism, and exacerbate the firm's agency problems.

The results reported here indicate that it is at least plausible that mutual director interlocking relationships between different corporate boards might affect the voting patterns and decisions that these boards make on other matters besides CEO compensation and turnover.

Overall, our research suggests that inter-board relationships should be more closely scrutinized to determine whether these relationships encourage decisions that enhance shareholder wealth or instead facilitate empire building by self-serving CEOs. If, as we suspect, the latter is the case, then closer monitoring – private and/or public – of boards is needed.

TABLE 3: **PROBIT COEFFICIENT ESTIMATES: CEO TURNOVER**

Variable Estimate	Estimate	Std. Error	p-value
INTERCEPT	-6.83	1.531	0.0001
Mutual director interlock indicator	-0.98	0.512	0.0548
% of board directors who are CEOs of other firms	0.72	0.891	0.4191
CEO's age (in years)	0.09	0.024	0.0001
Option compensation/ (salary + bonus)	0.01	0.054	0.8344
Stock return net-of-market	-0.60	0.364	0.1000
Stock return net-of-market (lagged one year)	-0.30	0.351	0.3937
R&D expense/sales	3.35	2.374	0.1587
Firm size (natural log of total assets)	0.04	0.102	0.6819
% of equity held by CEO through direct stock ownership	-47.49	26.806	0.0764
Tenure as CEO (years)	0.01	0.016	0.3516
Leverage (long term debt/total assets)	0.39	0.705	0.5824
Return on assets (ROA)	1.52	1.788	0.3951
CEO is member of founding family	0.06	0.498	0.8972

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This article is adapted from an article that appeared in the Fall 2003 Wake Forest Law Review.

Entrepreneurs operating in America's emerging markets — once-abandoned central cities —

find that social brokers can bridge ethnic and racial gaps. They can also help build profits.

By **Gregory B. Fairchild** and **Jeffrey A. Robinson**

GOING FOR BROKERS

Nearly 40 years after the passage of the Civil Rights Act, residential and commercial segregation remain a fact of life in America. Due to prevailing institutional, residential and social segregation, demographic groups that are generally in the minority – African-Americans, Asian-Americans, Hispanics and immigrants – predominate within urban central cities. And yet in many of those same areas, a majority of business owners are white.

White entrepreneurs in central cities face the novel experience of working in a social context in which they are racial minorities, while at the same time they are a part of the dominant coalition of firm owners and are members of the majority within the larger society.

Entrepreneurs in urban contexts find that they must build relationships across racial and ethnic boundaries. But "tokens" – numerical minorities in organizations or contexts dominated by the majority – face considerable challenges in doing so. That's because cross-race relationships, within and outside of organizations, remain relatively unusual. In his 1987 study of core discussion networks, Harvard sociologist Peter Marsden found that only eight percent of Americans reported any racial or ethnic diversity in their networks, with white Americans having the greatest homogeneity.

In the inner-city context, then, those with the least experience in forging cross-racial relationships have the greatest need to do so. White entrepreneurs in central cities usually cannot leverage their personal knowledge of co-ethnic customer tastes and appeal to bounded solidarity to build protected markets.

While these firm owners may choose to focus on building cross-race, central city relationships personally, they may also establish relationships with other institutions or individuals – "social brokers" – that can provide links to immigrant and ethnic groups. Government agencies, non-profit and service organizations, religious institutions, and even current customers or employees can serve as social brokers, yet not be explicitly dedicated to this practice. We set out to determine the role and significance of social brokers in helping white entrepreneurs in central-city locations forge cross-racial and cross-ethnic links with employees and customers.

Then and Now

In his classic 1973 study of discrimination in hiring, sociologist Howard Aldrich examined patterns of firm ownership in the predominantly black neighborhoods of Roxbury (Boston), Fillmore (Chicago) and Northern Washington, DC. The majority of the employers (55 percent) in these areas were

ILLUSTRATIONS BY TIMOTHY COOK

Table 1: **PERCENTAGE OF WHITE OWNERS BY FIRM LOCATION IN CITY SUBSECTION**

	All locations	Central City locations	Suburban and Other locations	Univariate F-Statistic
Mean % white owners	84.9	68.8	89.8	31.23**

** statistically significant at the .001 level

white, and whites were minorities in the residential population (ranging from 10 percent of the population in Fillmore to 28 percent in Roxbury). Aldrich also found that 80 percent of the white firm owners were "absentee owners." White firm owners were more likely to hire people who lived outside of the neighborhood and were more likely to hire white employees than non-white central city firm owners. Other studies at the time found similar ownership patterns in other cities.

Do these conditions still persist? In 1970, when Aldrich's data was collected, each of the neighborhoods studied had only a decade earlier been predominantly white. Aldrich tied the pattern of white firm ownership to an inability of white firm owners to leave as rapidly as white residents.

But the "white flight" context of the early 1970's no longer exists in central cities. White residents have long been gone from these neighborhoods, and the absolute number of businesses has declined significantly. So today's central city firm owners are more likely to be located there by choice. A second difference is the considerable influx of non-white immigrants from Asia, Central America and the Caribbean. Previous studies have shown these groups to have high incidence of entrepreneurship.

To update Aldrich's study, we analyzed a subsection of employer respondents from the Multi-City Study of Urban Inequality (MCSUI). This data was collected by researchers in Atlanta, Boston, Detroit and Los Angeles between 1992 and 1995 to examine labor market dynamics, with a particular focus on jobs requiring no more than a high school education. **Table 1** presents the incidence of white firm ownership by metropolitan area subsection, based on 510 respondents.

As found in studies from the 1970s, the dominant coalition of firm owners are white (84.9 percent), and seven of every 10 firm owners in predominantly non-white central city areas are white. The percentage of white firm ownership in central city areas is even greater than in studies from the early 1970's. Why? It has long been argued that whites have greater access to critical capital stocks, making them better able to start firms and to weather economic hardships than their black and Hispanic counterparts. Second, black central city neighborhoods have been especially hard hit by the exit of the middle class, who had options to move after segregation declined in the 1970's.

We then analyzed responses of firm owners regarding the incidence of white customers and employees by city subsection. In central city areas, where the majority of the residents are non-white, the white/non-white composition of the customer base and employee base is evenly split (50.1 and 47.5 percent, respectively). However, there is considerable variation across firms in terms of their customer and employee demography. The standard deviation was 35.1 percent for white customers, and 40.5 percent for white employees.

Hiring Patterns

Next, we set out to determine the influence of owner race on racial composition of the employment base. Because Aldrich found that differences in firm type (e.g., retail, service or manufacturing) accounted for some of the differences in hiring patterns, we controlled for sector of employment in our analysis.

In line with the findings of studies from a generation ago, we found that the race of the firm owner influences hiring patterns, even when adjusted for firm location and industrial sector. White firm ownership increased the percentage of white employees by an average of 40 percent.

Aldrich generated four hypotheses regarding the possible role of discrimination in hiring patterns. First, white employers may simply prefer associating with whites over blacks. Second, white employers might practice statistical discrimination, in which negative beliefs about the work fitness of blacks cause employers to prefer not to hire black employees. Third, white employers might avoid hiring blacks because of negative reactions of other employees or the firm's customers. Fourth, white employees might be over-represented because whites who worked in the firms prior to the wholesale white exodus from the neighborhood hung on to their jobs in these neighborhoods. Aldrich was ultimately unable to determine whether discrimination accounted for the over-representation of white employees in white-owned firms located in black neighborhoods.

Today, two of these hypotheses are less useful. The customers of firms in today's central city areas are as likely to be white as non-white. And because white flight is no longer a recent phenomenon – as it was in the 1970s – there is a low potential that the current set of white employees were unable to find work elsewhere. The second hypothesis, that white employers have developed a "distaste" for non-white labor, has been examined by other researchers. In interviews with white employers in central city areas, employers expressed their tendency to practice statistical discrimination with black applicants because of past experiences with negative workplace attitudes and behaviors. Sociologist William Julius Wilson in 1996 examined black employers from the same neighborhood, and found that they expressed similar views of the attitudes and work ethic of central city black employees.

But employer distaste probably doesn't explain the differences in hiring patterns by race of owner observed above. Perhaps white employers, like other tokens, face barriers in establishing cross-race relationships that might assist them in locating the most qualified employees from the local pool of labor. Given the generally low opinion employers appear to have of central city labor, reference-based hiring may be one of the prime means of ensuring labor quality.

Weak Ties

In his classic 1973 study of personal contacts in job-seeking, sociologist Mark Granovetter found that the overwhelming majority (83 percent) of managerial and professional job seekers found their jobs through acquaintances with whom they spoke occasionally or rarely. This finding of the "strength of weak ties" is one of the more influential ideas in the social sciences.

But Granovetter's reanalysis of Stanley Milgram's data on interracial acquaintance chains has been less discussed. Granovetter reanalyzed the success rate of white senders who attempted to deliver a booklet to black targets through acquaintance chains, if the first connection between a white sender and a black recipient described the black person as a "friend" or an "acquaintance." Granovetter found that the weak tie instances – those where the first black connection was described as an acquaintance – were twice as likely to result in a successful completion to the eventual target. Weak acquaintance ties were more successful than strong friendship ties in reaching cross-race targets.

"Given the distrust, doubt and accusations that can sometimes accompany cross-race interactions in central cities, some entrepreneurs may choose to avoid central city locations or minority employees altogether."

Given this, we hypothesize that cross-race weak ties might also assist in the recruitment of employees. And institutions or individuals that bridge socially segregated groups are a form of weak tie relationship that employers can use to mediate their token status. Connections through community service organizations, religious institutions, civic leaders, and current employees might assist employers in locating qualified minority employees and result in larger numbers of minority employees.

Using Social Brokers

Hiring proper employees is a critically important task for a firm owner. But when the employer is white and the employees are generally non-white, the hiring challenge may be especially difficult. A racial "outsider" may find it tough to accurately screen an applicant during the hiring process and reveal potential behavioral or attitudinal mis-hires. Once employees are hired, white employers may worry that negative on-the-job feedback will result in accusations of racial prejudice. Given the distrust, doubt and accusations that can sometimes accompany cross-race interactions in central cities, some entrepreneurs may choose to avoid central city locations or minority employees altogether.

The MCSUI contained a series of questions regarding the methods used by employers in hiring for their last employment vacancy. The positions were those that did not require the applicant to hold a college degree. We investigated the influence of hiring methods that involved social brokers on minority hiring rates in central cities. **Table 2** presents the results of three linear regression analyses using dummy variables to determine the influence of the race of owner, city subsector, industry sector and hiring methods on the percentage of non-white employees in the firm.

The analysis of the full set of firms shows that manufacturing firms are more likely to hire non-white employees. This is likely due to the greater need for unskilled labor in these firms. The first evidence of social brokerage is found in the strong influence of employee recommendations on the percentage of non-white employees. Both the magnitude of this coefficient and its high level of significance is persuasive evidence of the use of this practice among entrepreneurs. The use

Table 2: **MODEL RESULTS**

Dependent Variable: mean % nonwhite employees

	Full Sample (n=474)	Central City (n=164)	Suburbs & Other (n=310)
Adj. R^2	.250	.205	.224
Std. Error of estimate	.3286	.3496	.3169
F	10.990	3.961	7.039
Independent Variables:			
Constant	.519 ***	.638 ***	.543 ***
Central city location	.093 **		
White firm owner	-.435 ***	-.380 ***	-.490 ***
Manufacturing firm a	.082 *	-.006	.124 *
Service firm	-.060	-.091	.045
Used help wanted signs	.082 +	.019	.120 *
Used newspaper ads	-.031	-.127 *	.023
Accepted walk-in applicants	.008	.016	.014
Used employee referrals	.152 ***	.162 *	.126 **
Used state employment agencies	.007	.067	-.024
Used private-service temp agencies	-.115 *	-.096	-.135 *
Used community agency referrals	.115 *	.162 +	.046
Used union referrals	.109	.009	.023
Used school referrals	.021	.003	.370 *

[a] dummy variables for manufacturing and service firms, retail firms are the base

+ p<.10 * p<.05 ** p<.01 *** p<.001

of help wanted signs was also shown to increase the percentage of non-white employees. Help wanted signs are a strategy for employers seeking to attract employees that happen to pass the firm location, and may be a means to hire from the local community without aid of brokerage.

Private-service temporary agencies appear to serve as brokers for firms seeking to hire white employees, while community agencies serve firms seeking non-white employees. These differences are likely generated by the divergent customer needs that each agency serves.

Even after controlling for city subsection, industry and hiring method, the strongest influence on percentage of non-white employees is still the race of firm owner. This suggests that our analysis has failed to account for other factors influencing the hiring choices of white owners, and that these results do not rule out preferences for homophily.

Help Wanted

Splitting the files by city subsection allowed us to compare the incidence of brokerage strategies by firm location. We found that outside central city areas, manufacturing firms have a greater tendency to hire non-white employees, and help wanted signs increase the percentage of non-white employees. An alternative perspective is that employers located in suburban areas are familiar with available local labor (predominantly white), and use help wanted signs as an "affirmative action" strategy, designed to attract potential employees that are not in their current social network.

Employers may find that non-white applicants that learn of their openings by passing their location are more likely to be "acculturated" or familiar with the workplace behaviors necessary to work in suburban contexts. The positive finding for all firms appears to be driven by the use of this brokerage strategy in central cities. Outside of central cities, employers utilize current employees as brokers for non-white employees, though to a lesser degree. Private-service temporary agencies play a strong role in bringing white employees into firms. Finally, referrals from educational institutions enhance non-white hiring outside central cities. It appears that for firm owners in these areas, educational institutions play a brokerage role in assisting in the hire of non-white employees.

Customer Relations

Entrepreneurs must also manage another critical constituent group on the demand-side of the equation: customers. Customers are not only a firm's source of revenue, they are a prime means of attracting new customers through word-of-mouth. But for white entrepreneurs operating in central city areas, building relationships with customers from the local community may present many of the same challenges found in locating employees. White firm owners are less likely to be personally familiar with community members and are less likely to be personally aware of emerging customer tastes and needs. Non-white customers may resent the presence of white firm owners, and customer dissatisfactions may take on an accusatory tone generally not experienced in contexts where the customers are predominantly white. There is a historical legacy of mistreatment of minority customers in businesses owned by white proprietors. White central city entrepreneurs may therefore attempt to use employees as brokers to manage potentially fractious relations with a substantial base of non-white customers.

We set out to determine the influence of customer demography on the makeup of a firm's labor pool. If increasing percentages of non-white customers positively influences the percentage of non-white employees, it would suggest that employers use employees as social brokers to manage relationships with customers. To investigate, we ran a linear regression analysis of race of firm owner, industry sector, firm location, and percentage of non-white customers on the mean percentage of non-white employees.

The results of this analysis are consistent with the hypothesis that customer demography explains some of the variance in employee demography even after controlling for race of firm owner. Subsequent analyses of these influences by firm location showed the same pattern of results throughout. However, the magnitude changes of coefficients provided some interesting findings. First, when compared with the prior analysis of employer race influence on employee demography, the coefficient for white firm owners decreased when the predictor variable for customer demography was entered. Some of the variance explained by employer race in the earlier analysis is now shown to result from customer demography. Second, white customers have a positive influence on the number of white employees in all locations, although the relationship became stronger in suburban areas. Third, white firm owners have an even greater positive influence on the percentage of white employees in central city areas. This suggests one of two alternative hypotheses: a) white firm owners in central city locations have an even greater preference for white employees than in suburban areas; b) white firm owners face even greater challenges in locating non-white labor in central city areas. Given our theoretical framing of white firm owners as tokens we suspect the latter.

Emerging Markets

Taken together, our findings suggest that relationships play a critical role in job seeking, especially when operating cross-racially. And understanding this dynamic is becoming more important. For over the past several decades, patterns of social and racial segregation have created structural holes, which in turn have created economic opportunities in central cities – America's emerging domestic markets.

Entrepreneurs of all races and ethnicities are figuring out how to build wealth while providing jobs and leadership that diminish many of the social problems we've come to associate with inner city communities. In May 2003, *Inc.* magazine released its annual list of the most rapidly growing inner-city firms. The characteristics of the members of the Inner City 100 may seem surprising: average sales of over $25 million, and five-year growth rates over 600 percent.

Social brokers will play an important role in developing these markets further. America's inner-city neighborhoods will increasingly show promise as sites for investment, and many of the entrepreneurs pursuing these opportunities will not be ethnic and racial minorities. On *Inc.*'s list, 62 percent of the firm owners were white. Locating high quality employees in a cross race situation requires the recognition that relationships matter and that relationships tend to stay within the same race. Without building social brokerage relationships, employers run the risk of missing the most qualified members of the labor pool.

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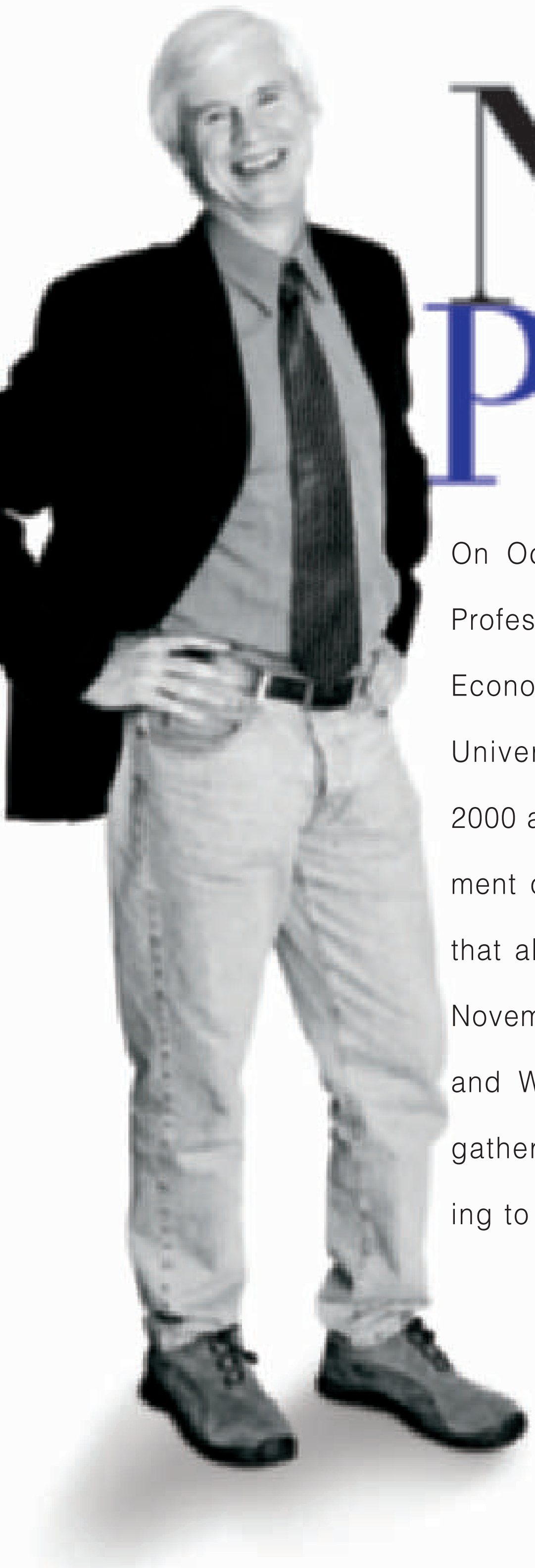


NOBEL PURSUIT

On October 8, it was announced that Robert Engle, Michael Armellino Professor of Finance at NYU Stern, was awarded the Nobel Prize in Economics along with Clive Granger, his longtime colleague at the University of California at San Diego. Engle, 60, a Stern professor since 2000 and a pioneer in the field of econometrics, was cited for the development of Autoregressive Conditional Heteroskedasticity (ARCH), a method that allows researchers and analysts to measure volatility over time. On November 4, Stern faculty, staff, and students, led by Dean Thomas Cooley and William Greene, former chairman of the department of economics, gathered at the Henry Kaufman Management Center for a town hall meeting to honor Professor Engle and discuss his work.

Dean Thomas Cooley: It's a good thing when good things happen to deserving people, and when your friends and colleagues get recognized for their accomplishments. We are just overjoyed at the great news that we all got this fall.

Bill Greene: *I'm going to throw Rob some easy questions and then I'll turn this over to the audience to follow up. So let me begin with the easiest ones of all. Can you tell us a bit about yourself and where you come from?*

Robert Engle: I grew up in Philadelphia. And I was an East Coaster for many, many years. My Ph.D. is from Cornell, where I went to study physics and then changed my mind. I actually taught at the Massachusetts Institute of Technology when Tom [Cooley] and I knew each other. And then in the mid-1970s, I went to the University of California at San Diego, and spent 25 years there. I came back east to Stern in 2000.

“[Econometrics] is a way of trying to make sense of the world around us.”

Greene: *Why economics and not physics?*

Engle: Well, when I got to graduate school, I joined the laboratory studying superconductivity. It was in the basement of the physics building, and the only people you ever saw were a few other graduate students. I just decided I wanted to do something that had a little wider relevance. And I wanted to switch into a field that used some of the same ways of thinking that physics does. That's one of the reasons I switched to economics – and particularly why I became an econometrician. The best physics, of course, has both empirical work and theory. And I think econometrics provides exactly that intersection for economics.

Greene: *So where were you when you got the call?*

Engle: Well, you probably noticed that I haven't been here this fall. That's because I've been on sabbatical in France, in a town called Annecy in the French Alps. I had just been out to lunch with my wife, when I went out to do an errand and she came back to the apartment and got the phone call. The woman on the other end said, "Tell him that this is a very important call from Stockholm." And when the phone call came in again, the connection was not clear. The head of the Nobel committee has a relatively thick Swedish accent. Eventually I came up with the inference that yes, it was indeed that I had won the Nobel Prize. And I won it with my long-time colleague, Clive Granger from San Diego.

The head of the committee said, "Your life will not be the same again; the press will be all over you." So when we hung up, we looked at each other. And here we are in this little medieval town in France. First of all, how did anybody ever find that phone number? But second of all, is the press really going to find us? Some of the press found us, but not too much. But mostly it was phones ringing in our home, in my office, and a lot of e-mails. I must have received hundreds of e-mails that day.

Greene: The New York Times *had an article a few days ago, in which they described econometrics as a rarefied field. But seven Nobel Prizes have been given to econometrics. Why do you think they have such an interest in this field?*

Engle: Econometrics is the tool. And in some ways, at its best, it is really what economics is about. I think it is a way of trying to make sense out of the world around us. The world around us is the data. And an econometrician is a person that looks at the data.

Greene: *Well, let's turn to your work. What is the contribution that you made that got the prize committee's attention?*

Engle: The prize citation says it is for “models of time varying volatility, parentheses ARCH.” Now they didn't tell you what ARCH stands for. I will, but only if you promise not to be put off by what it really stands for. It stands for Autoregressive Conditional Heteroskedasticity. If you take my class, I'll teach you how to say that, but other than that, it's just ARCH. It's a way of trying to model, describe and forecast this thing we call volatility. In financial markets, we're so interested in the volatility of asset prices. Because when stock prices wiggle around, your portfolio can go up or down. And volatility is an important consideration as to what we can expect as you go forward in our portfolio. So the prize was for developing new methods for analyzing volatilities, which change over time. And the applications are pretty widespread.

Greene: *And this work began when you were in the U.K., studying inflation. How did you make this transition to financial markets?*

Engle: Well, I was trying to solve a macroeconomics problem when I came up with the ARCH model. I was living in London as a visitor at the London School of Economics. And every day, I'd go to lunch with David Hendry and Jim Durbin and Dennis Sargan, and all these famous econometricians. And we talked about these models. But what I really wanted to address was the following question: Is the uncertainty in inflation an important determinant of business cycles? Milton Friedman had argued that it was. So I wanted a method that would look at the volatility of inflation.

NYU Stern Professor Robert Engle accepted the Nobel Prize in Economics from His Majesty, King Carl XVI Gustaf of Sweden on December 10, 2003 in Stockholm.

But the method we developed didn't really work very well in macroeconomics. It didn't explain things like business cycles or consumer spending very well. So it was considerably later that the finance applications really surfaced. In finance, we study how much risk you're taking and what you're getting for it, the tradeoff between risk and return. And this is a way of scientifically measuring the risk part of this equation.

Greene: *How do researchers use these techniques?*

Engle: Well, in a lot of different ways. When you try to calculate what can go wrong with a financial portfolio, or how you can diversify to reduce risk, you can look at the volatility. So one direction is how you can form optimal portfolios. And once you have evidence about how volatilities are changing over time, some dynamic portfolio strategies that make sense may emerge. Another important application is in measuring what's called value at risk, which is how much your portfolio might go down in the next day. A third application, which is quite closely related, is the pricing of derivatives and options. Options can function like insurance contracts to protect against declines in your portfolio. But what is the fair price for this kind of insurance? And the answer, of course, depends on how volatile your portfolio is.

Greene: *Can individual investors use these techniques?*

Engle: Institutional investors do this every day. Institutional investors calculate the value at risk, not only of the company as a whole, but of their fixed income portfolio, and of their Japan portfolio, and of their yield portfolio. So there is a very scientific approach to calculating risk in an investment bank. But individual investors do not very often build ARCH models. I would think it would make a lot of sense, when you have a brokerage account at Merrill Lynch or Charles Schwab, to be able to use their standard software and calculate the value at risk every day. The individual investor could really look at that. It would help them realize whether the market is getting more volatile and whether they might want to shed some risk, just like an institutional investor.

Greene: *What are you working on now? What's next?*

Engle: Well, there are two directions that these models are going that I'm very interested in. First, instead of just talking about volatilities of one asset at a time, or one portfolio at a time, I'm interested in looking at many assets at once. The multivariate extension of this has been a problem for many years. There's no widely accepted multivariate model. But I have a candidate. I gave a lecture series on this at Erasmus University last summer, and I'm writing a book about it for Princeton University Press.

The other direction is to use higher and higher frequency data. We

Professor Engle discusses his research with Stern students at a Town Hall meeting on November 4, 2003.

often look at these models once a day or once a month. But really, every time there is another transaction or another price quoted, you could update your volatility model. And that has lots of implications for trading.

Audience Questions:

Question: *Clearly inputs to the Black-Scholes options pricing model assume that volatility is constant. How does ARCH and ARCH models alter that or update that model?*

Engle: Right, well, that's absolutely right. The Black-Scholes model is based on the assumption that volatility is constant. And yet practitioners, of course, know it's not. So Wall Street has figured out a solution. They talk about implied volatilities, and watch how they change. So a simple answer is that over time, you would keep updating your ARCH model and forecast what the volatility would be. And you could use that as an input to the Black-Scholes formula. More sophisticated methods would chang the formula.

Question: *Do you think that the extension of your model will finally apply to macroeconomic data?*

Engle: I didn't mean to say that it didn't apply to macroeconomic data now. When you apply these models to macroeconomic data, you get an interesting interpretation. It turns out that the way you think about it is that if you're going to make macroeconomic forecasts, just like you forecast the stock price, there's going to be some uncertainty surrounding it. That's what we call the uncertainty, or the volatility. When you forecast a macroeconomic variable, like Gross National Product, or something like that, we've got a confidence band around that. We've got some measure of uncertainty. And the ARCH model is a way of measuring that uncertainty.

"By any reasonable way of looking at it, macroeconomic volatility seems to be going down all the time."

What we've learned is that by any reasonable way of looking at it, macroeconomic uncertainty seems to be going down all the time. The macroeconomic aggregates seem to be more predictable than they used to be. And so it's sort of like we've got better and better measurement tools for seeing these things. That's not the case in finance. And if you did this as a multivariate problem in macroeconomics, I'm sure you'd see the same sort of thing. But you would also see correlations between errors that you make in forecasting inflation, and errors that you make in forecasting unemployment.

Question: *When you came up with the ARCH concept in 1980 or so, did you ever think it would lead eventually to this?*

Engle: When I discovered this ARCH concept, I did think it was a good idea. But it wasn't that easy to get it published. I had to do a lot of revisions and arm wrestling with the journals. But I had no idea that it would be this good an idea. What made it turn out to be an idea that had such mileage in it? I think it was the applications that I didn't think about – the applications in finance.

There was a paper published in '87 by French, Schwert and Stambaugh, which applied these methods and some alternative methods to financial data with lots of implications. This was published in the finance community. And all of a sudden, there was a whole lot of new interest in this model. I can't say that I had any idea that it would have this kind of audience, because I didn't really recognize that finance was a natural place for it. So I guess I was just lucky.

Question: *Can you talk a little bit about the time you came up with ARCH? What was the process like just before the model cohered?*

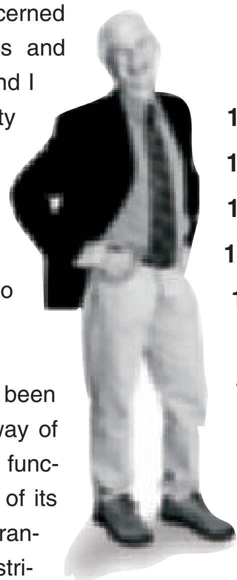
Engle: Yeah, I'd like to do that, actually, because it's sort of fun to try to reconstruct. I think there were three inputs to this model that were really important. One was I was interested in this macroeconomic problem. I was concerned about rational expectations and all these kinds of things. And I thought maybe uncertainty was the missing item that would make the macro models work. I knew what I wanted the model to do, but I didn't know how to do it.

The second input was I had been doing a lot of work on a way of writing probability density function of a variable, in terms of its past. If we're talking about random events, what's the distribution of the random outcomes tomorrow, conditional on what we know today? And this turns out to be a very powerful way of thinking about dynamic processes. Whenever you're trying to forecast something, one of the hard parts is figuring out where you are today. So a conditional forecast is a really important thing. And so this is an idea that had made a lot of progress in macroeconomic forecasting, when the big models had been beaten by simple time series models, because they took better account of the conditional forecasts.

Then there was a third input. Before I left San Diego, I was doing something on the computer, and Clive Granger came into my office, and he said that he was interested in a new test statistic, which was to square the residuals from some kind of a regression model, and look at the auto correlation of these square residuals. And he had proposed this as a test statistic for a bilinear model. Bilinear models are pretty esoteric models in statistics. And he had proposed this test. And he said, "See, I'll show you it works." Square your residuals and fit this autoregression. So I squared the residuals of this little model, fit the autoregression, and it was very significant. And I thought, "Oh, my goodness, isn't that amazing. This really works on real data."

But in the back of my mind, I thought even at the time, I don't think this test is a test for a bilinear model. What is this test really a test for? And so when you know what the data looks like and you know what the test is, you can sometimes reverse engineer it and ask what model this test is good for. And that was the third piece. When those three pieces came together, that was the ARCH model.

Question: *Can you tell us about what brought you to NYU?*



Robert Engle......

1942	Born in Syracuse, N.Y.
1964	Graduates Williams College, physics major.
1966	Masters in physics, Cornell University.
1969	Ph.D. in Economics, Cornell University.
1969	Joins Massachusetts Institute of Technology economics department.
1975	Moves to University of California at San Diego.
1982	Published first major article on ARCH.
2000	Joins NYU Stern.
2003	Shares Nobel Prize in Economics with Clive Granger.

Engle: Yes. This evolution in my interest from macroeconomics to finance meant that I was continually working in areas where I didn't really have colleagues, and where I was pretty far away from financial markets. So I was actually very anxious to have the kinds of excellent colleagues that I have here. Stern has a great finance department and the faculty is interested in all sorts of areas of finance, many of which I didn't know very much about. And so when you think about what I said the applications are – risk management, derivatives pricing, asset allocation – there are experts in all those areas in the department. So it was a great connection for me to come here. The first time I came to Stern was as a visiting professor for a semester, and then I went back to San Diego. And then I decided to come permanently.

When you're studying financial markets, you can't do any better than to be in New York. They're all around here. One of the great things is teaching MBA students who have this great expertise in whatever their job training was. And it's fascinating to teach people who know the innermost details of some of these markets. That wasn't the case in San Diego. So it's been a lot of fun for me being here.

RESPONSIBLE PARTIES

NYU Stern has long been committed to exploring the connection between business practices and issues relating to the environment and social welfare. In October 2003, as part of a joint venture with Resources for the Future, a Washington-based think tank devoted to environmental, energy, and natural resources issues, NYU Stern convened a lively panel discussion that explored a range of topics centering on the theme of corporate responsibility. The panel included: Bruce Buchanan, the C.W. Nichols Professor of Business Ethics at NYU Stern; Mindy Luber, executive director of the Coalition for Environmentally Responsible Economies (CERE); Paul Portney, president of Resources for the Future; and Dr. Paul Tebo, vice-president of health, safety and environment at DuPont Corp. It was moderated by Vijay Vaitheeswaran, the global environment and energy correspondent for *The Economist*.

Vijay Vaitheeswaran: *The question we're here to talk about, corporate social responsibility, cuts to the heart of some of the big ethical questions of our day. What are the limits of corporate responsibility? Is a corporation a moral actor?*

Mindy Luber: What encompasses corporate responsibility? To some, it's worker rights and worker safety. To others, it's people in the community. To others, it's the environment. Today, I want to consider the issue of climate change. It is essentially a business issue that we cannot continue to ignore. I would go so far as to say that we are in breach of our fiduciary duty as business leaders if we are not looking at an issue that has multi-billion dollar implications. The key to the long-term health and prosperity of any company and of the planet will depend on the integration of sustainability issues into the core strategy of a company. Climate change is a significant threat to the world's economies. And responsible corporate behavior on climate change builds shareholder value.

Bruce Buchanan: My mission here is to talk about how we define corporate social responsibility in the classroom. Adam Smith said, "By pursuing his own self-interest, he frequently promotes that of society more effectually than when he really intends to promote it." Private selfishness equals public virtue. When it comes to social responsibility, if the market works perfectly, there is no need for social responsibility. We come into issues of social responsibility when we have market imperfections, for example pollution not being properly priced. Political rights in our country are things like the right to a clean environment, as enforced by the EPA, or the right to reasonably safe products as enforced by products liability law. If someone has a right, we all must respect that right and the political entity must enforce it. But there is a distinction between a political right that's enforced, and a more vague human right that is not. And it's in human rights, where the corporation is operating without a strong context of law and government around it, that corporate responsibility is most called for. A company has a duty to not pollute the environment in the U.S., and if it does pollute the environment, it will be fined. What if that company is operating in a country without that kind of law?

Paul Tebo: At DuPont, we don't use the words "corporate social responsibility". We use the words "sustainable growth." Both concepts talk about economics, environment, and social responsibility. Many years ago, President Jimmy Carter was interested in eliminating Guinea Worm Disease in Africa, which at the time either severely affected or killed 3.5 million people. The worm gets into the water system. He asked DuPont if we would create some nylon that could be made into fabric that you could take into the remote places in Africa and filter the water. And today there are less than 70,000 cases of the disease. Is that corporate social responsibility, or sustainable growth? This gives me more of a feel of corporate social responsibility. We made lots of money on nylon, but this was basically something that we decided to donate.

Compare that to a product called Tyvek. Today, we can take 25 per-

ILLUSTRATION BY BRYAN LEISTER

cent of the material to make Tyvek from waste milk jugs, water jugs, things that are thrown away. We got 100 percent of the U.S. Postal Service's business at a price premium, because they like the recycled content. Next we found you could wrap houses in Tyvek. Turns out for every unit of energy put into making Tyvek, the average homeowner saves 1000 units of energy in the normal lifetime of a house. Tyvek is also used to protect people. A lot of Tyvek garments came to Ground Zero here in New York City. We sent Tyvek garments to China to help eliminate SARS, so it's got a very strong social responsibility component.

"When it comes to social responsibility, if the market works perfectly, there is no need for social responsibility."

At DuPont, we also have a goal of zero for injury, illnesses, incidence, waste and emissions. Our global air carcinogens are down 92 percent over the last decade; global air toxins are down 75 percent. In the early 90s, we set an energy goal and we ended up keeping energy flat during the decade of the 90s, while we grew 30 percent. That goal saved us about two billion dollars in energy costs. Working on energy and keeping it flat while you grow is a terrifically good strategy.

Paul Portney: If corporate social responsibility is to mean anything, it has to mean the practice of companies going above and beyond what they're required to do by law and regulation in areas such as the environment, worker safety, and even on social issues. I don't see a company as particularly responsible if what it does is obey all of the applicable laws and regulations, anymore than I think I deserve an award or feel that I'm a socially responsible person if I pay my income taxes and don't drive faster than the speed limit.

I am troubled by the notion of corporate social responsibility because it carries with it the unstated implication that the normal activities in which corporations are engaged are somehow not useful or perhaps even not responsible. And yet, I want to remind everybody what happens in the normal process of corporate business. First, in the United States today, corporate employment is somewhere in the range of 70 to 80 million people. These people are provided viable incomes and enjoy the benefits of health coverage as a condition of their employment. Second, through their issuance of corporate debt, corporations provide an outlet for savings, and thus encourage our thrift. Finally, through the equity markets, corporations reward risk taking. These are all very responsible activities.

I believe we hear so much about corporate social responsibility because we in society are reluctant to tax ourselves to support activities that are the legitimate domain of the public sector. All we've done is move those costs around either to the customers, to the employees, who will earn less than they would have otherwise, or to the shareholders – instead of to the people that would pay the taxes if these were public sector expenditures.

Vaitheeswaran: *What is the difference in cost between cutting the first 50 percent of a pollutant and the last five percent of a pollutant? Is zero pollutants the right target for society or for a company?*

Portney: It may make sense to reduce some things to zero, if it's trivially inexpensive to make that final reduction. I guess my economics training makes me suspect that in very few cases could you justify going all the way to zero, because the more you reduce the pollutant or the more you try to conserve the resources that you use, the more difficult it becomes to reduce pollution further. And the more you push these activities, the more expensive each subsequent reduction in emissions becomes.

Tebo: Making things go to zero is very, very important. Waste is a defect in your process, it's a basic cost problem.

Luber: I think we could come to a reasonable agreement on emissions, for example. Zero emission vehicles are not necessarily the answer. But smart vehicles with slightly better vehicle mileage per gallon is what I think we need as a society. They would create less greenhouse gases, less air pollutants. But we've got to have an economic system where it makes sense from a business perspective, not only from a corporate and environmental and social perspective, to build vehicles that are more environmentally efficient.

Panelists for the Resources for the Future event from the left: Dr. Paul Tebo, Vice President of Health, Safety and Environment at DuPont Corp.; Paul Portney, President of Resources for the Future; Mindy Luber, Executive Director of the Coalition for Environmentally Responsible Economics (CERE); Vijay Vaitheeswaran, the Global Environment and Energy Correspondent for The Economist; *and Bruce Buchanan, the C.W. Nichols Professor of Business Ethics at NYU Stern.*

There is no logic in the fact that we ought to be making more Hummers, rather than making more hybrids.

Audience question: *Should companies block or encourage legislation that would benefit the society but hurt their bottom line?*

Portney: We ought to be institutions that don't have an ax to grind on either side of an issue, but try to do independent analysis and share it with everybody, so that there is factual and high quality analysis.

Tebo: I want to talk about leadership. We waste so much energy in this country, it's awful. We need an energy goal. In my mind, that goal is not go find more energy, but to use the energy we have more effectively. By 2025, we should be completely independent of foreign sources of energy. And by the way, I would not suggest we go find more oil to do it.

"American consumers, in my opinion, have shown no interest in the environment, period. They drive huge cars with 'Save the Polar Bear' plates."

Portney: My goal is that we price things correctly. The price of energy should reflect the full cost of production, not just the cost of exploring for it and getting it to the United States and refining it, and selling it in gas stations, but also the environmental cost, difficult though it may be to estimate, and of import dependence from foreign countries.

Vaitheeswaran: *Are you putting yourself at a competitive disadvantage by using clean processes?*

Tebo: Most of our older factories are here in the U.S. And so as we go overseas, we can design almost at zero waste and emissions from the beginning. Most of our better operations tend to be outside the U.S. We built a facility outside of Shanghai and chose to put a waste treatment plant in when it wasn't required. The government looked at the other companies around and said they need to put waste treatment plants in also. The real problem is in the U.S. A lot of the facilities here are old. It's much more expensive when you put it on at the end, than if you figure out a way not to have it in the beginning.

Audience question: *The thing we struggle with the most in this somewhat baffling world of corporate social responsibility is how do we balance competing interests? How can we be socially responsible parties and still meet all the other myriad stakeholder demands?*

Luber: Limits are legitimate. There are all sorts of people with all kinds of demands. What we want to see at the end of the day is a decrease in carbon emissions, because otherwise, we can't sustain our planet, and there will be negative financial implications for our economy, and for every industry. What we need to do is stop the battling and come up with some realistic plans. Some regulation is coming. Some number of utility executives said "Let's just get it done now so we eliminate the risk." Eventually it's about us collectively educating Wall Street.

Audience question: *What is the role of consumer responsibility in this equation?*

Tebo: American consumers, in my opinion, have shown no interest in the environment, period. They drive huge cars with 'Save the Polar Bear' plates. I'm a firm believer that you can't depend on the consumer to make changes.

Portney: I actually like the idea of involving consumers more. If consumers know where their energy is coming from, and if they have a strong preference for green electricity then they're going to put pressure on American Electric Power by buying electricity from its competitors. I think the information provision and consumer action should be a big part of the arsenal that we use for environmental improvement.

Audience question: *Is there something different in the model in Europe that leads to a greater interest in talking about climate change and global warming and corporate responsibility?*

Luber: Europe is way ahead of us on almost everything, thanks to the European reinsurers. They added up the numbers and they said, the risk from climate change, if companies don't act, is in the hundreds of billions of dollars. Also their use of smaller cars is about a certain psychology and philosophy that has existed for decades. What is it going to take here? Leadership is about making sure that we don't see thousands of cases of asthma going up in every city because of more pollution and more particulate matter, because somebody didn't want to put scrubbers on their plants. ■

Management gurus and chief executive officers devote lots of rhetoric and resources to espousing the virtues of communication. But at too many corporations, employee voices remain stifled amid a climate that discourages the open exchange of views. Turning up the volume, and unleashing the diversity of thoughts and experiences that can contribute to performance, may require radical change of hearts and minds.

SOUNDS OF SILENCE

By **Elizabeth Wolfe Morrison** and **Frances J. Milliken**

Imagine an organization where the CEO has no clothes. The CEO's lack of clothes is apparent to all who set eyes upon him. Yet employees don't say a word. Some employees even compliment and praise the CEO's attire. The CEO takes pride and comfort in the fact that subordinates recognize his fine taste in clothing, and easily dismisses the few trouble-makers who eye him strangely in the elevator.

And yet these employees are not blind. Behind the safety of closed doors and in veiled whispers, they talk of their leader's lack of clothing. They all clearly know that the CEO is not wearing clothes but only the foolish or naïve dare to speak of it in public.

While seemingly fanciful, our mock fairy tale captures an important phenomenon of organizational life, – namely that, in many organizations, employees know the truth about certain issues and problems facing the organization yet they do not dare to speak that truth to their superiors. Employees tend to believe that they would face negative repercussions for speaking up, and that speaking up would not make a difference. An *Industry Week* survey of 845 line managers from diverse organizations found that only 29 percent of first-level supervisors thought that their organization encouraged employees to express opinions openly. In our own interviews with working MBA students, we have found that most (85 percent) have been in situations where they have felt unable to speak up about a concern at work, and that many feel this way frequently in their organizations.

"There has been little systematic academic exploration of why 'organizational silence' is pervasive. . . even in an era in which managements universally extol the virtues of greater communication."

This phenomenon – which we dub "organizational silence" – is a potentially dangerous impediment to organizational learning and change. It can hamper the development of truly pluralistic organizations – ones that value and allow for the expression of multiple perspectives and opinions. But to date, there has been little systematic academic exploration of why "organizational silence" is pervasive, or of the consequences of widespread silence – even in an era in which management universally extols the virtues of greater communication. In our recent work, we have sought to understand both the consequences and the causes of silence in organizations, especially when that silence is widespread.

ILLUSTRATIONS BY KEN ORVIDAS

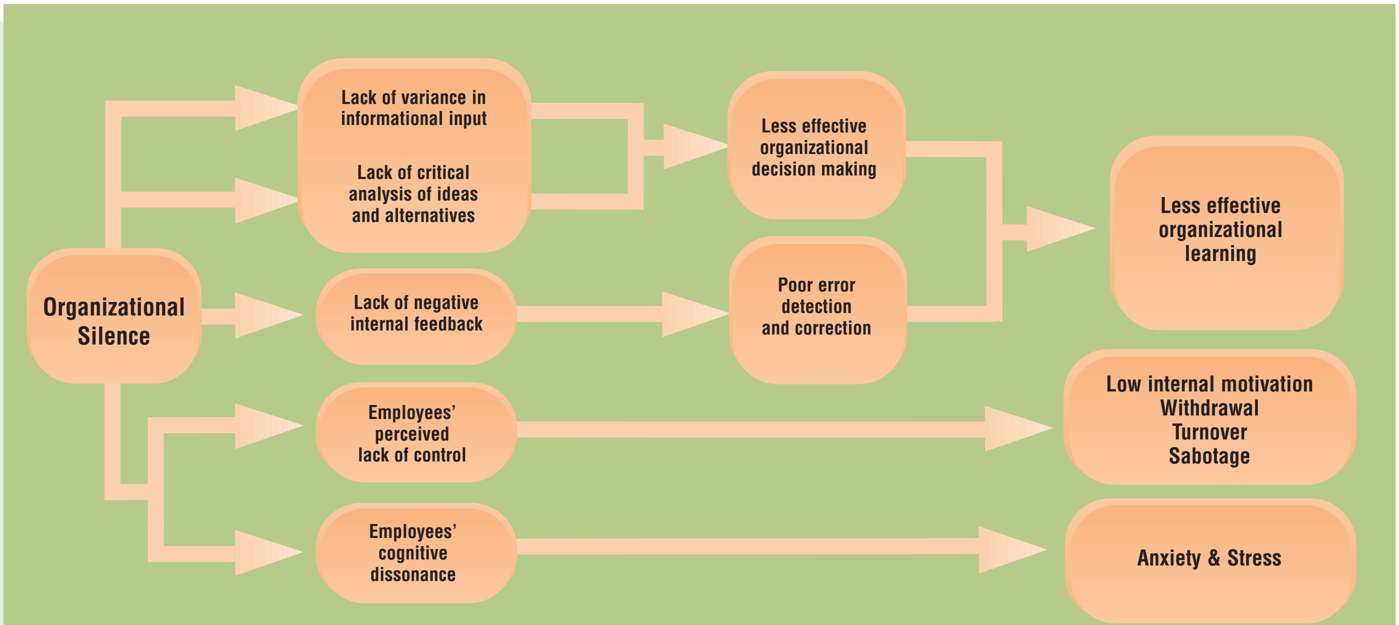


FIGURE 1 **EFFECTS OF ORGANIZATIONAL SILENCE**

Implications of Silence

Figure 1 provides an overview of the effects of silence.

Extensive research on group decision making has shown that decision quality is enhanced when multiple perspectives and alternatives are considered. Further, it has been argued that innovation requires a context where employees feel free to deviate – to offer totally novel perspectives or ideas or to question current beliefs and practices. Together, these research streams suggest that organizational silence will compromise the effectiveness of organizational decision-making and learning by restricting the variance in informational input available to decision makers. In addition, without dissenting viewpoints, there is less likely to be the type of critical analysis necessary for effective decision-making, which may similarly undermine organizational learning.

Organizational silence is also likely to compromise effective organizational learning and development by blocking negative feedback, or information that suggests that current practices are not working as intended. Without negative feedback, errors tend to persist and may even magnify. To make matters worse, top management may not recognize that they lack important information, and may interpret silence as signaling consensus and success. Even if management directly asks employees for feedback, employees may be careful to filter out negative information.

Effects on Employees

Individuals have a strong need for control over their immediate environment and over decisions that affect them. Being able to express opinions and concerns gives people a sense of control, and feeling that one is unable to express opinions and concerns makes people feel that they lack control. And a perceived lack of control has several detrimental effects, including reduced motivation, physical and psychological withdrawal, turnover, and even sabotage. Thus, when employees feel that they cannot speak up about problems or concerns, there can be serious negative effects on morale and performance.

Organizational silence is also likely to give rise to cognitive dissonance, an aversive state that arises when there is a discrepancy between one's beliefs and one's behavior. Consider a salesperson who is confronted daily with evidence that customers are not satisfied with a product, but feels unable to raise this information to his superiors without repercussions. In cases such as this, the individual may exist in a state of prolonged dissonance – knowing that there is a problem but acting as if there is not. This dissonance can create high levels of anxiety and stress, both of which can undermine performance and contribute to turnover.

The above dynamics are particularly troubling because they may disproportionately affect those who differ from the majority. Not only will such employees feel greater pressure to remain silent (because they are more likely to see the world differently), but they may be more likely to experience the negative effects of silence.

Origins of Silence

To investigate the origins of organizational silence, our objective was not to explain why a particular employee will choose to speak up or not to speak up, but rather, to explain why the dominant response within many organizations may be for employees (en masse) to remain silent about important issues or problems they encounter on the job.

Figure 2 provides an overview of some of the managerial and organizational conditions that we believe are likely to promote silence in organizations.

Fundamentally, we believe that organizational silence owes its origins to two major factors. The first is top managers' fear of receiving negative feedback, especially from subordinates. People often feel threatened by negative feedback, and as a result, try to avoid it. As well, when they do receive negative feedback, they often try to ignore the message, dismiss it as inaccurate, or attack the credibility of the source. Because managers may feel a particularly strong need to avoid embarrassment, and feelings of vulnerability or incompetence, they may tend to avoid information that suggests weakness or errors, or that challenges current courses of action. And it has been shown that when negative feedback comes from below rather than from above – from subordinates rather than bosses – it is seen as less accurate and legitimate, and as more threatening to one's power and credibility. Thus, a fear of, or resistance to, "bad news" or negative feedback can set into motion a set of organizational structures and practices that impede the upward communication of information.

A second important factor that we believe to be at the root of organizational silence is a set of unstated beliefs that managers often implicitly hold about employees and about the nature of management. One such belief is that employees are self-interested and untrustworthy. Recent works have emphasized that an economic paradigm currently dominates the thinking of many managers. This paradigm assumes that individuals are self-interested and effort-averse and can be expected to act in ways to maximize their individual utilities rather than the organization's performance. A related belief is that top management, not those below, always knows best about issues of organizational importance. A third erroneous belief that tends to be held by managers in organizations characterized by silence is that unity, agreement and consensus are signs of organizational health, while disagreement and dissent should be avoided.

Fears and Silence

These managerial fears and beliefs can contribute to silence in many ways. If the unstated belief among top management is that employees are opportunistic and not knowledgeable about what's best for the organization, then they will tend to exclude them from decision-making processes and not solicit much employee feedback. Procedures such as systematic surveying or polling will be rare because there will be a tendency to believe that little of value will be learned from them, and because negative upward feedback would be seen as a challenge to management's control. Excluding employees from decision-making processes and not asking for feedback is also a way to avoid dissent and "bad news."

Managers also tend to enact their implicit beliefs and their fear of feedback in their day-to-day behavior toward employees. For example, if

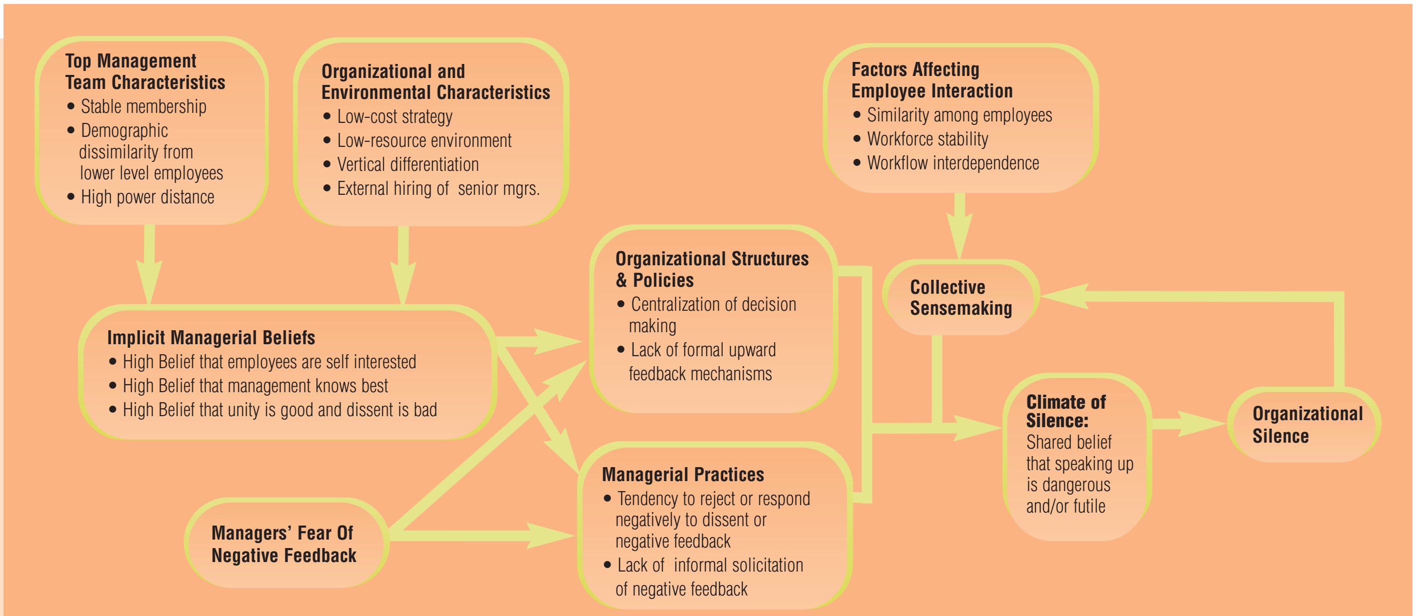
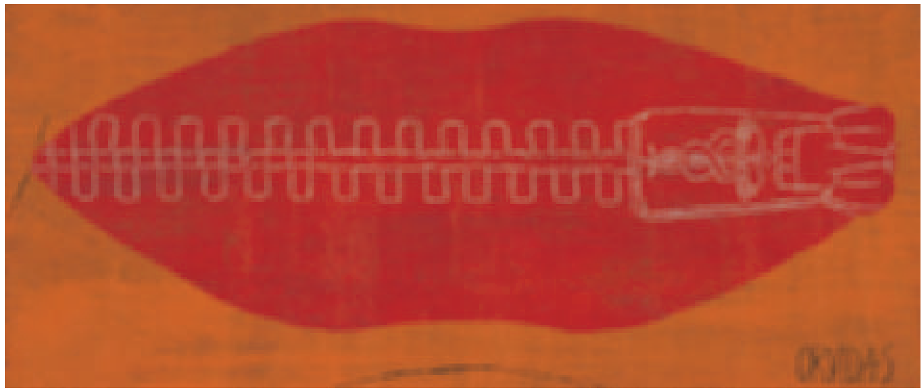


FIGURE 2 **DYNAMICS GIVING RISE TO ORGANIZATIONAL SILENCE**

employees express concerns about a proposed organizational change, managers may assume that the employees are resisting the change because it is personally threatening to them or because they do not understand it, not because they are truly concerned that the change might be bad for the organization. Managers may also convey, consciously or unconsciously, annoyance or even hostility toward messengers of unwanted news, and are unlikely to engage in much informal feedback seeking from subordinates. When they do seek feedback, managers will tend to approach those who are likely to share their perspectives and who are thus unlikely to provide negative feedback.

These practices and behaviors not only inhibit upward information flow, but they actually create a "self-fulfilling prophesy." If an organization's top-level managers believe that employees are self-interested and untrustworthy, they're likely to act in ways that implicitly and explicitly discourage upward communication. Well-meaning employees, who feel shut out of decision making processes and unable to express their views, may respond by becoming less committed to the organization and less trusting. Managers' pessimistic beliefs can thereby become reality.



"Within organizations plagued by silence, problems may accumulate to the point that they can longer be hidden from important stakeholders such as owners."

Incubating Silence

Although silence-fostering beliefs are not prevalent in *all* organizations, the works of several scholars suggest that they exist to some extent in most organizations. Several factors may affect the degree to which such beliefs are held, and the likelihood that conditions will be ripe for organizational silence.

Silence-fostering beliefs may be more likely to become entrenched when the composition of the top management team is stable over time. The longer top managers have been together, the more deeply-held their shared assumptions will tend to be and the less likely they will be to question those assumptions.

The similarity or dissimilarity of the demographic profile (e.g., gender, race, ethnicity, age) of the top management team in comparison to that of employees lower in the organizational hierarchy may also influence the prevalence of silence. Research on diversity has shown that people are more likely to trust people who are similar to themselves. Hence, managers may be more uncertain about how to interpret "bad news" when it comes from someone who they do not know well or who is not similar to themselves, and may be more likely to view it with suspicion.

The cultural background of the top management team may affect the beliefs that its members hold about employees. For example, if the top management team comprises individuals with cultural backgrounds reflecting high-power distance, these managers may be especially likely to feel threatened by the communication of negative feedback by subordinates. High-power distance cultures are ones in which there is a strong acceptance of, and respect for, authority and hierarchy, and where employees do not generally question or challenge their bosses.

Organizational and environmental variables are also likely to affect whether collective silence develops. When there is heavy strategic emphasis on control, management may view negative feedback as more threatening and dissent as more destructive. This logic would suggest that a context conducive to silence is more likely to emerge in organizations pursuing a low-cost strategy, and also within highly competitive environments characterized by a diminishing resource base.

High levels of vertical differentiation, or the existence of a lot of levels in the organizational hierarchy, are also likely to reinforce silence. Within tall organizational structures, top management will probably be less likely to interact with, relate to, and hence trust, lower level employees. In addition, firms that bring in top managers from the outside instead of promoting from within may be more likely to create a gap between top management and the rest of the organization.

Maintaining Silence

To fully understand how organizational structures and practices lead to a climate of organizational silence, or in other words, to *shared* perceptions that speaking up is dangerous and/or futile, we build on theories of social information processing and symbolic interactionism. These perspectives suggest that climate originates from a process of collective sensemaking, whereby employees, together, try to derive meaning about their workplace.

We believe, therefore, that a climate of silence is rooted not only in objective features of the workplace, but also in social interactions that contribute to sensemaking processes. When organizational decision-making is highly centralized and there are few channels for upward communication, workers are likely to collectively conclude that management does not think employee opinions are important. And when management responds to employees' opinions with resistance or denial, employees are most likely to converge on an interpretation that speaking up is risky or not worth the effort.

Common perceptions and attitudes are most likely to develop and become reinforced to the extent that members of a social unit have opportunities to interact and communicate with one another. As a result, several factors that facilitate contact and communication – and hence the development of common perceptions – can increase the likelihood of a strong climate of silence developing. One of these factors is similarity, since individuals are more likely to interact with those who are like themselves. Shared perceptions are also more likely to develop within organizations with relatively stable membership. Workflow interdependence also contributes to the collective sensemaking process. When employees must coordinate their activities with one another, there is greater necessity for communication and thus, a greater opportunity for them to share their perceptions and experiences.

The sensemaking process that we have described has a strong tendency to give rise to biased and often inaccurate perceptions. Employees make sense of managerial actions based on limited, and often distorted, information, much of it second-hand. Employees can also form exaggerated perceptions of the riskiness and futility of speaking up. For example, if a member of the organization voices dissent, and soon thereafter fails to receive an expected promotion, some employees may reach the conclusion that the promotion was lost because this person expressed an unpopular opinion. As this information passes through the grapevine, the widespread perception that those who express negative views are punished may soon arise. Similarly, if a few employees offer input on a particular policy change and that input is ignored, they may conclude that all input is ignored even if this is not the case.

Breaking the Silence

A troubling aspect of the dynamics that create and maintain silence is that they are hidden from view and often unrecognized. Management may see that employees are not engaged, but may assume that it is because they are self-interested or not motivated. In addition, within organizations plagued by silence, problems may accumulate to the point that they can no longer be hidden from important stakeholders such as owners or creditors. At this point, these constituencies may conclude that the organization suffers from "poor management" and top managers may lose their jobs. Yet the reasons for the organization's problems may be misunderstood.

So how can employees and managers break the climate of silence? It may not be easy. The behavioral cycles that maintain organizational silence will be hard to break in part because they are not subject to direct observation or discussion. What's more, once people start distrusting a system, it is extremely hard to restore their faith. Even if management eventually realizes that it needs accurate internal feedback and tries to elicit it, employees may tend to be cynical about this change.

Yet we do believe that silence can be prevented, and that organizations can break down walls of silence that have developed over time. In terms of prevention, managers must work hard to counteract the natural human tendency to avoid negative feedback. They must not only seek out honest feedback, on a regular basis, they must also be careful to not "shoot the messenger" when they receive bad news. Managers must also work hard to build an open and trusting climate within their organizations, one in which employees know that their input is valued and that it is safe to speak up. If employees sense that those above them do not want to hear about potential problems and issues of concern, they will not talk about them. Managers must recognize this dynamic and convince employees that they do want input.

Moving from an entrenched climate of silence to a climate of open communication will be more difficult, but not impossible. One way to create such a change is to bring in new top managers. This will not only enable the organization to break from its past, but will signal to employees that there is a commitment to changing the status quo. It will also be important for managers to send consistent messages indicating that they want to hear employee's concerns, and that there are no negative repercussions for employees who talk about organizational problems. These messages must, of course, be backed up by action.

To prevent silence from characterizing their organizations, leaders should not only permit, but reward, employees who come forward with sensitive or risky information, and should create formal mechanisms through which employees can speak up anonymously if they wish to do so. Not doing so means risking the discovery that the story of the CEO's new clothes is more than a fairy tale.

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P O C K E T P

ILLUSTRATION BY THEO RUDNAK

R O T E C T O R

Last fall, former Securities and Exchange Commission Chairman Arthur Levitt, Jr., was named the inaugural Citigroup Distinguished Fellow in Leadership and Ethics for the 2003-2004 academic year. The new Citigroup Leadership and Ethics Program, run in coordination with NYU Stern's existing Markets, Ethics and Law Program, represents an extension of Stern's long-standing commitment to the practice of professionally responsible business.

Mr. Levitt, who headed the SEC from July 1993 to February 2001, is the longest-serving chairman in the SEC's history. Throughout his tenure, he oversaw the introduction of a host of initiatives designed to educate, empower, and protect America's 50 million investors. These included: the launch of the EDGAR system; regulations that strengthened auditor independence; requiring companies to release important information to all investors at the same time; and mandating the use of "plain English" in public communications. A graduate of Williams College, Mr. Levitt worked in the brokerage industry for 16 years. From 1978 to 1989 he was the Chairman of the American Stock Exchange. Mr. Levitt currently is a senior adviser to The Carlyle Group, a global private equity investment firm, and serves on the board of Bloomberg L.P. His memoir, *Take on the Street: How to Fight for Your Financial Future*, was published in 2002.

In December, Mr. Levitt prepared remarks for the "Integrity of Financial Markets" conference held at NYU Stern. Excerpts from these remarks follow.

I must admit to having a degree of skepticism toward the entire endeavor of teaching ethics. I believe that ethics can't be taught in one conference, one weekend, or one semester. A sense of what is right and wrong comes from one's upbringing and the cues we take from society at large.

But that doesn't absolve us of the responsibility of trying to shape ethical business leaders. Rather, it places upon us a larger burden. We must ourselves teach ethics everyday – by how we run our companies and how we choose to conduct ourselves in the public arena. In just my one semester of teaching here at Stern I've learned that young people interested in business aren't just searching for the path to success, they're also searching for role models. And so we need to move toward the day when there is a critical mass of ethical, public-spirited business leaders dedicated to the common good, when ethical behavior is seen as standard operating procedure.

Unfortunately, this leadership was missing over the past decade and a half. The bull market built up wealth just as quickly as it tore down ethical standards. The symptoms first arose in the executive suites – and came to our attention two years ago this week with the bankruptcy filing of Enron. What was uncovered at Enron, WorldCom, and the rest brought to the public's attention the sad truth that CEO's were managing the numbers, not necessarily managing their companies.

Auditors were complicit. Accounting standards – especially as they relate to the expensing of stock options – were a catalyst. Corporate boards were catatonic. This erosion of trust and independence infected investment banking and stock research as well. And with the recent revelations about the mutual fund industry, even more individual investors realized that they had been taken along for a ride.

Leadership Deficit

Better regulations and more effective oversight were not the only things that were missing. Something else was missing as well: the leadership of the business community. During the 1990's, very few people were willing to stand up and point out the madness of day-trading and the virtues of diversified investing for the long-term. Very few people questioned quarterly earnings that always beat expectations or mutual fund advertisements that boasted of returns that defied gravity.

We lacked the kind of leadership that instinctively puts the public interest above corporate interest or career advantage and works constructively with policymakers. There are today few business leaders recognized as being spokesmen or spokeswomen for a set of realistic, intelligent public-spirited values.

"Young people interested in business aren't just searching for the path to success, they're also searching for role models."

I've been in and around the markets for 40 years. And I can't think of a time since when our business community and market institutions have been viewed with such disdain by the general public. In a recent poll on the ethical standards of various professions, only about 15 percent said that stockbrokers and business executives had "high" or "very high" ethical standards. The good news is that stockbrokers and business executives ranked ahead of insurance salesmen and car salesmen. The bad news is that they still ranked at the bottom of the pack – just behind United States Senators.

It wasn't always like this. In the past, business leaders not only led their companies, they helped us through difficult economic transitions. At the end of the century and the end of his term in office, a President proudly boasted to Congress: "There has never been a time in our history when work was so abundant, or when wages were as high." By the end of the year, however, a financial panic took place, thousands of businesses had gone under, and unemployment was surging. Sound familiar? I mention this to highlight the optimism of the '90's – the 1890's. The President who said this wasn't Bill Clinton, but Benjamin Harrison.

Then, as now, faced with an economic downturn and the reality that the economy and society had to be retooled for a rapidly changing time, many business leaders formed powerful lobbies to resist change. They took the attitude famously summed up by railroad baron William Henry Vanderbilt: "The public be damned!" But others recognized that making the market work in an industrial age would require new rules and safeguards. And so people like Mark Hanna, a prominent Republican and industrialist, and Edward Filene, the department store magnate, formed groups like the National Bureau of Economic Research and the Cooperative League to research, craft, and lobby for reforms. As Jeffrey Garten explains in his excellent new book, *The Politics of Fortune*, their commitment to the national interest helped this country through the difficult transition from an agricultural economy to an industrial one; from an isolated nation to a world player.

Corporate leaders played a similar role during a similarly chaotic time immediately after World War II. At the urging of the Secretary of Commerce, a bi-partisan group of corporate executives formed the Committee on Economic Development to offer non-ideological guidance on how the U.S. could make the transition to a peacetime economy. The CED offered invaluable advice on a variety of economic topics – from taxation to monetary policy, from urban renewal to government administration. When President Truman formed a committee to draft a plan to rebuild Europe, five of the nine on the committee were CED trustees.

Today, as we navigate the proper relationships between the public and private sectors in creating a world that is safe from terrorism and suited for market prosperity, the input of responsible business leaders is once again needed. Yet, by and large, the leadership is not there. That is not to say that there are not those engaged in public policy or politics. But business's interaction in public affairs is mostly of a certain, selfish kind. During my time at the SEC, I encountered a staggering number of industry lobbyists whose sole purpose was to stop any minor change that they saw as a threat to their own specific interest. They had no thought at all as to how the changes they were stopping or supporting would undermine the very market from which they were able to reap such prosperity.

Instead, we need public-minded leadership that offers to our elected officials insight into how best to set the rules for fair and vigorous competitions in a global economy, and that is unafraid to expose and condemn those actions that undermine market capitalism itself.

Such leadership is needed now more than ever in the mutual fund industry. Today, 95 million investors count on mutual funds for their retirements, college tuitions, and life savings. If we do not clean up this industry, we stand to lose a whole generation of investors.

For some time, mutual fund companies have abused their place of privilege in the investing world. The industry often misleads investors into buying funds based on past performance. Fees – along with the effect of annual expenses, sales loads, and trading costs – are hidden. Fund directors, as a whole, are stretched too thin and show little interest in exercising vigorous oversight. The cumulative effect of this lack of accountability and transparency has manifested itself in late-trading and other preferential treatment for hedge funds and other large investors.

Reform From Within

Such dealings, at best, turn individual investors into second-class citizens, and, at worst, into sheep to be fleeced. The time has come for a real clean-up, not cosmetic policy changes or image campaigns. Some of these changes will require governmental action. But true reform won't occur – and investor trust won't be regained – unless mutual fund companies show public-spirited leadership. Today, mutual fund companies can erect barriers to market-timing by requiring significant redemption fees for those who want to flip their funds' shares. Today, mutual fund companies can shake up their boards by appointing and empowering independent directors. Today, mutual fund companies can put an end to broker incentives that damage investor interests, such as revenue-sharing and sales contests. And today, fund companies can end misleading performance advertising.

"I've been in and around the markets for 40 years. And I can't think of a time since when our business community and market institutions have been viewed with such disdain by the general public."

We can be sure that the SEC in the coming months will take action on all these fronts. But imagine, for a moment, what would happen if the heads of the 10 or 15 largest mutual fund companies announced that they have agreed to undertake all of these reforms on their own. It would bring about reform without the heavy hand of regulation. More importantly, it would let investors know that these companies take their obligation to their shareholders seriously.

Of course, I have been around long enough to know that the odds of such an announcement happening are long. Ultimately, we need a cultural change that rejects excess and skirting the rules – a culture in which directors and CEO's all put pressure on each other to uphold standards of acceptable behavior. We need private sector leaders at all levels to dedicate themselves to creating a culture of accountability and foster an ethic of service. We need to change who our role models are.

A New Ethic

When I was coming up, people like Irving Shapiro of Dupont, John Whitehead of Goldman Sachs, and Walter Wriston of Citibank set the standard and fostered an ethic of accountability and service. But during the 80's and 90's, the image of a superstar CEO changed. Gracing the covers of *Fortune* and *BusinessWeek* were impatient, tough, bottom-line oriented corporate rock stars who could acquire a huge company at the stroke of a pen, fire 20,000 employees with another, and several years later sell the enterprise for much less than shareholders paid for it.

The market now demands something else: business leadership that will be at the vanguard in the movement to restore public confidence. The times call for sensitive, caring, thoughtful, and committed personalities – working in public-private partnerships to support the fabric of our society, rather than simply boosting their own bottom lines.

The public is not asking for business to stop caring about business. It's asking for something as old as America itself: "self-interest rightly understood." This new ethic will be taught in places like Stern. But the real lessons must be taught by those managing our companies, and building small businesses all over the country.

Business leaders must lift their sights above business, and spend part of each week on whatever kind of public-spirited purpose it might be – whether it's conservation, foreign affairs, or health care reform. They must rediscover the habits of involvement and social leadership of an earlier era and through their actions, show a younger generation that public spiritedness is not just good public relations; it's good business. That will go farther and be more effective in restoring public confidence in the markets and in the private sector, in lifting our stock markets, and in strengthening our economy than virtually any law we can pass, investigation we can lead, or regulation we can write. ■

Currency Event

In late 2003, the future of the European Monetary Union seemed to be at a crossroads. The Stability and Growth Pact, under which member nations agreed to limit deficits, seemed all but dead. Meanwhile, European leaders were struggling to draft new agreements that would allow the admission of up to ten new members to the European Union. As questions surrounding the continent's political and economic integration swirled, a panel sponsored by NYU Stern and Blackwell Publishing, Inc. convened on December 5 to discuss the future of Europe. Participants included: NYU Stern Dean Thomas Cooley; Hervé Carré, who represents the European Commission in Washington as Minister for Financial Affairs; Francesco Giavazzi, professor of Economics at Bocconi University in Milan, and a former economic advisor to the Prime Minister of Italy; and Mickey Levy, chief economist at Bank of America. It was moderated by Georges de Ménil, NYU Stern Visiting Professor of Economics from Ecole des Hautes Etudes en Sciences Sociales, Paris.

Hervé Carré: I think the challenges we face now are easier to face than the ones we successfully faced in Europe ten years ago. There are many challenges. But I will just elaborate on three of them.

The first is economic policy coordination. In Europe, we have a single monetary policy, entrusted to a federal institution. And on the other hand, the responsibility for all other economic policies and budgets remains decentralized – although subject to common rules. This decentralization provides the necessary room to adapt to national economic structures and to adjust to country-specific preferences. However, the growing interdependence of member states, and the potential for spillover effects calls for coordination of national economic policies.

"Ten new member states will join the European Union soon next year. This will bring extraordinary benefits: The extension of the zone of peace, stability, and prosperity in Europe."

The second is structural rigidities. Six million jobs were created in the EU between 1999 and 2001. But since then employment growth has stopped. More structural reforms are needed in the labor market to raise employment and productivity, and ultimately to increase the standard of living of European citizens. In 2002, GDP per capita in the EU was only 71 percent of the level in the U.S. The employment rate is 86 percent of the U.S. level. This means that in Europe we do not work enough. We also need structural reform that allows wages and prices to adjust more quickly to changes in supply and demand.

The third challenge is enlargement. Ten new member states will join the European Union soon next year. This will bring extraordinary benefits: The extension of the zone of peace, stability and prosperity in Europe; the addition of more than 100 million people in rapidly growing economies; and the strengthening of the EU's role in world affairs. But the criteria for accession to the EU require these countries to be functioning market economies. And our institutional framework must continue to guarantee an efficient management of economic policy.

Tom Cooley: I'll focus on the countries that have opted to stay outside the monetary union, like the U.K., Sweden and Denmark. And I thought I would relate it to the debate a couple of years ago about whether countries like Mexico and Brazil and Argentina should adopt the U.S. dollar as their home currency.

It turns out there are incentives for countries that are not in a currency union to stay on the periphery. If Mexico could be reasonably disciplined in its monetary policy, there were more gains to Mexico to stay out of the union, but to have a monetary policy that's sort of close to what the U.S. policy is. And this same logic applies to the case of the U.K. and Sweden.

It's clear that the U.K. has had a very different monetary policy than the EU in the last few years, and as a consequence has had a very different inflation rate, as has Sweden. If you conclude that Sweden and the U.K. are achieving growth rates that are closer to their potential growth rates over this period, then it's hard to see what the incentive would be for them to join. So the prediction would be that we're not going to see them joining any time soon. Now, if they decide to stay out and they have weak fiscal discipline, then I could imagine that it might undermine the currency union. But it's definitely a factor that in the long run has to be thought about.

Francesco Giavazzi: I've been asked to talk about a more mundane problem: Fiscal policy and the stability pact. Do we need rules in the monetary union? Yes, we need some rules. But the stability pact provides the wrong incentives. It forces countries to focus attention on the short run rather than on the long run. It encourages people to focus on this year's budget, when an issue like pension reform – which the French government enacted in July – is much more significant for deficits over the next ten years. In Germany, issues like pension reform and health reform are more important for the long run sustainability of public finance then an effort to keep the deficit within three percent of Gross Domestic Product at a time when there are 4.5 million people unemployed.

What can be done? I think there are two ways out. My ideal would be to take the U.K. code of fiscal responsibility, put it in the constitution and give the Commission the power to monitor fiscal policies based on that. But this solution is very unlikely. The second is to increase transparency, and, hence, market pressure. Italy has, in a single year, shifted two percent of public expenditures into a special purpose vehicle that under Luxembourg rules, is outside the government accounts. Had that not been done, Italy would be far above the three percent deficit-GDP limit.

Mickey Levy: If you look at Europe in recent decades, economic performance has been disappointing. Since the EMU was established, the euro-zone growth has averaged nearly a percentage point below the United States. And it doesn't seem like the establishment of the EMU or the euro has had any significant effect on overall economic performance. It seems to me the underperformance is a direct function of misguided fiscal and regulatory policies. The ECB has pursued a consistent and successful low-inflation monetary policy. But when you look at the excessive government spending, taxes, regulations that reduce labor supply and reduce the implementation of capital spending, therein lies the problem.

Fiscal policy reform is constrained and distorted by the Stability and Growth Pact, particularly its deficit to GDP limitation. It limits countercyclical fiscal policy and tax reform. It has led to budget gimmickry and it has not addressed the major problems of government spending and taxes. I strongly believe the deficit to GDP ratio is an inadequate, limited and potentially misleading representation of fiscal responsibility. For example, the deficit to GDP ratio in Germany is pretty close to that in the United States. But in Germany, government spending exceeds 50 percent of GDP. In the United States, it's about 33 to 35 percent.

To really address the problems of Europe, the pact needs to focus on government spending and taxes as well as budgets. Firstly, I would put limits on the ratios of government spending to GDP and of taxes to GDP. But I would phase them in over time. And to the extent that taxes are cut before spending, I would relax temporarily the deficit to GDP ratio. That would make policy makers focus on the real issues that are inhibiting economic growth.

What's more, the figures on national debt and cash-flow deficits don't capture the unfunded liability of the pensions. The long-run projections are very unfavorable. But with regard to the issue of debt, and deficits, you have to ask the question, well, what are you deficit spending for?

Hervé Carré: I'd like to respond to Mickey's point. We were aware of the crude character of the three percent deficit to GDP ratio when we adopted it. And the level of debt is clearly the major problem in terms of sustainability. On pension reform, I fully agree. The Commission for four years has been recommending to member states that they take necessary measures to change the present system. But here again it's a political problem. Government spending is also a hot potato. All the ministers from the Scandinavian countries will tell you that they don't want to decrease the level of taxation, because their voters want to keep the social safety net. So it's easier when you're an economist, than when you are a politician.

Sir Nigel Wicks, Former Member of the EU Committee of "Wise Men" on European Securities Regulation, Former Principal Private Secretary to Prime Minister Margaret Thatcher, and keynote speaker at the dinner following the EMU panel, speaking with Dean Cooley and Hervé Carré.

Tom Cooley: I think all this discussion is kind of missing the boat a bit. It seems to me that the real compelling problem of Europe is that their productivity growth is so much lower than the U.S. And I think the answer lies in structural reforms that will remove the conditions that inhibit Europeans from taking risks and engaging in the kind of innovative activities that drive productivity growth elsewhere in the world.

"The stability pact provides the wrong incentives. It forces countries to focus attention on the short run rather on the long run."

Francesco Giavazzi: On productivity, one has to be very careful, because the level of productivity per hour worked is higher in most European countries. The productivity per person is lower because as suggested before, the amount of hours worked in Europe are 30 percent below hours worked in the U.S.

Mickey Levy: Well, the statement about productivity I think is well stated. I think the problem in Europe is you've seen this sharp decline in aggregate hours worked per employee. And that's in part endogenously determined by misguided policies. I understand the difficulties in implementing my proposal about the ration of deficits to GDP. But if you think about targeting deficits as a percentage of GDP, it's just as silly. Go back to U.S. history in the 1970s. There was abysmal productivity and very high unit labor costs, and double digit inflation and interest rates. The fiscal and monetary policy makers lacked credibility. The highest marginal tax rates were 70 percent. And the forecast of potential growth was less than two percent – less than what potential growth now is forecast for Europe. It took a fairly radical change in tax rates to generate positive economic results and higher standards of living. And so I'm not just pointing to Europe and saying you need a straitjacket, but you need incentives to enact pro-growth changes.

Hervé Carré: For the Commission, the choice of taxation level and choice of spending to GDP ratio, is a political choice. It's the expression of a choice of society. It cannot be taken by bureaucrats. That's all. No taxation without representation.

Audience question: *I'm an economic consultant. As I recall there is one success story within the European Union, and that's the Netherlands. They had a debt to GDP ratio which was more or less around 100 percent. And they managed to lower it very, very significantly.*

Hervé Carré: Right. At the time of the Mastricht negotiation, the ratio to GDP in the Netherlands was close to 90. Now it's below 60 percent. But I think the best example of a very quick reduction of debt to GDP was Ireland.

Georges de Ménil: *Can the Irish miracle be a model for Europe, for the Continent?*

Mickey Levy: Ireland is a great story. They certainly didn't need any limitations. But their growth, their economic performance was so bad, what did they do? They lead with tax cuts and a constraint on government and they created an environment that put incentives in place. What if one of the ascension nations recommends sharp tax cuts? And then that nation becomes a very attractive destination for capital and jobs, even though they violate every deficit to GDP concern in Europe? What happens then?

Georges de Ménil: Well, with that open and challenging provocative question, let me thank the panelists. ■

endpaper

The Latest Model

By **Daniel Gross**

In today's era of short attention spans we've become trained to look for – and to buy – the latest model. Whether it's the Zagat guide or Beaujolais nouveau, fashions from Milan or cars from Germany, savvy consumers eagerly anticipate the most recent version of a product they may already own.

And while the rhythms of model years and vintages seem ingrained in our lives, it wasn't always so. Indeed, one of the most important models ever made – the Ford Model T – endured for nearly two decades without much change at all.

"I'm going to democratize the automobile," Henry Ford had said in 1909, a year after he introduced the Model T. "When I'm through, everybody will be able to afford one, and about everybody will have one."

Ford wasn't too far off the mark. In 1921, the Model T – the first mass-produced automobile – held 60 percent of the new-car market. And by June 1924, some 10 million Tin Lizzies, as the sturdy coupes were known, were roaming the nation's roads. All of them were black, and all of them closely resembled the original.

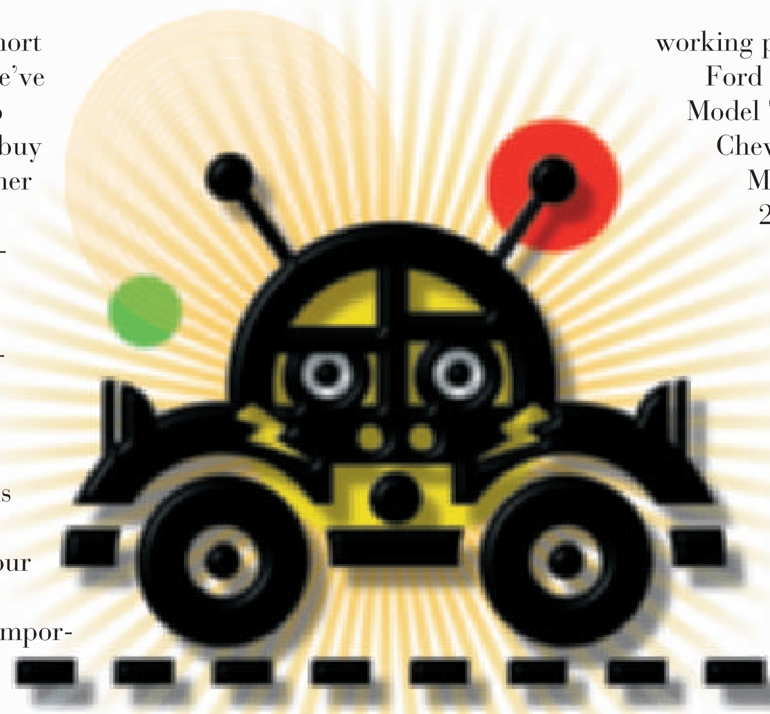

ILLUSTRATION BY GLENN MITSUI

Ultimately, however, the Model T became a victim of its own success. Having created a mass market for cars, Ford faced competition. The most formidable rival was General Motors. Under the leadership of Alfred P. Sloan, Jr., GM gained ground on Ford by tapping into the American consumer's need for newness. With the Chevrolet, GM introduced important marketing wrinkles including the installment plan, trade-ins, and, most significantly, model years. By doing so, the company gave status-conscious American consumers – which is to say most of them – an incentive to purchase a new car when their old one was working perfectly well.

Ford stubbornly clung to the Model T. But by early 1927, the Chevrolet was outselling the Model T. And so on May 26, 1927, Henry Ford watched the 15 millionth Model T Ford roll off the assembly line at his factory in Highland Park, Michigan. Then he shut down the plants and stopped producing Model Ts.

Nearly 20 years after the introduction of the Model T, Ford and his colleagues designed a new car – the Model A. They gave it a new engine, a three-speed transmission, and hydraulic shock absorbers. In December 1927, Ford began to show the new car, and within weeks, 600,000 customers had signed up to buy one. By 1929, the Model A had recovered the ground it had lost to Chevrolet.

Today, of course, auto companies spend untold billions annually pitching hot new designs to car aficionados. Henry Ford managed in a simpler time. For nearly two decades he was able to ring up massive profits on a single car, which came in any color the customer wanted – provided it was black.

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