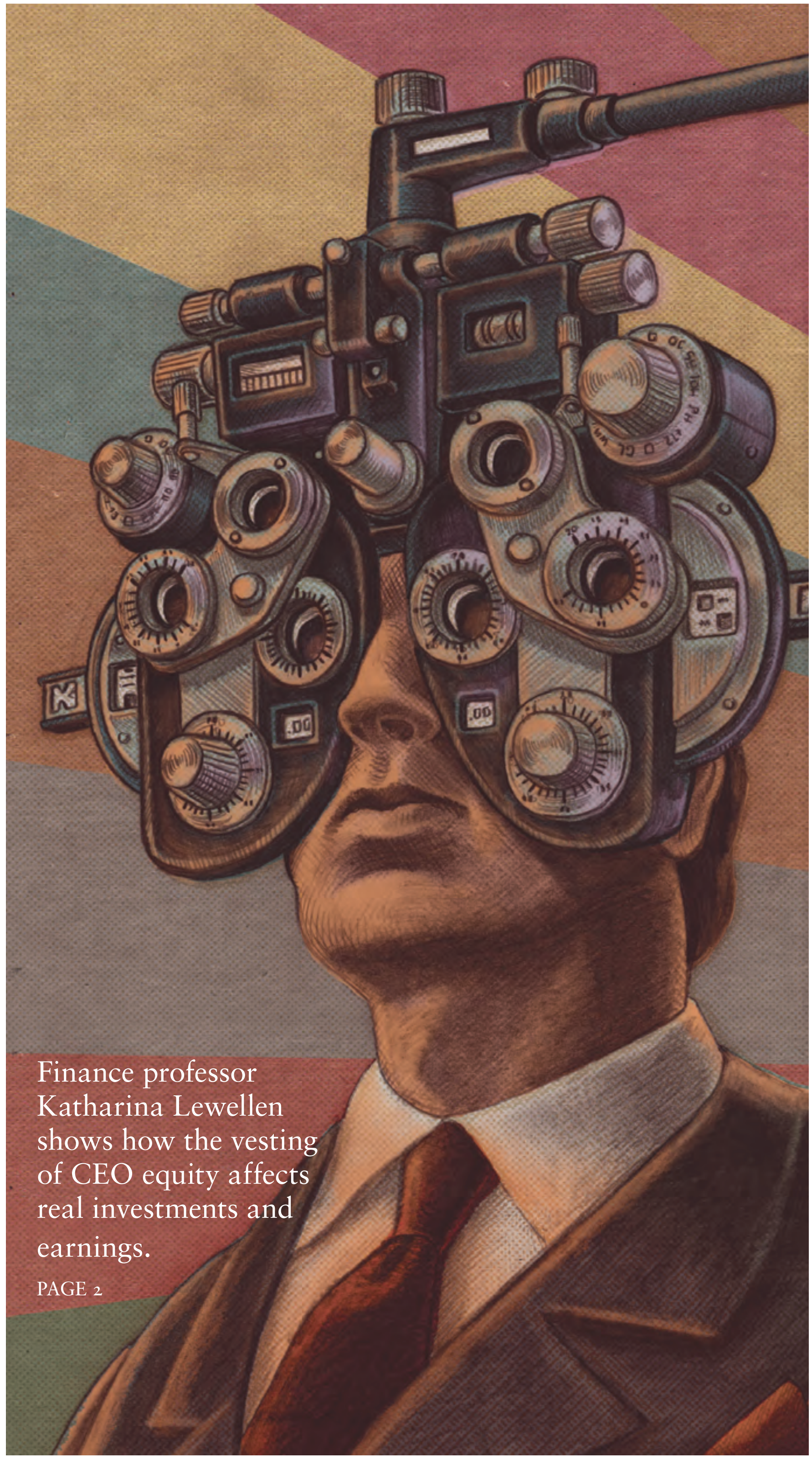
A REPORT ON NEW RESEARCH FROM THE TUCK SCHOOL OF BUSINESS AT DARTMOUTH | SPRING 2014

Tuck Forum



Finance professor Katharina Lewellen shows how the vesting of CEO equity affects real investments and earnings.

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Tracking Managerial Myopia

Katharina Lewellen studies how incentives impact CEOs' investment decisions.

Running a company these days isn't what it used to be. With the advent of globalization and off-shoring in the 20th century, firms competed in large part by cost-cutting and improving the efficiency of their operations. Innovation meant finding the cheapest factory to make your widget, or streamlining the supply chain through vertical integration.

Today, the game is more subtle. Cost-cutting has become commoditized—it's an obvious practice that no longer differentiates firms, because they all do it. Now the challenge is real innovation—solving problems with new products and services, and guiding an organization to be more responsive to the quickly-changing world. Far from shaving pennies from an assembly line, this new form of innovation requires capital investments in research and development, employee training, and organizational development.

This investment-intensive environment presents a potential conflict for CEOs who get paid partially in equity and stock options. Investments in intangibles tend to reduce earnings, which can decrease a firm's share price in the short term. A big question, therefore, has been whether or not CEOs manipulate earnings—by decreasing investments—to increase the short-term stock price when they plan to sell their stock in the near term.

As Tuck associate professor Katharina Lewellen shows in "Equity Vesting and Managerial Myopia," a new paper co-authored with Alex Edmans of London Business School and Vivian

Fang of the University of Minnesota, the empirical evidence suggests that managers do, in fact, manipulate earnings to increase stock prices when their own equity is about to vest, and thus the likelihood of stock sales goes up. Furthermore, the authors find, managers manipulate earnings by decreasing investments in things like R&D and advertising, which can injure firms' long-term health.

Managerial myopia, defined as an action that boosts current earnings at the expense of long-term value, "has been a lively topic in finance," Lewellen said. That's because industry observers think myopia happens frequently, and surveys show it does, but it's been very difficult to identify empirically. It all amounts to a lot of speculation about an important question: how does the structure of compensation affect a manager's incentives to invest for the long run? This is significant not only for the growth of individual companies, but for the economy as a whole. A CEO with his eyes on the horizon of his stock options may, for example, turn down valuable investment opportunities or decide to forego a marketing campaign, which would translate to more immediate stock price gain but weaker performance a few years in the future.

The challenge was to reliably measure myopia. In their paper, Lewellen and her colleagues approached the problem statistically, using a new dataset that shows, among other things, when executives' equity vests. The idea is that vesting should cause managers to liquidate at least some of their stock holdings in the near term, and thus increase their incentives to boost the short-term price. They then compared the equity vesting schedules to measures of long-term investment such as R&D and advertising. To bolster this evidence, the authors looked at how vesting relates to instances when the company beats analysts' earnings forecasts by a narrow margin—another sign that earnings might be inflated. Finally, the authors studied market reactions to the earnings announcements to see how they changed when a CEO's equity vests compared to other times.

As the myopia theories and surveys indicated, the authors found that "firms reduce investment in years in which significant CEO stock and option holdings vest." There are two possible reasons for this. One is managerial myopia: upcoming equity sales make managers more myopic, i.e., more focused on their firms' short-term results. Another is an omitted variable that the study couldn't capture, such as a board timing equity vesting to coincide with a period of low investment. The latter explanation seems less likely, the authors argue, because it would mean that boards could forecast investment opportunities years in advance—not an easy thing to do.

The authors' second finding provides further evidence that managerial myopia is in play. They found that firms are more likely to beat analysts' earnings estimates by a narrow margin when those earnings reports coincide with vesting times. "These results support the idea that vesting increases the CEO's stock price concerns," they conclude. Lewellen explains the dynamics further: "Managers really don't like missing analysts' earnings forecasts," she said. "So it appears CEOs push earnings higher to coincide with (or just exceed) these forecasts."

The third finding also bolsters the initial theory that managers do manipulate earnings to benefit their own pocketbooks. When the authors studied the market's reactions to earnings announcements, they found that the announcement returns were significantly lower when firms had high levels of vesting equity. What's going on here? In a word, market efficiency. "The stock market knows that CEOs manipulate, and the CEO knows that the market knows," Lewellen said. "In effect, everyone expects some level of manipulation. What we are finding is consistent with this." This conclusion, troubling as it may be, supports the classic theory of managerial myopia: the market's reaction cancels out the managers' tendency to exaggerate.

"This is interesting because we're getting closer to understanding CEO behavior," Lewellen said. "And when we know how CEOs respond to certain incentives, boards are better equipped to design compensation packages that will protect the long-term value of the firm."

—Kirk Kardashian

A. Edmans, V. Fang, and K. Lewellen, "Equity Vesting and Managerial Myopia," working paper.

Alex Edmans is a professor of finance at the London Business School. **Vivian Fang** is an assistant professor at the University of Minnesota.

Kitchen Confidential

Social norms dictate how and when Italian chefs share recipes, says Professor **Andrew King.**

Knowledge, as the saying goes, is power. In business, the power of knowledge is in its ability to deliver value to the customer, something that can make a company profitable while setting it apart from the competition. So it's no surprise that businesses don't naturally want to share their knowledge. But what's good for the firm in some cases may not be good for society. Name any life-saving technological breakthrough and it likely came from scientists building upon other scientists' research.

Indeed, the stakes in the free flow of ideas are high. "When actors strategically withhold knowledge, important economic activities may be impeded, such as innovation, access to capital, and the development of clusters of expertise or centers of excellence," write Tuck professor Andrew A. King, Giada Di Stefano of HEC Paris, and Gianmario Verona of Bocconi University in Milan, in "Kitchen Confidential? Norms For the Use of Transferred Knowledge in Gourmet Cuisine."

Intellectual property laws temporarily protect mature ideas, such as written works and inventions. But what mediates the sharing of the massive ferment of thoughts and conjectures that may ultimately lead to something extraordinary, or the transfer of something as quotidian as a recipe? That's the question King and his colleagues study in "Kitchen Confidential," which appears in the 2013 Strategic Management Journal.

The authors hone in on one possibility: social norms. They hypothesize that norms—or standards of behavior—and context play a key role in how people decide if and how they will share their private knowledge. This is not a new idea; blogs and articles have proposed that norms encourage innovation in circumstances where ideas can't be legally protected. The contribution of the paper is twofold. First, they argue that it might be the norms of knowledge users, rather than creators, that might be most important. Second, they rigorously test the importance of social norms in a setting where creativity is paramount: among chefs at hundreds of restaurants in Italy listed in the Michelin Guide.

To get at this question scientifically, King and his colleagues consulted with eight Michelin chefs working in Milan, who helped the researchers construct realistic scenarios of knowledge transfer, social norms, and relationships with colleagues. The chefs told them that culinary knowledge falls into three categories: recipes, recipes of signature dishes, and cooking techniques. Furthermore, the chefs said, there are three unwritten rules all chefs follow when they are the recipients of culinary knowledge: they won't copy a recipe exactly, if they do make something similar they will cite the recipe's creator on the menu, and they won't pass the recipe on further. "Spookily, they all say this," King reports. The authors then administered a scenario-based experiment to head chefs of 2,529 restaurants, to assess what guidelines they used in sharing their culinary knowledge. The response rate was 21.1 percent, with 492 complete surveys.

The findings show that there are two ways the respondents protected their ideas: refusing to share them, and only sharing them with people they trusted would follow the norms. "We found that chefs use both of these, and think strategically about which one is going to work," King says.

More specifically, the authors identified a few factors that help chefs decide if they can trust someone else with their recipe (they call this the "context of conformance"): the reputation of the knowledge recipient, the degree of competition with the recipient, and the visibility of the recipient's actions. Chefs were less likely to pass their recipes to competitors than to non-competitors. They were more likely to share knowledge with chefs of high repute, figuring that such chefs have less need to steal and more to share in the opposite direction. And they were more likely to share recipes with chefs whose behavior was highly visible—such as chefs located in close proximity—because the visibility would deter a departure from the norms. This could explain why "restaurant rows" are often so good: the chefs build on their neighbors' creativity.

Not surprisingly, the implications of this paper reach far beyond the habits of chefs in Italy. Open innovation, a sort of crowd-sourced twist on problem solving, is becoming more prevalent as corporations seek input from their customers. Open programming competitions capitalize on the brainpower of thousands of entrants, rather than a much more limited pool of in-house developers. These processes and others are governed by social norms of knowledge sharing. "Perhaps, if there are conditions that make norms stronger," King says, "we could end up with better innovations."

—Kirk Kardashian

A. King, G. Di Stefano, and G. Verona, "Kitchen Confidential? Norms For the Use of Transferred Knowledge in Gourmet Cuisine," Strategic Management Journal, 2013.

Giada Di Stefano is an assistant professor of strategy and business policy at HEC Paris. **Gianmario Verona** is a professor of management and technology at Bocconi University and has been a visiting professor at Tuck.

Rethinking Retail in a Multichannel World

Retailers should integrate their brick-and-mortar and online sales, says **Santiago Gallino.**

For many businesses, their online and brick-and-mortar channels co-exist warily at best and competitively at worst. Although separating each channel may seem tempting and even prudent, drawing arbitrary divisions may obscure the big picture and hurt the bottom line. After all, a retailer's online and brick-and-mortar arms serve the same ultimate purpose—generating revenue.

The solution, it would seem, is to find a way to assess and maximize the interplay, efficiency, and income of the two channels. This is easier said than done. But, according to a new study conducted by Santiago Gallino, an assistant professor of business administration at Tuck, and Antonio Moreno of Northwestern University, the integration can be financially rewarding and might even be unavoidable.

Correcting for holiday peaks, they analyzed the impact of a major retailer's attempt to boost e-sales in 83 stores in 210 designated market areas throughout the U.S. and Canada by giving customers the option to "buy online, pick up in store" (BOPS). Although this option is already available in many brick-and-mortar businesses, including Apple, Toys R Us, and Home Depot, this is the first-ever academic research done on this particular subject.

Despite the fact that BOPS transactions are considered online revenue, the researchers found that giving customers this choice actually reduced online sales. While a superficial reading of the results might inspire managers to brand BOPS a failure, it sparked a surprising upside across channels: enhanced in store traffic and sales.

Part of this brick-and-mortar bump was explained by the in-store presence of more customers, but the key, Gallino and Moreno discovered, was customers' perception of inventory reliability. Knowing that the product that they wished to purchase was in stock caused many shoppers to opt out of completing the BOPS transaction online and instead to follow a "research online, purchase offline" (ROPO) model.

"The reason why customers are doing this more frequently now is they have reliable information that they didn't have before, which makes them more likely to go to the store to get the item, even if it means abandoning their online shopping carts," Gallino says.

This is not necessarily a bad thing, since these online "losses" translated into brick-and-mortar wins. The result, says Gallino, shows the business advantages that redound to retailers who thoughtfully integrate the two channels, especially as customers are frequently unaware of the self-imposed divisions companies place on their channels.

"Customers see one retailer. The question for companies who are thinking about integration is not about whether they should do it or not, but what's the best way they can take advantage of the integration," Gallino says. "Going many years back, it's like asking, should a company have a website or not? Today, that sounds like a ridiculous question."

Another benefit of online/offline integration is increased convenience for the consumer. It's much easier, for example, to return an item purchased online to its company's physical store when both channels are well coordinated. Convenience, of course, plays a major role in driving shopping behaviors, but Gallino and Moreno's findings reveal a more nuanced definition of the concept, heavily dependent on customers' perceptions. In fact, the study shows that more than 60 percent of the people who used the BOPS option picked up their item two days or more after they closed the transaction, rather than when it first became available (typically an hour after the order was placed.) This, Gallino opines, means that customers prefer to physically inspect and evaluate the product they knew would be in-stock, on their unique timetable, instead of immediately obtaining it.

As customers more adeptly maneuver between online and offline channels, Gallino says, companies must pay more attention to the ways in which they internally structure, measure and incentivize these arms of their business. The major takeaway for managers is that, as multichannel integration grows more necessary, businesses will benefit from a wider, all-encompassing perspective.

The lesson for retailers is similar: it's savvier and more profitable to aim for integration, viewing differing channels as subtly and systematically linked.

—Jonathan Riggs

S. Gallino, A. Moreno, "Integration of Online and Offline Channels in Retail: The Impact of Sharing Reliable Inventory Availability Information," under review at Management Science.

Antonio Moreno is an assistant professor of managerial economics and decision sciences at the Kellogg School of Management at Northwestern University.

Does Doing Good Mean Doing Well?

Members of Tuck's marketing group explore the impact of corporate social responsibility on consumers' grocery shopping habits.

It's easy to like the idea of corporate social responsibility (CSR), that broad term which encompasses business efforts toward environmental sustainability, community support, and good labor practices. We're attracted to retailers that strive to make the world a better place, says social identity theory, because we want to be identified with firms that have a positive effect on society. And studies back this up. In polls and academic work, consumers routinely praise CSR initiatives and express a special fondness for socially responsible companies.

The harder question is whether or not consumers act on their beliefs. Until recently, it's been unclear if shoppers' sanguine feelings about CSR have caused them to be more loyal—that is, spend a larger portion of their shopping budget—to businesses that tout their CSR efforts. New research by Tuck faculty members Kusum Ailawadi, Scott Neslin, and Gail Taylor, and former faculty member Jackie Luan, addresses this question. Their results paint a nuanced and sometimes surprising picture of how customers actually respond, when their money is on the line, to retailers who make CSR a major part of their corporate identity.

In "Does Retailer CSR Enhance Behavioral Loyalty: A Case for Benefit Segmentation," which is forthcoming in the International Journal of Research in Marketing, the authors studied the loyalty program at a northeastern grocery chain well known for its emphasis on CSR. The researchers were given access to the shopping data of the firm's approximately 16,000 active loyalty members. They also surveyed members on their attitudes towards the grocery chain and its competitors. With these two datasets, the authors were able to see not only what the 2,884 respondents thought about CSR, but how it affected their loyalty to the grocery store, in terms of what share of their grocery budget they spent there.

Predictably, the respondents had a favorable attitude toward the grocery chain—they were loyalty members, after all. And, in general, that attitude did have a positive effect on their shopping habits, causing them to spend more of their grocery dollars there. The results get a little more interesting when broken down into types of CSR activities. Of the four CSR efforts studied in the research—environmental friendliness, community support, selling local products, and treating employees fairly—the act of selling local products had the strongest universal appeal. Employee fairness had a positive but weaker appeal. Surprisingly, environmental friendliness was a double-edged sword; some liked it, but a large group of respondents reacted negatively to it. "We expected that environmental friendliness wouldn't have a big benefit," Ailawadi said. "We were very surprised that for a substantial segment it actually had a negative effect."

Why would someone react negatively to environmental friendliness? In part, the authors write, these respondents "are more likely to believe that CSR efforts hinder the retailer's ability to serve its customers effectively." In addition, compared to the smaller groups that responded in a positive way to all CSR initiatives, the members who didn't like environmental friendliness were more price sensitive, were turned off by perceptions of exclusivity such as unique items and wealthy clientele, and had a smaller weekly grocery budget. They also put a greater value on product assortment and convenient location. "The lesson from our research is one size doesn't fit all," Ailawadi said.

There are other lessons for supermarkets, which in the U.S. rack up $550 billion in sales per year. One is that all CSR efforts are not equally important; the best ones are closely matched to the company's core mission. "CSR activities that are directly tied to the customer's experience with the firm—the front-end employees and products—generate a higher return that is less contingent upon consumers' idiosyncratic beliefs about the relationship between CSR and corporate abilities," the authors write. Another key takeaway is that firms must help people understand why environmentally friendly efforts benefit them. The message should be concrete about the positive effects of, say, reducing waste or electricity use. "When retailers focus on environmentally friendly initiatives that lower their costs and lower prices for consumers, that can really work," Ailawadi said.

—Kirk Kardashian

K. Ailawadi, S. Neslin, G. Taylor, "Does Retailer CSR Enhance Behavioral Loyalty: A Case for Benefit Segmentation," forthcoming in the International Journal of Research in Marketing.

Kusum Ailawadi is the Charles Jordan 1911, TU'12 Professor of Marketing at Tuck. **Scott Neslin** is the Albert Wesley Frey Professor of Marketing at Tuck. **Gail Ayala Taylor** is a Visiting Associate Professor of Business Administration at Tuck.

In Brief

do corporate takeovers promote economic efficiency?

Corporate takeovers have been reshaping the business world for more than a century.

But have takeovers promoted economic efficiency? It's a question academics have tried to answer since the 1970s. In a new paper, B. Espen Eckbo, the Tuck Centennial Professor of Finance, surveys the recent literature on the issue.

As Eckbo summarizes, recent research delivers five major conclusions:

1. Takeover activity appears to enhance productive efficiency within industry networks;
2. Contrary to longstanding claims, takeovers tend to promote long-term R&D investments;
3. Takeover targets initiate nearly half of all deals, and the complex selling process is designed to promote an efficient bargaining outcome;
4. Bidders appear to bargain and bid strategically, avoiding hostility and the "winner's curse";
5. Gains for bidders in takeovers appear to be significantly higher than previously thought.

B. E. Eckbo, "Corporate Takeovers and Economic Efficiency" forthcoming in the Annual Review of Financial Economics.

setting prices for maximum profitability

"Household-level heterogeneity" is a term of art in marketing research, but in simple terms it means that different households behave differently. One behavior that retailers have long desired to better understand is how individual households adjust their buying when store prices go up or down.

For most of retail history, stores had to assume all their customers reacted similarly to price changes. With the advent of loyalty programs, however, stores began collecting valuable data that could connect their customers' shopping patterns to changes in prices. If analyzed correctly, this data could show consumers' price sensitivity—the point at which a change in price causes a consumer to alter his purchasing behavior—and how that sensitivity could be impacted by consumers' "reference price," or their preconceived notion of the price of a certain item.

In a 2012 paper that won the 2014 Davidson Award from the Journal of Retailing, Tuck marketing professor Praveen Kopalle and his co-authors created a model that uses household-level price-sensitivity data, in concert with statistical estimations of reference prices, to produce optimal prices that maximize store profitability. The results from their model showed significant increases in profitability as compared to previous models that ignore heterogeneity. In essence, the more granular analysis of household purchasing behavior, combined with an estimation algorithm, has yielded new insight into how stores should set prices.

P. Kopalle, P.K. Kannan, L.B. Boldt, N. Arora, "The Impact of Household Level Heterogeneity in Reference Price Effects on Optimal Retailer Pricing Policies," Journal of Retailing, March 2012.

too much, too soon

In his 2012 book, "The Wide Lens," Tuck professor Ron Adner wrote enthusiastically of the start-up Better Place. He had high hopes for the Israeli-based company's plan to revolutionize the electric car industry. Despite its innovative strategy, however, Better Place declared bankruptcy in May 2013.

So what went wrong? The model itself was creative and sound, Adner says, with Better Place's groundbreaking system that would eliminate traditional concerns about electric cars' driving range, resale value, and impact on grid capacity. The problem, he argues in a new epilogue to his book, is that Better Place attempted to grow too fast too soon.

Rather than establishing sustainable profitability in its two initially proposed markets—Israel and Denmark—Better Place responded to global excitement over its potential by launching pilots in markets as varied as Australia, Canada, Japan, Hawaii, and The Netherlands. In the end, the company spread its resources too thin without the sales to show for it and its partners pulled out.

"Controlling the urge to grow—securing success in early markets before moving forward to pursue bigger opportunities—requires enormous discipline, especially in the face of enthusiastic supporters," Adner writes.

Although Better Place eventually admitted its mistake and announced plans to refocus solely on the original two core markets, time and resources ran out. Perhaps the most tragic aspect to Better Place's failure, Adner concludes, is that its demise was avoidable.

R. Adner, "Better Place Epilogue: Brilliant Strategy Requires Disciplined Boundaries: A Final Lesson from Better Place"

on the web | WWW.TUCK.DARTMOUTH.EDU/RESEARCH

Putting the Right Products on the Shelves

Robert Rooderkerk creates a methodology for optimizing retail assortments.

The Connected Consumer

Yaniv Dover shows how a product's early sales data may hold clues for marketers.

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TUCK CENTER & INITIATIVE HIGHLIGHTS

Center for Business & Society

In March, the Keio Business School in Japan will host the second international forum organized by the Council on Business and Society, on the theme of health and health care. The Council is a global alliance of six leading business schools—Tuck, ESSEC in France, Keio, Fudan University in China, the University of Mannheim in Germany, and Fundacao Getulio Vargas in Brazil—dedicated to increasing the impact of management education on societal challenges. Once again, Tuck's Center for Business & Society will play a leading role in the forum, conducting a survey of students from the schools in the Council, and organizing the research of Council Fellows—Tuck second-year students who work with faculty on a particular question from the forum. This year, 613 students completed the survey, which featured qualitative questions about the trajectory of their country's health care compared with other industrialized nations and the importance of employers being engaged in their employees' health, among others. The results of the survey will be presented at the forum. "The survey helps people realize there's another generation of leaders coming," said Patricia Palmiotto, the executive director of the Center for Business and Society, "and understanding what they know and think is very important."

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