

Management Insights

Are Overconfident CEOs Born or Made? Evidence of Self-Attribution Bias from Frequent Acquirers

Matthew T. Billett, Yiming Qian

Whether to engage in mergers and acquisitions is one of the most important decisions top managers make. While many of the factors influencing these decisions may be based on objective financial metrics, there is increasing evidence that behavioral biases play an important role in managerial decision making. We explore one such bias—managerial overconfidence—and find evidence suggesting CEOs develop overconfidence through self-attribution bias when making merger and acquisition decisions. Individuals subject to self-attribution bias overcredit their role in bringing about good outcomes and underestimate the role of luck. Consistent with this, we find that CEOs appear to overly attribute their role in successful deals, leading to more deals even though these subsequent deals are value destructive. We also find evidence that CEOs alter their stock holdings prior to deals in a pattern consistent with overconfidence in the outcome of these subsequent deals. Our results suggest that CEOs need to be particularly cautious and disciplined when engaging in acquisitions following prior success. Boards and other stakeholders should also ensure that any proposed deal is judged on its own merits and is not justified on the basis of prior CEO success in mergers and acquisitions.

How Do Decision Frames Influence the Stock Investment Choices of Individual Investors?

Alok Kumar, Sonya Seongyeon Lim

Why do individual investors continue to hold on to stock positions with losses (the disposition effect) and fail to properly diversify their equity portfolios? In this study, we show that these two well-established biases in investment decisions are partially induced by narrow framing, in which each decision is considered unique and isolated from other decisions. We show that investors who consider each decision in isolation tend to hold less diversified portfolios, exhibit stronger disposition effects, and earn lower risk-adjusted performance, compared to those who consider multiple decisions simultaneously. While the paper focuses on stock investment decisions, our results have implications for decision making in other settings. For instance, previous studies suggest that the mechanism that drives the disposition effect also

underlies the tendency of managers to continue with a bad project due to their previous investment (*sunk cost effect*). Our evidence indicates that managers are more likely to exhibit such a bias when they consider their decisions in isolation. Overall, our evidence suggests that investment advisors and educators could improve decision making by encouraging people to consider decisions in a broad context in which they can account for the potential interactions among multiple decisions.

Does the Standardization Process Matter? A Study of Cost Effectiveness in Hospital Drug Formularies

Seok-Woo Kwon

Why do efforts to standardize work procedures so often seem to have little positive impact on cost effectiveness of an organization? This paper suggests one possible explanation: such standardization efforts typically overlook the importance of the processes by which the standardized procedures are formulated and implemented. In an empirical study of hospital drug standardization, I found that an increasing degree of standardization was positively associated with cost effectiveness when (1) the standardized procedures were formulated by objective criteria and (2) they contained an appeal mechanism. These recommended process features are most crucial in highly professionalized organizations, such as hospitals and other healthcare systems, where there is a potential clash between the more bureaucratic, cost-cutting culture of administrators and the professional culture of medical professionals. The process features explored in this study offer a mechanism that can be used to encourage professionals' cooperative behavior toward a standardized procedure, which can help make a standardization policy cost effectiveness.

Physicians' Persistence and Its Implications for Their Response to Promotion of Prescription Drugs

Ramkumar Janakiraman, Shantanu Dutta, Catarina Sismeiro, Philip Stern

There is growing evidence in the medical literature that physicians exhibit inertia (also known as persistence) in their clinical practice. In this paper, we study whether physicians also exhibit persistence in their drug choices. More specifically, we investigate whether the drug chosen by a physician for a patient depends on the drug previously prescribed to a different patient. Our analysis of actual prescription

data suggests that a large segment of physicians do exhibit persistence. In addition, depending on their persistence profile, physicians seem to respond differently to various types of promotional activities such as detailing, out-of-office meetings, and symposiums. Policy makers and pharmaceutical companies can use these results to predict physicians' persistence profiles. These profiles can help health officials design policies and incentives to hasten the adoption rate of new drugs or therapies, and can help managers develop targeting mechanisms to optimize their sales force allocation.

Consumer Privacy and Marketing Avoidance: A Static Model

Il-Horn Hann, Kai-Lung Hui, Sang-Yong T. Lee,
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Just as technology offers new techniques of marketing, it provides consumers with fresh ways (e.g., *do not call*, caller-ID, anonymous browsing, spam filters) to avoid marketing and protect their privacy. In general, *marketing avoidance* takes two forms—concealment (consumers hiding their addresses from marketers) and deflection (consumers discarding solicitations). How should marketers respond to consumer concealment and deflection? Should public policy toward consumer privacy emphasize concealment or deflection? Using a stylized economic model, we show that consumer efforts at concealment and deflection increase with sellers' solicitations. However, when the marginal cost of solicitation is sufficiently low, consumer concealment *helps* direct marketers to screen between consumers who are interested in the product and those who are not. Hence, direct marketers should support consumer efforts at concealment, such as opt-out from direct mail and the *do not call* registry for telemarketing. Such efforts would increase the efficiency of and profits from direct marketing. However, consumers are better off under deflection than under concealment. Accordingly, public policy should emphasize consumer deflection technologies such as caller-ID and spam filters.

Buyer-Initiated vs. Seller-Initiated Information Revelation

Pradeep Bhardwaj, Yuxin Chen, David Godes

In most selling situations, the sales presentation is a critical component of success. Firms hire salespeople to communicate their products' features to prospective customers in hopes that they will be convinced of the products' quality. In many product categories, however, the amount of information available to be communicated exceeds either the firm's ability to communicate it or the customer's ability to process

it. Consequently, the firm must decide which information to show to the customer. This suggests that what the firm chooses to reveal may, itself, be informative. For example, if they show only feature A, it could imply that feature B is not strong. This inference process has important economic implications for managers. Our study suggests that it is desirable for a firm to allow customers to decide which features to learn about. This format, along with a higher price, may signal to customers that the firm's product is of higher quality, enabling the firm to earn higher profits. This format, when adopted by competing firms, may also have the added benefit of mitigating the adverse effects of price competition.

Strategic Capacity Rationing to Induce Early Purchases

Qian Liu, Garrett J. van Ryzin

While dynamic pricing tactics such as markdowns, promotions, and clearance sales offer the potential to increase revenues, they create an incentive for customers to strategize over when to purchase. That is, if customers have any time flexibility, they will attempt to buy when prices are lowest. One way to combat this behavior is to create a rationing risk by deliberately understocking products; the resulting threat of shortages creates an incentive for customers to purchase early at higher prices. The main trade-off is that while shortages create an incentive for customers to buy at high prices, shortages also impose an opportunity cost of lost sales when prices are lower. So, does such a strategy make sense? And, if it is profitable to create shortages, what is the optimal amount of rationing risk to create? Our model suggests that high dispersion in customer valuations, high levels of risk aversion among customers, and large differences in prices over time (e.g., deep discounting) lead to rationing as an optimal selling strategy. However, our oligopoly analysis shows that competition makes it more difficult to support such a strategy, and when the number of competitors is large a low-price equilibrium is the only sustainable outcome. Thus, rationing is more likely to be beneficial in cases where a firm has some degree of market power.

Dynamic Pricing and Lead-Time Quotation for a Multiclass Make-to-Order Queue

Sabri Çelik, Costis Maglaras

When ordering a make-to-order product, such as a customized automobile, customers are typically sensitive to both price and the delay they will incur until their product is delivered. Manufacturers can improve their operational efficiency and profitability by leveraging this dimension of customer heterogeneity, while simultaneously overall customer satisfaction may increase. For example, a manufacturer that offers

a product at one, two, and four week delivery targets, should choose markups for the faster deliveries that would lead to a good mix of customers choosing all three options. Then, at peak load times, rather than shutting off the short delivery options to divert demand to the four week option, the manufacturer is better off increasing all prices to reduce the overall demand while keeping the mix across one, two, and four week deliveries constant. The precise form of the pricing menu derives from marketing data that captures the way potential customers trade-off between price and delay.

Optimal Second-Stage Outsourcing

Richard Saouma

A recent trend in manufacturing is to delegate or outsource an increasing number of tasks to suppliers. In some markets, manufacturers have outsourced production of entire product lines to third-party entities. While such outsourcing can solve several difficult manufacturer-supplier contracting issues, it creates entirely new problems for manufacturers concerned with product quality. For instance, an automotive supplier such as AC Delco may require excessive compensation to produce a high-quality thermostat. However, if AC Delco is offered the task of producing both the thermostat and the radiator that houses it, then we show via an analytical model, that AC Delco will require less excessive compensation to create a high-quality thermostat and radiator. The downside to such “second-stage” outsourcing is the risk that AC Delco cannot afford to reimburse the auto manufacturer for radiator/thermostat failures. The benefit of second-stage outsourcing is thus increasing in the size/financial-stability of the supplier. Interestingly, the benefit of second-stage outsourcing also increases as the cost of building high-quality components increases. The implication is that outsourcing bundled tasks to suppliers solves contractual frictions, assuming the supplier can shoulder the additional liability that accompanies greater responsibilities.

A No-Arbitrage Analysis of Macroeconomic Determinants of the Credit Spread Term Structure

Liuren Wu, Frank Xiaoling Zhang

Although many economic indicators are available, most of these are noisy, which makes it difficult to determine how much the financial market should respond to variations in these indicators. In this paper, we use a dynamic factor approach to suppress the noise in a wide array of economic indicators and extract three fundamental economic factors: inflation, real output growth, and financial market volatility. We link the three factors to the pricing of interest rates and credit spreads through no-arbitrage arguments. We find that positive inflation shocks increase both

Treasury yields and credit spreads. Positive shocks on real output growth also increase Treasury yields, but reduce credit spreads for low credit rating classes. Finally, increasing financial market volatility has little effect on Treasury yields, but significantly widens the credit spreads. Our results shed light on how different risk dimensions of the economy interact with interest rate and credit risk. Bond investors can use these results to gauge the true state of the economy from various economic indicator releases and to improve their asset allocation and risk management decisions at different phases of the business cycle.

Modeling the Dynamics of Credit Spreads with Stochastic Volatility

Kris Jacobs, Xiaofei Li

The valuation of credit-risky securities such as corporate bonds is of great importance. We propose a new model for the valuation of corporate bonds that improves on existing models. By modeling time variation in the volatility of bond yield spreads, we are able to better capture some of the stylized facts characterizing corporate bond data. In particular, our model captures the fact that the distribution of bond yield spreads is not symmetric. We demonstrate the model’s effectiveness by comparing its fit to that of a benchmark model using a sample of corporate bonds for 108 companies. The average error for our model is 9.3 basis points, versus 12 basis points for the benchmark model. The model is therefore valuable for managing and hedging risk in fixed income portfolios, and corporate bond portfolios in particular.

Leadership and Competition in Network Supply Chains

Pranab Majumder, Ashok Srinivasan

We consider leadership in large supply chains, where one firm, the leader, has the largest influence on the behavior of the supply chain; e.g., it owns the critical product or patents. The leader sets up both the upstream and downstream supply chains, and initiates contracts with its neighbors, who in turn contract with their neighbors, so that contracts propagate outward from the leader. We show that the sequence of contracting is important. Our research extends the conventional determinants of supply chain performance to include leadership and supply chain structure. Superior supply chain structure and optimal leader location allow a supply chain to outperform competing supply chains in terms of market share and supply chain profits. Given two supply chains with identical structures, the one with the better leader location will perform better. A longer chain can outperform a shorter chain solely due to superior leader location. Higher-cost supply chains can outperform lower-cost chains entirely on the basis of a better network structure. The leader can improve supply

chain performance by unilaterally changing the network structure, or by mergers and acquisitions that result in a better leader location, conferring benefits above and beyond the direct financial benefits from acquisitions.

**Research Note: Customer Loyalty Programs:
Are They Profitable?**

Siddharth S. Singh, Dipak C. Jain, Trichy V. Krishnan

In the past decade, many firms have adopted loyalty programs as the main response to similar programs by competitors. But, is it always the right response? For example, consider a retailer that issues loyalty cards that promise cash discounts on purchases if the consumer accumulates enough loyalty points through

repeat purchasing from the firm. Should its competitor adopt a similar program? We use a game theoretic model to analyze this question and obtain a surprising result. If (1) the loyalty discount offered represents a high percentage of the product price and (2) the consumer thinks that there is a high likelihood that he or she would accumulate enough points on the loyalty card to obtain the reward, then it would actually be profitable for the firm to *not* offer a competing loyalty program but to offer a shelf discount (i.e., an across-the-board price reduction to all consumers) instead. Contrary to conventional wisdom, our results suggest that a retailer or a firm need not resort to a loyalty program to compete effectively with a competitor who has such a program.