

STATEMENT OF RESEARCH INTERESTS

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My research interests focus on the dark side of organizational learning. Building on research in cognitive psychology, diffusion of innovation, and the sociology of disasters, I study how innovations diffused with the help of analogical reasoning can lead to disaster. Existing studies of innovation and analogical reasoning tend to focus on the benefits of the two phenomena. My dissertation investigates the costs.

In my research, I seek to understand the processes by which analogical reasoning can bring about disastrous outcomes in the context of innovation. Analogies are frequently used in diffusion of innovations. In academic research, an innovation's success is often measured by whether or not a given innovation has diffused. By looking past the diffusion phase of the innovation-adoption process, I am able to trace the pathway between the analogical reasoning used in promoting the diffusion of an innovation and the innovation's disastrous consequences.

While I am interested in individual-, group-, and organization-level antecedents of disasters, my analysis is primarily at the system level. I use the term "system" to denote the set of all the participants in the game: industry players, customers, and regulators. I use the term system rather than "field" or "industry" because it enables me to capture organizations that play an important part in shaping the rules of the game, but may not perceive themselves as being part of the industry or field, such as customers or regulators.

The methods I use in my research are driven by the questions I ask. The classes I took at Stern, such as the research methods course taught by Lee Sproull, year-long sequences in econometrics taught by Bill Greene, and empirical industrial organization taught by Ariel Pakes and his co-authors, have equipped me with tools to approach both quantitative and qualitative problems. Many of the questions I ask seek to understand the process by which a phenomenon develops over time rather than to explain the variance across phenomena.

My research is driven by the desire to understand and improve decision-making. I hope that, in addition to having academic impact, my work will help inform the decisions of policy makers who set out to design systems less prone to disasters.

Dissertation Research Summary

My dissertation traces the role played by the "mortgage-backed securities are like bonds" analogy in the development and the 2008 collapse of the U.S. market for mortgage-backed securities (MBS). Using a combination of historical analysis, ethnographic techniques, and formal logic, I construct a multi-decade analytic history in which I attempt to reconstruct the decision processes that put three million families on the brink of foreclosure in 2008.

I started my analysis by mapping the system and cataloguing players and the roles they played in the production and distribution of MBS. To understand the beliefs of the players in the MBS system,

between 2008 and 2010, I interviewed representative players in the system, starting with the loan officers, who authorized mortgage lending, to investment bankers, who packaged the mortgages, to MBS traders, who bought and sold the securities, to former policemen, hired by hedge funds to force homeowners to vacate houses after foreclosure. My interviews helped me to obtain a rich view of the system in cross-section. To understand how the system evolved over the time, I read a progression of industry trade manuals, each of which provided a snapshot of the system at a given point in time. Archives of trade industry press, along with legal statutes and regulator rulings, enabled me to fill in the gaps between the snapshots.

My analysis of these data suggests that mortgage-backed securities were constructed by analogy to bonds. The mortgage lenders who lobbied for the introduction of mortgage-backed securities faced funding shortages and saw access to the bond market as a solution to their problems. When the bond markets proved less than receptive to the first generation of MBS brought to market, the securities were modified again and again to look and act more like bonds until bond market participants saw MBS as bonds.

The “mortgage-backed securities are like bonds” analogy served to link two previously unconnected systems: mortgage lending and securities trading. This link produced results unanticipated by either the decision-makers who thought the link desirable or by the participants of either of the two previously unconnected systems. Once bond market participants viewed MBS as bonds, the analogy permeated the rest of the MBS system. The performance of MBS was measured in bond terms, blinding decision-makers both to the differences between MBS and bonds and to the risks inherent in MBS that were different from bond risks.

The analytical history I constructed serves as proof by example that even when the decision-makers expend cognitive effort and consider critical attributes of the two objects being compared, analogical reasoning can lead them astray. The findings suggest that analogical reasoning and, in particular, innovations diffused with the help of analogical reasoning can lead to disastrous consequences that decision-makers fail to anticipate and prepare for—a form of blindness induced by analogical reasoning.

To understand the plausible counterfactuals of my findings, I collected similar sets of data to understand the evolution of the markets for the securitization of credit-card and auto-loan receivables. My analyses suggest that a major difference between the market for MBS and the other two markets is that, unlike MBS, credit-card and auto-loan receivables were classified by bond-market participants as a special type of fixed-income securities, known as asset-backed securities. This classification served to slow down the development of the two markets and forced the participants to pay close attention to the differences between credit-card and auto-loan-backed securities and conventional bonds. These findings suggest that the analogy of mortgage-backed securities to bonds played an important role in the trajectory of the MBS market.

Future Research Directions

My dissertation offers several promising venues for future research projects. One, I continue to be fascinated by the idea that decision-makers' mental models serve to shape their behavior. Two, the data I collected on the development of the U.S. MBS market enables me to ask and answer interesting questions specific to the research context. Three, the methods I developed in studying the MBS market could be applicable to studying the evolution of other complex systems.

In "Comment on 'Toward a Behavioral Theory of Strategy,'" forthcoming in *Organization Science*, co-authored with Adam Brandenburger, we argue that the language decision-makers use provides them with a specific set of mental models. They cannot go beyond that set without learning a new vocabulary and, with it, a new set of mental models. Much of the research conducted in this area comes from the realm of either formal mathematics or cognitive psychology, and much could be gained by testing and applying the insights of this work in research on organizations.

In my research on the evolution of the MBS market, I became interested in understanding how the label "subprime" was introduced to explain the 2008 mortgage crisis and retroactively applied to both previously legitimate and previously illegitimate industry practices. I would like to understand the process by which the term has lost its technical meaning of lending to frequently high-income people with sloppy payment records and, has come to denote both lending to the poor and bad lending decisions.

Finally, the methods of inquiry I have developed in my dissertation seem well-suited for the study of the U.S. health-care delivery system. I have begun collecting field data to determine how a project tracking open-heart surgery outcomes came together and persevered in New York State. I am interested in understanding the factors that were responsible for the project's success in lowering the risk-adjusted mortality rates, as well as the factors that prevented the other states from following suit.