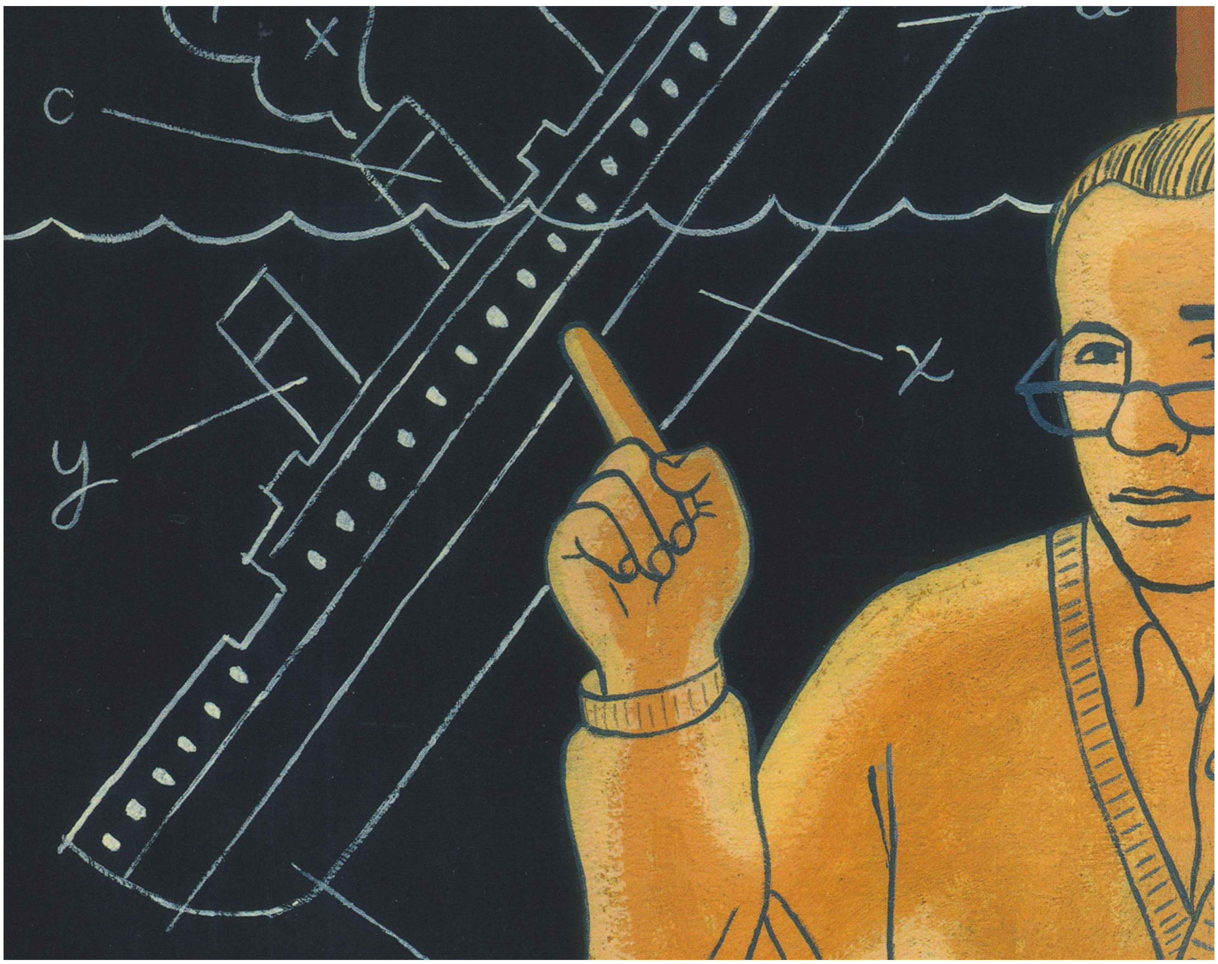
On Campus

Crash Course

The financial crisis rippled throughout the curriculum of the University this year, challenging faculty to turn on a dime.

By Daniel Sorid '99CC, '09JRN |
Winter 2008-09



James Steinberg

Frederic Mishkin was cross-country skiing in the Sierra Nevada Mountains when an e-mail arrived on his cell phone: *Call immediately*.

The message was from the office of Federal Reserve Chairman Ben Bernanke. It was January 21, 2008, and that week central bankers sweated over a brewing market crisis: confidence in the economy had sagged, and hints of seizure surfaced in the issuance of short-term credit, the lifeblood of business. Bernanke, a scholar of the Great Depression, felt suitably unnerved to order an emergency meeting, the Fed's first emergency meeting since the September 11 attacks. Calls went out to the Federal Reserve governors and regional bank presidents, whose votes would be needed to approve a stimulus aimed at restoring order to the markets.

But at 8000 feet above sea level, Mishkin, a Fed governor and MIT-trained economist, was in no position to get to a secure phone line. It hardly mattered. The vote to cut interest rates was nearly unanimous. But it proved to be a vain measure: the banking system was nine months away from a calamitous collapse.

Mishkin resigned from the Federal Reserve on August 31 to return to Columbia, where he has been a faculty member since 1983. His course on the financial markets, designed to illustrate their importance to a well-functioning economy, began two days later. As if on cue, the foundations of the U.S. financial system began to break down in unthinkable ways. Lehman Brothers filed for bankruptcy, and American International Group, the world's largest insurance company, averted failure only after an $85 billion Fed bailout. The crisis invested Mishkin's classes with new significance as the events of the day began to track what was shaping up to be an eerily prescient syllabus. Lessons on the benefits and risks of financial innovation, the economic conflagrations caused by a financial market crash, and the dangerous incentives created by government guarantees, were now front-page news. The implosion of Fannie Mae became the case study for the moral hazard of government guarantees. And on the day Congress rejected the financial bailout, a stunned class listened as Mishkin, 58, a tough-talking New York native, warned of the dangers of inaction. "This could blow up the system," he said. Facing his 60 students each Monday and Wednesday morning in a packed room in Uris Hall, Mishkin began his classes the same way, first opening the floor to any questions about the course material, then quickly moving on to the headlines. Anxious and intrigued students, many holding copies of financial newspapers, plunged right in. Will the Fed's $700 billion asset purchase plan work? Should we bail out the automakers? After 30 minutes, Mishkin would cut the discussion off and move back to the course material.

By the semester's end, the investment banking industry, a major employer of the B-school's graduates, had effectively collapsed, sparking fears of a downturn rivaling the Great Depression.

David Beim, a veteran finance faculty member at Columbia Business School, believes the crisis "is going to dominate for the rest of my career. I'm an ardent free marketer, but I've got to look myself in the mirror and say, something's gone terribly wrong, and those of us who have devoted our careers to finance have a lot to answer for."

Columbia is a feeder school to the corporate world, says Beim, so its business curriculum necessarily reflects the conditions of the world around it. When Beim began to teach international banking in 1990, the course was centered on the bank failures of the 1980s. Later, as the global banking business boomed, students learned strategies for growing bank profits and techniques for measuring the value of takeover targets. When Beim took a leave of absence in 2006, his course reflected boom-time conditions. "Now I come back, and I find the world has once again transformed," he says. "The international banking course is going to have to go back to its roots."

Models Behaving Badly

Down a corridor in the Seeley W. Mudd building, beside biomedical engineering labs and a radiation safety office, is the home of the School of Engineering and Applied Science's one-year master's program in financial engineering, a multidisciplinary field that uses tools of engineering and mathematics to predict the behavior of financial instruments, such as stocks and bonds.

At the reception desk of the program's brightly lit office, students pick up brochures for Wall Street jobs and skim booklets describing courses on credit derivatives and experimental finance. For several years the program has shepherded as many as 60 graduates a year into lucrative careers with investment banks and hedge funds. Those jobs have now largely vanished.

Emanuel Derman, the director of the program, puzzles over a question arguably more complex than any bond-pricing model: how do you teach quantitative finance in the middle of a market meltdown, especially when many of the predictive financial models taught in the classroom — models that fueled the financial industry's boom and eventual bust — simply no longer work?

"They're all broken," says Derman, a physicist who parlayed his knowledge of complex modeling into a career at Goldman Sachs. Models that predict the price and risk of complex financial instruments don't last forever, and when they break under the strain of a crisis, they are eventually rebuilt to reflect new experiences. Unlike the physical world, whose laws remain constant, the behavior of financial markets can change. "The trick is to have students understand that and still try to get some value" out of learning about old models, says Derman, who occasionally strains to describe what's next for the financial engineering program. While the field will survive as long as modern markets operate, he says, the curriculum will need to be rethought.

More than 40 American universities started programs in financial engineering in recent years, according to Derman, but Columbia's, just a cab ride from Wall Street, has drawn on the industry's insiders at regular seminars. Topics grew increasingly grim as the crisis unfolded. This spring, Derman will lead students, 90 percent of whom come from overseas, through new research exploring the dynamics of the meltdown and its lessons.

We're All Economists Now

The crisis has also seeped into the foundations of the Columbia undergraduate experience, the Core Curriculum. In Contemporary Civilization, students this semester will contemplate the stunning regulatory failure in the financial sector in the context of Adam Smith's *The Wealth of Nations*, a foundational text of free-market economics.

"One of the major points I make about Smith is that he emphasizes how a system can work on its own" with only high-level government interference, says Douglas Chalmers, a professor emeritus of political science who is teaching Contemporary Civilization this year. "This crisis is a perfect example of how the self-organizing capacity of the society — in this case, particularly, the credit markets, which operate only if there is a generalized trust — can falter."

The Core Curriculum covers literature, art, music, science, culture, and the history of ideas, but it has no economics requirement. Still, economics is the most popular undergraduate major, and, according to the department, more than half of all undergraduates enroll in Principles of Economics, the introductory course. "The popularity of the major has been increasing nationally for a very long time now," says Janet Currie, chair of the economics department. "I think it's accounted for by the rigor, empirical relevance, and versatility that characterize economic training - not by the business cycle or the importance of the financial sector to New York. Economics is just as useful in a declining market, if not more so, than in an improving one."

The department also benefits from the real-world experience of its faculty. Jón Steinsson, an assistant professor, advised the prime minister of Iceland during the country's financial meltdown in October. Professor Michael Woodford is an adviser to the Federal Reserve Bank of New York, and coauthored a book on inflation targeting with Ben Bernanke.

"Professors are spending more time relating the concepts they teach to the crisis; this is simply good pedagogy," says Currie. "One has to take the things students are interested in, and use them to make the material relevant."

Even students at the Graduate School of Journalism, who customarily shy away from numbers and math, are clamoring for an education on the functioning of the markets. The school recently added a second section to the business and economics reporting seminar for the spring semester to accommodate student interest. Journalism students have put together videos on the effects of the economic downturn in New York City, and several business-focused master's degree candidates have proposed a book on the crisis. The journalism school also runs the Knight-Bagehot Fellowship in Economics and Business Journalism, which immerses midcareer journalists into the curriculum of the business school, along with weekly seminars with leaders of business and government.

The Big Think

The financial catastrophe of 2008 has rewritten the book on financial crises, literally. Frederic Mishkin is overhauling his *Economics of Money, Banking, and Financial Markets*, the dominant college textbook on the financial markets. Past editions dealt with banking crises largely in the context of emerging markets. But the new edition will feature the subprime mortgage mess and its early aftermath, mixing blow-by-blow accounts of financial crises as seen by a Fed insider with the charts and graphs of the theory of financial dysfunction: the mismanagement of financial innovation, the bursting of asset bubbles, the failure of banks, and the dangerous spiral of deflation.

"It's not good enough to know the technical details," says Mishkin. "You've got to do the big think. Part of what got us into this crisis was that people didn't understand the flawed incentives in financial markets. They weren't thinking broadly enough. And as a result, we're suffering terribly for it now."

In spite of the seriousness of the crisis, Mishkin has maintained a self-deprecating sense of humor in the classroom, riffing on his days as a nerdy MIT undergraduate and boasting of how he injected a touch of Yiddish humor into a speech at the normally buttoned-down Federal Reserve. ("Comfort Zones, Shmumfort Zones," he titled it.) If a lesson on bond-pricing models seemed to sap some life from his students, he'd pep them up with anecdotes about driving to work all winter in an open-topped convertible.

"It doesn't get better than this from a teaching point of view," he says. "If I hadn't lost close to half my pension, I'd be perfectly happy."

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