

WHARTON

MAGAZINE

EDITION FOUR | FALL 2011

Calculating the Impact of the New Quant Finance Center



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Wharton's **Jacobs Levy Equity Management Center for Quantitative Financial Research** aims to pioneer innovative research in finance and to produce the next generation of investment leadership.

BY MATTHEW BRODSKY

It took two of quantitative finance's most prominent pioneers to launch a research center that will produce the next generation of the field's leaders at The Wharton School.

And according to those pioneers, **Bruce I. Jacobs, G'79, G'86, PAR'10**, and **Kenneth N. Levy, WG'76, G'82**, the arrival of the Jacobs Levy Equity Management Center for Quantitative Financial

Research is well timed. "An increasingly complex world requires the tools that quantitative research can provide," Jacobs told *Wharton Magazine*. "Finance will always be an 'art,' since it reflects human actions, not natural forces. But there is a lot to be gained by the application of scientific methods," Jacobs added. As illustration, he compared quantitative research to the testing of pharmaceutical





Dean Thomas S. Robertson, Bruce Jacobs, Ken Levy and University of Pennsylvania President Dr. Amy Gutmann prepare to cut the ceremonial ribbon at a celebratory dinner for the Jacobs Levy Equity Management Center for Quantitative Financial Research.

drugs, in that it can distinguish the effective solutions from the ineffective or “out-right dangerous ones.”

In the 21st century, a significant portion of the financial community has adopted quantitative finance, Levy told *Wharton Magazine*: “Most financial research done today is quantitative, either analytical or em-

pirical.” Furthermore, “quantitative finance is taught as part and parcel of a general financial degree.” Yet room still exists for tremendous growth in the field.

To that end, the Jacobs Levy Center aims to foster new and innovative research by faculty, visiting academics and Ph.D. students, and disseminate that research through its

website, Knowledge@Wharton and other media, as well as through an annual conference.

Furthermore, the Wharton-Jacobs Levy Prize for Quantitative Financial Innovation will recognize research that leads to substantial innovations in the practice of quantitative finance, research that, as



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Jacobs stressed, has an impact on the financial well-being of us all. Granted every two years, the Wharton-Jacobs Levy Prize will recognize one or more persons who publish peer-reviewed journal articles that demonstrate outstanding quantitative research that contributes to a particular innovation in the practice of finance. Levy expressed the hope that the prize will become the “most coveted” in financial research.

At the day-to-day helm of this idea-mining mission will be Donald B. Keim, John B. Neff Professor of Finance. Keim explained how Jacobs and Levy have been at the forefront of combining academic research and practice for the past quarter-century, through their work at Jacobs Levy Equity Manage-

ment (see the side story on P. 31). He was, he said, eager to pursue the same goal at the Center: to create the highest quality quantitative financial research.

The Jacobs Levy Center will be in good hands. Keim is one of Wharton’s longest-serving and most-distinguished faculty members, and he has been a leader in the field of quantitative finance for nearly three

decades, as both an author and editor for the field’s leading journals.

“I can think of no individual other than Don to carry Wharton through this new endeavor,” University of Pennsylvania President Dr. Amy Gutmann told guests at the celebratory dinner in September marking the opening of the Jacobs Levy Center.

“It’s an honor for me to serve as the first director,” Keim said during his speech at the event.

What could such research illuminate?

In his speech during the Center’s opening gala, Jacobs, who will serve as chair of the Center’s advisory board, suggested that room to roam in research could be found in domestic and international stocks



Ken Levy (left) and Bruce Jacobs (right) enjoy the evening's event with guests and attendees.



“This is ... at the heart of the Penn Compact.”

and bonds, corporate finance and portfolio management.

Levy, who will also be on the advisory board, pointed to the promising intersection of quantitative research and behavioral finance, which could benefit from academic research and in turn benefit practitioners. He also suggested that quantitative finance could have a “big impact” on individual investing, offering such investors an alternative to their traditional choice between passive investment funds and “judgment-driven” funds.

“At a time when individuals are increasingly responsible for their own financial futures, securing those futures is becoming more and more difficult and complicated.

We believe quantitative finance has a lot to offer,” Levy said.

“Given the current environment, there’s also renewed interest in understanding and managing risk, on both the economic and individual portfolio levels,” Jacobs told us. Experts in quantitative finance, Jacobs noted, “brought us such ‘risk-control’ mechanisms as options and option replication, and structured securitization such as mortgage-backed securities. These were designed to insulate investors from risk in one way or another.” Yet instead, these instruments have at times increased risk, most notably during the credit crisis of 2007-2008.

“We obviously have a long way to go in understanding these instruments and strat-

25 Years of Success and Beyond

Without The Wharton School, Bruce Jacobs and Ken Levy would never have met and their firm Jacobs Levy Equity Management would never have existed, Levy explained during his speech at the dinner that launched the Jacobs Levy Equity Management Center for Quantitative Financial Research (which, by the way, would never have been launched).

Jacobs holds an M.A. in Applied Economics and a Ph.D. in Finance from the Wharton School and had a brief but distinguished career on the faculty at Wharton. Levy holds an M.B.A. and an M.A. in business economics from Wharton.

It was while Jacobs was teaching at the Philadelphia campus in the early 1980s that he and Levy met and realized they had common interests, among them an intense interest in the stock market and a certain skepticism about the efficient market hypothesis, the dogma of the day. They each independently moved next to Prudential, where they formed and managed a quantitative equity management affiliate.

Then in 1986, the two men founded Jacobs Levy Equity Management. For the first three years of the firm’s existence, they devoted themselves only to research, in particular to researching the fundamental and behavioral factors underlying security returns and to what would become one of their innovations: the “disentangling” of return-predictor relationships. In 1990, they began accepting assets from clients and applying their proprietary research in practice.

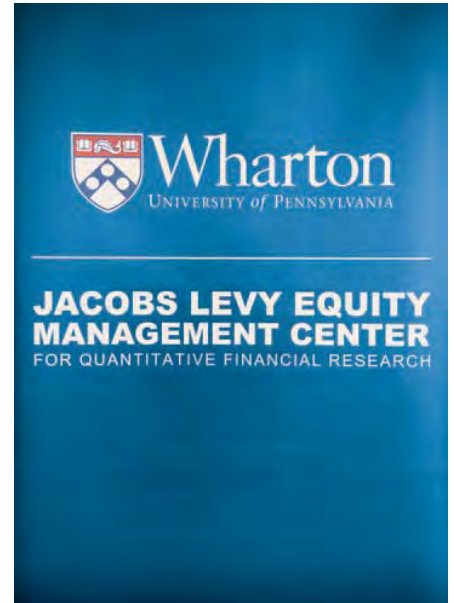
More than two decades later, the firm manages \$8 billion in assets for a prestigious global roster of corporate pension plans, public retirement systems, and endowments and foundations, including many of *Pensions & Investments*’ “Top 200 Pension Funds/Sponsors.”

They have continued to expand their research into market anomalies and opened up new lines of inquiry. In particular, they have pioneered the construction of controlled-risk portfolios that hold both long and short positions, including both market-neutral long-short portfolios and 130-30 long-short portfolios. They have developed defensive equity strategies, which are designed to deliver a return similar to or better than the market’s with lower risk. They have also worked with Nobel laureate Harry Markowitz on creating a computer model that can be used to simulate financial markets.

Jacobs and Levy have explained the concepts behind their research in numerous published books and articles that have had a widespread impact on quantitative finance. Their influence on quantitative finance will now be amplified through the Jacobs Levy Equity Management Center for Quantitative Financial Research, a natural progression, albeit a large one, and a highlight of their careers.

“So far, it is second only to our creation of Jacobs Levy Equity Management,” Jacobs told *Wharton Magazine*.

—Matthew Brodsky



egies and their effects on markets,” Jacobs offered. In particular, according to Jacobs, regulators and credit ratings agencies have proven themselves “not as quantitatively savvy as the practitioners.”

“We hope the Jacobs Levy Center can contribute to knowledge in ways that will level the playing field in this regard,” he said.

The Jacobs Levy Center could raise overall awareness about risk management and help create new tools for practitioners, Levy said.

No matter the research topic, it is clear: there is still plenty of unexplored territory, a fact that both Jacobs and Levy relish and one

that bodes well for the Jacobs Levy Center.

“We are setting off on this exploration with the goal of drawing new and better maps of the world,” was how Jacobs painted the endeavor during his speech at the opening dinner. “We feel as if we’re funding the Lewis and Clark Expedition.”

The Jacobs and Levy expedition, though, will bring along more pioneers than the few dozen who braved the 19th century venture commissioned by President Thomas Jefferson.

The Jacobs Levy Center will bring together not just various departments within the

Wharton School—such as Finance, Accounting, Statistics and Operations and Information Management—but will also connect the business school with the schools of Arts and Sciences, Engineering and Applied Science, and beyond—connecting academics and students on campus with practitioners throughout the world of finance.

For Dr. Gutmann that facet helps explain in large part why the Jacobs Levy Center is such an immediate fit for the campus.

“This is ... at the heart of the Penn Compact,” she said to the audience at the Jacobs Levy Center dinner party.

Since 2004, the Penn Compact has represented the University's commitment to teaching, research and service. Its four core tenets are increasing access, engaging locally, engaging globally and integrating knowledge.

Dean Thomas S. Robertson, Reliance Professor of Management and Private Enterprise, concurred when he said that night that Wharton's new center will be of value to the worldwide business community, and by extension, that Wharton will become even more valuable to that community. "That is indeed our objective: to be the best business school in the world, and for the world," he said.

Or as Levy summed it up in his dinner speech, "As much as research pushes practice, practice pushes research."

"Ideas are the critical capital," he said, in today's increasingly "virtual" business world.

"The demands it makes are large, but the rewards can be tremendous—and not just the pecuniary ones."

The Jacobs Levy Equity Management Center for Quantitative Financial Research can bring to light a trove of ideas—through debate and through "dynamic, give-and-take thinking," as Jacobs put it, between students, professors and practitioners.

Students are first in line to reap the benefits of the Jacobs Levy Center. Quantitative finance education is in "good shape" around the country, according to Levy, but room always exists for improvement.

"The Jacobs Levy Center will, we hope, propel the study of quantitative finance at Wharton and raise its standing throughout the financial community," Levy told us.

This greater awareness could lead to more of today's talented students—and tomorrow's—entering the field.

"We hope they will seriously consider it," Jacobs said. "The demands it makes are large, but the rewards can be tremendous—and not just the pecuniary ones." ■