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CHANGE
THE WORLD

Demystify. Empower. Open. Fix.



UNIVERSITY OF CALIFORNIA
SANTA CRUZ

DIVISION OF SOCIAL SCIENCES

CAFIN

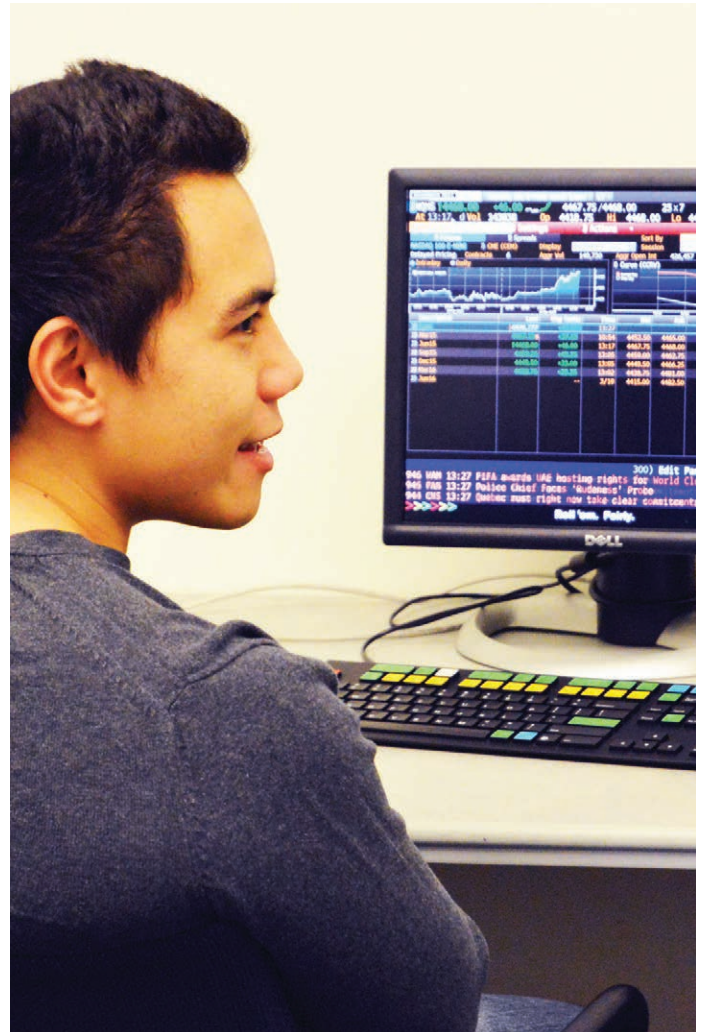
Center for Analytical Finance

OUR MISSION

Finance is the lifeblood of a modern economy. It is complex but essential. The Center for Analytical Finance (CAFIN) advances our understanding of financial market design, financial access, and large-scale risks to the financial system.

We use this increased understanding to educate future practitioners in the financial sector as a step toward improving the everyday functioning of the financial system and reducing the risk of future financial crises. We seek to:

- Push the frontiers of financial knowledge
- Demystify financial markets and practitioners
- Teach modern finance in broader context to empower consumers in financial decision-making
- Show how to level the playing field, improving access to financial markets and services
- Identify problems in financial markets and how to fix them
- Bring experts from outside finance to provide context and unique skills





OUR WORK

The center's work encompasses research, dissemination, and education in three critical areas:

Market design. Problems in financial markets can result not only from malfeasance, but from poor design of market institutions. We focus on how to improve design in areas including high frequency trading, disclosure rules, pricing methods, and risk-control mechanisms.

Financial access. Technological innovations are expanding the potential for broader access to financial services. We focus on how to provide greater access to banking, start-up financing, and lending (including peer-to-peer lending and microfinance in developing countries).

Systemic risk. The global economic crisis of the last decade illustrates the danger of large-scale risks emanating from the financial system. We focus on understanding areas of risk that can snowball to threaten the global economy, including bank failure avalanches, currency contagion, and liquidity crises.

In all areas, the center utilizes its resources to:

- Support and enable research
- Provide a catalyst and focal point to bring people together
- Conduct seminars and workshops
- Identify problems in the financial markets and how to fix them
- Train the next generation of financial professionals

MAKING AN IMPACT

High Frequency Trading and Financial Market Design

This project is developing a flexible financial exchange that can host different market formats and simulate normal or stressful market conditions. It will be a platform for conducting laboratory experiments and public tournaments. CAFIN has provided seed funding, and the project has attracted favorable attention from officials in regulatory agencies (including the SEC and CFTC), major exchanges (including NASDAQ and EBS), trade groups (including HMA) and central banks (including Bundesbank). Preliminary results suggest that a proposed new market format may indeed reduce high frequency trading while improving liquidity and efficiency.

Financial Market Instabilities

This project examines causes of short-term market instability, such as the Flash Crash of May 2010, in which the Dow Jones Industrial Average lost about 1,000 points in just a few minutes. By examining order book data at the millisecond level, this research indicates that there are fragilities in how current market structures handle particular combinations of information flows and large sell orders. This suggests a deeper structural problem, rather than individual manipulation, as a cause of the Flash Crash.

ANSWERS FROM THE CENTER DIRECTOR

Q: What makes CAFIN's work unique?

A: CAFIN is differentiated by both its broad scope and its specific approaches. Rather than treat finance as a narrow subfield, our group pushes for an overall understanding of the role of finance in the economy and the challenges associated with the functioning of financial markets. We drill down to specific, identifiable problems and develop solutions using frontier approaches.

Q: What impact are we having?

A: Our research on the Flash Crash was widely cited in the media, and sought out by regulators and other analysts seeking to understand what had happened in 2010 and how to avoid future reoccurrences. As the center grows over the next decade, we expect that its work will be increasingly influential, due to the combined expertise of those involved.

Q: Do you work with people beyond the university?

A: The center's mission—to demystify and strengthen the working of the financial sector—makes collaborations with practitioners and regulatory institutions part of our natural evolution. We have hosted practitioners applying information technology to financial markets and regulators of those markets at our colloquia.



THE DIFFERENCE IS YOU

With your help, CAFIN will accomplish these goals:

- Become a global hub for international financial thinkers
- Expand training of future practitioners in finance
- Develop and deliver a personal finance course for all UC Santa Cruz students, serving as a model for other UC campuses
- Accelerate innovations in financial market structures to enhance efficiency, stability, and equal access
- Expand research in our core areas of market design, financial access, and systemic risk
- Establish a named center endowment

We depend on private donations to help fund the vital work we do. **Thank you for your support!**



“ The difficulty lies, not in the new ideas, but in escaping from the old ones. ”

— John Maynard Keynes

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Contact the Social Sciences Development Office
at 831-459-3857 or by email at socsci@ucsc.edu.



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THE ORIGINAL
AUTHORITY
ON QUESTIONING
AUTHORITY