

## **CRAIG W. HOLDEN**

### **EDUCATION**

**Ph.D.**, Finance, University of California, Los Angeles, 1990

**M.B.A.**, Finance/Operations, University of California, Los Angeles, 1984

**B.A.**, Political Science, University of California, Davis, 1977

### **DISSERTATION**

"The Theory And Empirical Analysis Of Arbitrage Trading," supervised by Michael Brennan (Chairman), David Butz, Hashem Pesaran, Eduardo Schwartz, and Walter Torous

### **EXPERIENCE**

Finance Department Chair, 2018 - Present

Boquist-Meyer Faculty Fellow, 2014 - Present

Professor, Indiana University, 2010 - Present

Associate Professor, Indiana University, 1997 - 2010

Max Barney Faculty Fellow, 2003 – 2008

Richard G. Brinkman Faculty Fellow, 1998 - 2003

Assistant Professor, Indiana University, 1990 - 1997

Strategic Financial Analyst, Home Savings of America, 1984-1985

Consultant, First Interstate Bank, Summer 1983

Department Manager, Best Products Co., Inc., 1980-1982

Division Sales Analyst, Hilti, Inc., 1979-1980

Legislative Assistant, State Senator James Nielsen, 1977-1979

### **RESEARCH, TEACHING, AND SERVICE AWARDS**

Spangler-IQAM Award for the Best Paper in Investments published in the *Review of Finance*

in the academic year 17-18

Philip Brown Prize for the best paper using SIRCA data that was published in 2017

Fama/DFA Prize, Second Prize for Best Paper in Capital Markets and Asset Pricing published in the *Journal of Financial Economics* in 2009

Morgan Stanley Equity Market Microstructure Research Grant, 2003

Two-year, Curriculum Development Grant, NASDAQ Educational Foundation, 2002

FACET: Faculty Colloquium on Excellence in Teaching (Universitywide), Nominee: 1996

Doctoral Student Association Exceptional Inspiration and Guidance Award (Schoolwide), Winner: 1996, Nominee: 2002, 2006

Teaching Excellence Recognition Award (Schoolwide), Winner: 2000

Kelley School of Business Alumni Association Faculty Fellowship for Outstanding Research (Schoolwide), Winner: 1994, 1995, 1997

Innovative Teaching Award (Schoolwide), Winner: 1999, Nominee: 1998 (UG & PhD), 2001

Harry C. Suavain Teaching Award (Schoolwide), Nominee: 1996, 1997, 2008, 2018

DSA Distinguished Teaching Award (Schoolwide), Nominee: 2004-2006, 2008

School of Business Service Award (Schoolwide), Nominee: 1996

Peterson Faculty Fellowship for Outstanding Research (Department), Winner: 1994, 1995, 1997

## **PUBLISHED OR FORTHCOMING PAPERS**

1. Craig W. Holden and Jayoung Nam, Do the LCAPM Predictions Hold? Replication and Extension Evidence, forthcoming in *Critical Finance Review*.
  - SAS code to replicate the LCAPM tests based on the Acharya and Pedersen (2005) methodology and to extend the LCAPM tests based on the Lee (2011) methodology are available at [www.kelley.iu.edu/cholden](http://www.kelley.iu.edu/cholden)
2. Kingsley Y.L. Fong, Craig W. Holden, and Charles A. Trzcinka, 2017, What Are The Best Liquidity Proxies For Global Research?, *Review of Finance* 21, 1355-1401 (lead article).
3. Craig W. Holden and Daniel S. Kim, 2017, Performance Share Plans: Valuation and Empirical Tests, *Journal of Corporate Finance* 44. 99-125.

4. Craig W. Holden, 2017, Do Acceptance and Publication Times Differ Across Finance Journals?, *Review of Corporate Finance Studies* 6, 102-126.
  - I plan to post an annual update to the analysis in this paper – the first annual update, which includes 2016 data, is available at [www.kelley.iu.edu/cholden](http://www.kelley.iu.edu/cholden)
5. Craig W. Holden, Stacey Jacobsen, and Avanidhar Subrahmanyam, 2014, The Empirical Analysis of Liquidity, *Foundations and Trends in Finance* 8, No. 4, 263-365.
6. Craig W. Holden and Stacey Jacobsen, 2014, Liquidity Measurement Problems in Fast, Competitive Markets: Expensive and Cheap Solutions, *Journal of Finance* 69, 1747-1785.
  - SAS code to implement our recommended solutions for Daily Trade and Quote (DTAQ) and Monthly Trade and Quote (MTAQ) data is available at [www.kelley.iu.edu/cholden](http://www.kelley.iu.edu/cholden)
7. Utpal Bhattacharya, Craig W. Holden, and Stacey Jacobsen, 2012, Penny Wise, Dollar Foolish: Buy-Sell Imbalances On and Around Round Numbers, *Management Science* 15, 413-431.
8. Ruslan Goyenko, Craig W. Holden, and Charles A. Trzcinka, 2009, Do Liquidity Measures Measure Liquidity?, *Journal of Financial Economics* 92, 153-181 (lead article).
9. Craig W. Holden, 2009, New Low-Frequency Spread Measures, *Journal of Financial Markets* 12, 778-813.
10. Craig W. Holden and Leonard L. Lundstrum, 2009, Costly Trading, Managerial Myopia, and Long-Term Investment,” *Journal of Empirical Finance* 16, 126-135.
11. Craig W. Holden and Pamela S. Stuerke, 2008, The Frequency of Financial Analysts’ Forecast Revisions: Theory and Evidence about Determinants of Demand for Predisclosure Information, *Journal of Business Finance and Accounting* 35, 860-888.
12. Andrew Ellul, Craig W. Holden, Pankaj Jain, and Robert Jennings, 2007, Order Dynamics: Recent Evidence from the NYSE, *Journal of Empirical Finance* 14, 636-661.
13. Craig W. Holden and Avanidhar Subrahmanyam, 2002, News Events, Information Acquisition, and Stock Price Behavior, *Journal of Business* 75, 1-32 (lead article).
14. Robert Battalio and Craig W. Holden, 2001, A Simple Model of Payment For Order Flow, Internalization, and Total Trading Costs, *Journal of Financial Markets* 4, 33-71.
15. Mark Bagnoli, S. Viswanathan, and Craig W. Holden, 2001, On The Existence of Linear Equilibria in Models of Market Making, *Mathematical Finance* 11, 1-31.
16. Craig W. Holden and Avanidhar Subrahmanyam, 1996, Risk Aversion, Liquidity, and

Endogenous Short Horizons, *Review of Financial Studies* 9, 691-722.

17. Sugato Chakravarty and Craig W. Holden, 1995, An Integrated Model Of Market And Limit Orders, *Journal of Financial Intermediation* 4, 213-241.
18. Craig W. Holden, 1995, Index Arbitrage As Cross-Sectional Market Making, *Journal of Futures Markets* 15, 423-455.
19. Craig W. Holden and Avanidhar Subrahmanyam, 1994, Risk Aversion, Imperfect Competition, and Long-Lived Private Information,” *Economic Letters* 44, 181-190.
20. Craig W. Holden and Avanidhar Subrahmanyam, 1992, Long-Lived Private Information and Imperfect Competition,” *The Journal of Finance* 47, 247-270.
21. Craig W. Holden, 1991, Index Arbitrage and The Media, *Financial Analysts Journal* 47, 5, 8-9.

#### **NON-REFEREED FORTHCOMING PAPER**

22. Andrew Ellul, Itay Goldstein, Craig Holden, Ron Masulis, Jeffrey Pontiff, and Antoinette Schoar, 2019, The Annual Report of the Society for Financial Studies for 2018-2019, forthcoming in *Review of Financial Studies*, *Review of Asset Pricing Studies*, and *Review of Corporate Finance Studies*.

#### **WORKING PAPERS**

23. Craig W. Holden, Dong Lu, Volodymyr Lugovskyy, and Daniela Puzzello, What is the Impact of Introducing a Parallel OTC Market? Theory and Evidence from the Chinese Interbank FX Market, under revision for the second round at the *Journal of Financial Economics*
24. Craig W. Holden, Yifei Mao, and Jayoung Nam, Price Discovery in the Stock, OTC Corporate Bond, and NYSE Corporate Bond Markets, under revision
25. Kingsley Y.L. Fong, Craig W. Holden, and Ondrej Tobek, Are Volatility Over Volume Liquidity Proxies Useful For Global Or US Research?, under revision.
26. Craig W. Holden and Jayoung Nam, Market Accessibility, Corporate Bond ETFs, and Liquidity, under revision
27. Craig W. Holden, Mingfeng Lin, Kai Lu, Zaiyan Wei, and Jun Yang, The Effect of Secondary Market Existence on Primary Market Liquidity: Theory and Evidence from a Natural Experiment in Peer-to-Peer Lending, under revision

#### **WORK IN PROGRESS**

Craig W. Holden, Matthew Pierson, and Jun Wu, In the Blink of an Eye: Exchange-to-SIP Latency and Trade Classification Accuracy

Matthew T. Billett and Craig W. Holden, What is the Global Placement Record of Business Doctoral Programs?

Nathan Burton, Craig W. Holden, and Jayoung Nam, What is the Long-run, Big Picture of Equity Price Discovery?

## **CITATIONS AND OTHER IMPACTS**

My research has generated more than 3,700 Google Scholar citations

Google Scholar listed “Do Liquidity Measures Measure Liquidity?” with Goyenko and Trzcinka as the 21<sup>th</sup> most cited paper published in finance between 2009-2013 as of July 2014

*Financial Times* article, “Selling Shares Like Toothpaste,” January 28, 2009 based on “Penny Wise, Dollar Foolish: Buy-Sell Imbalances On and Around Round Numbers”

Three of my research theories are explained in the book, “Trading and Exchanges,” by Larry Harris, 2002, Oxford Press, New York.

Battalio and Holden (2001) was cited and debated in Congressional testimony on H.R. 1053, (regarding decimal trading on U.S. security exchanges), Hearings in U.S. House of Representatives before the Subcommittee on Finance and Hazardous Materials of the Committee on Commerce, April 16, 1997

Holden and Subrahmanyam (1992) received a three-page write-up in the textbook “Market Microstructure Theory,” by Maureen O’Hara, 1995, Blackwell Publishers, Oxford.

## **TEXTBOOKS**

*Excel Modeling in Investments*, by Pearson / Prentice Hall

- *First Edition* in 2001
- *Second Edition* in 2004
- *Third Edition* in 2008
- *Fourth Edition* in 2011
- *Fifth Edition* in 2014

*Excel Modeling in Corporation Finance*, by Pearson / Prentice Hall

- *First Edition* in 2002
- *Second Edition* in 2004
- *Third Edition* in 2008
- *Fourth Edition* in 2011
- *International Edition* in 2011
- *Fifth Edition* in 2014

*Excel Modeling in the Fundamentals of Investments*, Undergraduate Level, by Pearson / Prentice Hall

- *First Edition* in 2001
- *Second Edition* in 2004
- *Third Edition* in 2008

*Excel Modeling in the Fundamentals of Corporate Finance*, Undergraduate Level, by Pearson / Prentice Hall

- *First Edition* in 2002
- *Second Edition* in 2004
- *Third Edition* in 2008

An Italian Edition was published in 2007 by Addison Wesley Longman Italia:

- *Esercizi di finanza aziendale con Excel*, ISBN 8871923529

Chinese Editions of my books were published in 2004 by China Renmin University Press for sale exclusively in the People's Republic of China:

- *Spreadsheet Modeling in Investments, Chinese Simplified*, ISBN 7300051138
- *Spreadsheet Modeling in Corporate Finance, Chinese Simplified*, ISBN 7300051146

Chinese Editions of my books were published by China Machine Press / Huazhang Co for sale exclusively in the People's Republic of China:

- *Excel Modeling and Estimation in Investments, Third Edition, Chinese Simplified*, ISBN 978-7-111-30587-3 in 2010
- *Excel Modeling and Estimation in the Fundamentals of Corporation Finance, Third Edition, Chinese Simplified*, ISBN 978-7-89451-598-8 in 2010
- *Excel Modeling in Corporation Finance, Fourth Edition, Chinese Simplified*, ISBN 978-7-89451-519-1 in 2014
- *Excel Modeling in Investments, Fourth Edition, Chinese Simplified*, ISBN 978-7-111-50989-9 in 2016

My web site [www.excelmodeling.com](http://www.excelmodeling.com) provides comprehensive information about the *Excel Modeling* series.

### Results

- More than 2,500 desk copy requests have been submitted to my web site. They have come from **97 countries** around the world:

- |                |               |                      |
|----------------|---------------|----------------------|
| 1. Afghanistan | 33. Honduras  | 65. Oman             |
| 2. Algeria     | 34. Hong Kong | 66. Pakistan         |
| 3. Argentina   | 35. Hungary   | 67. Papua New Guinea |
| 4. Armenia     | 36. India     | 68. Peru             |

5. Australia	37. Indonesia	69. Philippines
6. Bahrain	38. Iran	70. Portugal
7. Bangladesh	39. Ireland	71. Puerto Rico
8. Belgium	40. Israel	72. Qatar
9. Benin	41. Italy	73. Romania
10. Bolivia	42. Ivory Coast	74. Russia
11. Brazil	43. Jamaica	75. Saudi Arabia
12. Bulgaria	44. Japan	76. Senegal
13. Cambodia	45. Jordan	77. Serbia / Montenegro
14. Cameroon	46. Kazakhstan	78. Singapore
15. Canada	47. Kenya	79. South Africa
16. Chile	48. Korea	80. Spain
17. China	49. Kuwait	81. Sri Lanka
18. Columbia	50. Latvia	82. Swaziland
19. Congo	51. Lebanon	83. Sweden
20. Costa Rica	52. Liechtenstein	84. Switzerland
21. Croatia	53. Macedonia	85. Syria
22. Czech Republic	54. Malaysia	86. Taiwan
23. Denmark	55. Mauritius	87. Tanzania
24. Ecuador	56. Mexico	88. Thailand
25. El Salvador	57. Mongolia	89. Tunisia
26. Fiji	58. Morocco	90. Turkey
27. Finland	59. Mozambique	91. United Arab Emirates
28. France	60. Nepal	92. United Kingdom
29. Germany	61. Netherlands	93. United States
30. Ghana	62. New Zealand	94. Uruguay
31. Greece	63. Nigeria	95. Venezuela
32. Guatemala	64. Norway	96. Vietnam
		97. Zimbabwe

- *Spreadsheet Modeling Exercises*, created by Craig W. Holden published by Prentice Hall on CD bundled with *Finance* by Zvi Bodie and Robert Merton, 1999

## RESEARCH PRESENTATIONS (\* = co-author presentation)

The Effect of Secondary Market Existence on Primary Market Liquidity: Theory and Evidence from a Natural Experiment in Peer-to-Peer Lending

- SFS Cavalcade Asia-Pacific\*
- Peking University\*
- FDIC/JFSR Bank Research Conference\*
- Northern Finance Association\*
- University of Washington\*
- Securities and Exchange Commission\*
- INFORMS\*

- Summer Institute of Finance in Nangbo, China\*
- Consumer Financial Protection Bureau Conference\*

#### Market Accessibility, Corporate Bond ETFs, and Liquidity

- Midwest Finance Association\*
- Texas Young Investigators\*
- European Finance Association\*
- Women n Microstructure Meeting\*

#### What is the Impact of Introducing a Parallel OTC Market? Theory and Evidence from the Chinese Interbank FX Market

- Indiana University

#### Are Volatility Over Volume Liquidity Proxies Useful For Global Or US Research?

- Society for Financial Studies Cavalcade Asia-Pacific conference
- Financial Research Network (FIRN)\*

#### Do the LCAPM Predictions Hold? Replication and Extension Evidence

- Indiana University

#### Do Acceptance and Publication Times Differ Across Finance Journals?

- Indiana University

#### Performance Share Plans: Valuation and Empirical Tests

- American Finance Association\*
- Paris Financial Management Conference\*
- China International Conference in Finance\*
- Australian Finance and Banking conference\*
- European Centre for Corporate Control Studies\*
- Eastern Finance Association\*
- Indiana University\*

#### A Theory of Optimal Institutional Trading

- Indiana University
- Tel Aviv University
- University of Buffalo
- LiquidNet Institutional Trading Summit
- Securities and Exchange Commission
- Society for Financial Studies Cavalcade North America conference
- Peking University, HSBC Business School in Shenzhen

#### Liquidity Measurement Problems in Fast, Competitive Markets: Expensive and Cheap Solutions



- Indiana University
- Southern Methodist University
- Securities and Exchange Commission

#### Can the Performance of Structural Corporate Bond Models Be Improved?

- International Symposium on Financial Engineering and Risk Management\*

#### What Are The Best Liquidity Proxies For Global Research?

- Indiana University
- University of New South Wales\*
- University of Technology, Sydney\*
- Michigan State University Seminar\*
- Hong Kong University \*
- Hong Kong University of Science and Technology\*
- University of Sydney Microstructure Meeting\*
- University of Wisconsin, Milwaukee\*
- Securities and Exchange Commission
- China International Conference in Finance\*

#### Penny Wise, Dollar Foolish: Buy-Sell Imbalances On and Around Round Numbers

- American Finance Association\*
- European Finance Association\*
- Indiana University
- Investment Industry Regulatory Organization of Canada / McMaster University

#### New Low-Frequency Spread Measures

- Indiana University

#### Do Stock Splits Improve Liquidity?

- European Finance Association\*
- CRSP Research Symposium\*
- Financial Management Association Conference\*
- McMaster University
- Indiana University

#### Do Liquidity Measures Measure Liquidity?

- Financial Management Association Conference\*
- Frontiers of Finance Conference in Bonaire, The Netherland Antilles\*
- Indiana University

#### Order Dynamics: Recent Evidence from the NYSE

- Western Finance Association
- National Bureau of Economic Research (NBER)\*

- European Finance Association\*
- New York Stock Exchange Research Seminar\*
- Morgan Stanley Conference\*
- Ohio State University\*
- Vanderbilt University\*
- Penn State University
- Indiana University

#### The Frequency of Financial Analysts' Forecast Revisions: Theory and Evidence about Determinants of Demand for Predisclosure Information

- Western Finance Association
- Dartmouth University
- JFM-Yale ICF Conference
- Decision Sciences Institute\*
- Louisiana State University
- Case Western Reserve University\*
- American Accounting Association\*

#### News Events, Information Acquisition, and Stock Price Behavior

- American Finance Association\*
- University of Illinois
- Journal of Financial Intermediation Conference
- Notre Dame
- Indiana University

#### A Simple Model of Payment For Order Flow, Internalization, and Total Trading Cost

- Western Finance Association\*
- Georgia State University\*
- Indiana University Symposium
- Rutgers University Conference on Financial Economics and Accounting
- Ohio State Conference on Dealer Markets

#### Pegged Limit Orders

- European Finance Association
- University of Houston
- NYSE/UCLA/USC Conference
- London Business School
- London School of Economics
- Indiana University
- University of Washington\*
- BARRA\*

#### Risk Aversion, Liquidity, and Endogenous Short Horizons

- European Finance Association
- Econometric Society (ASSA Conference)
- University of Utah\*
- Arizona State University\*
- Illinois-Indiana-Purdue Finance Symposium

#### On The Existence of Linear Equilibria in Models of Market Making

- Econometric Society (ASSA Conference)

#### Comparing Market Making Systems: The Linear Equilibria

- Western Finance Association\*
- NYSE/UCLA/USC Conference
- London School of Economics
- Indiana University

#### An Integrated Model Of Market And Limit Orders

- European Finance Association
- American Finance Association\*

#### Long-Lived Private Information and Imperfect Competition

- Western Finance Association
- Indiana University

#### Index Arbitrage As Cross-sectional Market Making

- Chicago Board of Trade Research Symposium
- Reprinted in Chicago Board of Trade “Research Symposium Proceedings”
- London Conference on Stock Index Derivatives
- The Q Group Spring Conference
- University of Illinois at Urbana-Champaign
- Indiana University
- Carnegie-Mellon University
- University of Colorado at Boulder
- New York Stock Exchange
- Cornell University Seminar
- University of Southern California
- University of California at Los Angeles

### **CHAIR OF DISSERTATION COMMITTEES**

1. Jayoung Nam (co-chair with Veronika Pool)
2. Jun Wu (2017, co-chair with Veronika Pool)
3. Hong Kee Sul (2015, co-chair with Zhenyu Wang)

4. Zhong Zhang (2014)
5. Daniel Kim (2012, co-chair with Jun Yang)
6. Sam Henkel (2010)
7. Ann Zhang (2009, co-chair with Scott Smart)
8. Zhongyan Zhu (2009)
9. Hao Yin (2008, co-chair with Konstantin Tyurin)
10. Diego Agudelo (2007)
11. Bulent Koksall (2005)
12. Wee Yong Yeo (2004)
13. Ram Thirumalai (2003)
14. Pankaj Jain (2002)
15. Hazem Daouk (2001, co-chair with Utpal Bhattacharya)
16. Len Lundstrum (2000)
17. Prakrit Narongtanupon (2000)
18. Alex Butler (1999)
19. Miikka Tauren (1999)
20. Pamela Stuerke (1998)
21. Jeff Bacidore (1998)
22. Seow-Eng Ong (1997, co-chair with David Brown)

#### **MEMBER OF DISSERTATION COMMITTEES**

23. Jessie Watkins (2018)
24. Dong Lu (2017)
25. Yifei Mao (2015)
26. Shawn O'Donoghue (2015)
27. Shyam Venkatesan (2014)
28. Brian Wolfe (2014)
29. Ken Weakley (2014)
30. Stacey Jacobsen (2011)
31. Ryan Brewer (2011)
32. Cristina Danciulescu (2010)
33. Chotibhak Jotikasthira (2009)
34. Chang Hoon Oh (2007)
35. Janis Berzins (2006)
36. Ruslan Goyenko (2006)
37. Joon Ho Hwang (2005)
38. Matthew Wieland (2005)
39. Bruce Haslem (2004)
40. Hansoo Kim (2004)
41. Peter Groznik (2003)
42. Mike Gapen (2003)
43. Paul Hamilton (2002)
44. John Velis (2000)

45. Chris Pope (2000)
46. Andrew Waisburd (2000)
47. Kathleen Petrie (1997)
48. Richard Bliss (1997)
49. Jennifer Reynolds (1997)
50. Troy Adair (1996)
51. Jason Greene (1996)
52. Clark Maxam (1996)
53. Todd Milbourn (1996)
54. Robert Battalio (1995)
55. Brian Hatch (1995)
56. Steve Peters (1994)
57. Witaya Pintong (1994)
58. Vijay Bhasin (1993)
59. Sugato Chakravarty (1993)
60. David Smith (1993)
61. ZhiMing Zhang (1992)
62. Richard Shockley (1992)

#### **CHAIR OF DISSERTATION PROPOSAL EXAMINING COMMITTEE**

1. John Ni (2011)
2. Melissa Lewis (2007)
3. Craig Nichols (2004)
4. Kevin Gaudette (2003)
5. Daniel Wright (2003)

#### **MEMBER OF DISSERTATION PROPOSAL EXAMINING COMMITTEE**

6. Steve Moehrle (1997)
7. Kevin Steensma (1996)

#### **COURSES TAUGHT (\* means created the course or performed a major overhaul)**

1. F335 Security Trading and Market Making (35 sections – Undergraduate)\*
2. F635 Market Microstructure (20 sections – Doctoral)\*
3. F600 Asset Pricing Theory (17 sections – Doctoral)\*
4. F420 Investments (7 sections – Undergraduate)
5. F303 Intermediate Finance (5 sections – Undergraduate)\*
6. F494 International Finance (4 sections – Undergraduate)
7. F594 International Finance (3 sections – MBA)
8. Faculty Teaching Seminar (2 sections – Faculty)
9. X630 Doctoral Teaching Seminar (2 sections – Doctoral)
10. F535 Security Trading and Market Making (2 sections – MBA)\*

## 11. F526 Derivative Securities (1 section – MBA)

### TEACHING RATINGS

- Average teaching evaluations over the past five years = 6.26 on a 7.00 scale

### OTHER TEACHING

- Taught a two-week doctoral course in market microstructure at Hong Kong University of Science and Technology, 2015
- Taught a one-day component on Financial Markets for the executive education program “Global Management Development Program,” 2001, 2002
- Helped design a one-week executive education program on Risk Profile Management, including attending a “Stress Testing” Conference in New York

### CURRICULUM DEVELOPMENT

- Free sharing of my annually-updated course materials for F335 Security Trading and Market Making since 1998 – currently shared with 22 faculty members around the world via Dropbox
- Pioneered the use of clickers in the finance department in 2011
- Pioneered having students develop optimal strategies based on a highly realistic trader simulation and dealer simulation starting in 2003
- Wayne Winston and I pioneered the use of Palisade’s RISK Optimizer 1.0 in the business school curriculum in 99-00.
- Introduced a new subdiscipline, market microstructure, to the undergraduate, MBA, and doctoral curriculum
  - Created and taught F335 Security Trading and Market Making starting in 1998
  - Created and taught F535 Security Trading and Market Making starting in 2000
  - Created and taught F635 Market Microstructure starting in 1998
- Created and taught a new course F303 Intermediate Finance in 1996
  - Chaired the subcommittee that designed the course
  - One of the two instructors who taught for the first time
  - Chaired the subcommittee that expanded the intermediate courses from 3.0 credit hours to 6.0 credit hours, creating F303 Intermediate Investments and F305 Intermediate Corporate Finance
  - My detailed class-by-class design has largely held up to the present day

- Pioneered *individual* spreadsheet modeling projects in the finance curriculum in F420 Investments in 1994
- Developed the *International Investments Game* software for F494 International Finance during 1991-1994
  - spreadsheet-based resource for teaching about international investments
  - easy to manage three hypothetical mutual funds for clients in three different countries
  - can trade 80 securities from 25 countries in real time over a ten-week period
  - accounts for currency risk, taxes, transaction costs, and degree of client risk aversion
- Major overhaul of a doctoral course F600 Asset Pricing Theory in 1993:
  - Added continuous time, term structure models, intertemporal equilibrium asset pricing, and international asset pricing.

### **PUBLISHED TEACHING PAPERS** (\* means refereed)

Craig W. Holden and Kent L. Womack, 2000, Spreadsheet Modeling in Finance and Investment Courses, *SSRN Finance Educator* 2000, Vol. 5, No. 5.

- On the Social Science Research Network (SSRN) Top Ten list for most recent downloads across all networks

Craig W. Holden, 1998, Save Diversification From The CAPM Controversy! An Excel-based Interactive Optimizer To Teach Diversification, Exploiting Mispriced Assets, and Asset Classes, *Journal of Financial Education* 24, 49-57. \*

- This was the first publication to show how to build an Excel-based Dynamic Chart. Excel-based Dynamic Charts are a combination of Excel spin buttons (or other Form/ActiveX controls available since Excel 95) to change inputs and regular Excel charts to display changes in outputs. Dynamic Charts provide interactive platforms for learning about the dynamic relationships between inputs and outputs. All of my subsequent Spreadsheet Modeling and Excel Modeling books explain how to build Excel-based Dynamic Charts for a wide variety of financial models.

Craig W. Holden, 1995, Course Syllabi, *Business Administration: Reading Lists and Course Outlines*, in Richard Schwindt (ed.), Eno River Press, Chapel Hill, North Carolina.

- F600 and F420 syllabi in Volume 6 Finance II: Investments and Financial Markets, 104-122.
- F494 syllabus in Volume 9 International Finance and Financial Markets, 89-91.

### **TEACHING PAPERS**

Craig W. Holden and Scott Smart, Two Thumbs Up: An Excel-based 'Movie' To Teach Term Structure Dynamics.

### **TEACHING SOFTWARE IMPACT**

Made available 4 free Dynamic Charts of financial models on my faculty web page (1995-1999) and 3 free Dynamic Charts of financial models on [www.excelmodeling.com](http://www.excelmodeling.com) (2000-2007)

- Each one has been downloaded more than 5,000 times
- My interactive portfolio optimizer served as the basis of a section of a Portuguese textbook, *Engenharia, Economica, E Financas*, published in 2009 by Elsevier

## **TEACHING PRESENTATIONS AT TOP ACADEMIC CONFERENCES**

Live, In-Class Spreadsheet Modeling Problems – part of a session on Technology in Finance Education

- Financial Management Association, October 18, 2001

Spreadsheet Modeling in Finance at highly publicized seminar organized by Prentice Hall

- Financial Management Association, October 27, 2000

## **TEACHING PRESENTATIONS AT INDIANA UNIVERSITY**

Using Clickers in the Classroom, Finance Department Faculty, September 14, 2012

Clickers: IUB Faculty Panel, April 10, 2012

Value-added Knowledge and Skills

- Doctoral Teaching Seminar, October 6, 2000

Web-based Teaching Tools

- Teaching Development Seminar, November 17 and December 8, 1999

Interactive Spreadsheet Modeling

- Faculty Teaching Seminar, September 25, 1998
- Faculty Teaching Seminar, November 14, 1997

Teaching Technology

- Faculty Teaching Seminar, May 3, 1996

## **TEACHING CONFERENCES AT INDIANA UNIVERSITY**

- Preparing Future Faculty (i.e. doctoral students), attended 1997, 1998

## **TEACHING DEVELOPMENT**

- Participant, 1996 Master Teacher Program at Georgia State University
- Participant, 1995-96 Kelley School of Business Faculty Teaching Seminar



## MISCELLANEOUS TEACHING ACTIVITIES

- Guest lecturer on Foster Care Adoption for a course on Adoption in the Applied Health Sciences department: seven times from 1998 – 2004
- Faculty Forum speaker on Personal Finance to adults & to teenagers at Camp Brosius: 2000
- Co-guest lecturer in the MBA core on Market Microstructure: 1997, 1998, 1999
- Guest lecturer in F625 on Empirical Market Microstructure: 1993, 1994
- Special lecture for faculty and doctoral students on Numerical Methods in Finance: 1994

### Supervision of Independent Studies and Honors Projects

2016 Ethan Teo  
2008 Henry Lin, Pano Rigopoulos  
2004 Alex Gruen  
2003 Marco Pagacz  
2002 Christina Borsum, Brian Wilson  
2000 Carlos Layus  
1998 Sedat Rende  
1996 Mark Levine, Alireza Saifi, Buck Rumely  
1995 Raymond Ang, Michael Deng, Alex Fridman, Wilson Leung, David Rolstad, Peter Zajc  
1994 Michael Kyriakides  
1993 Michael Kahn  
1992 Nikhil Shukla  
1991 Steve Kapor

### Supervision of Doctoral Second Summer Research Paper

2015 Jayoung Nam, Dong Lu (Econ. Dept.)  
2012 Yifei Mao, Zhong Zhang  
2009 Brian Wolfe  
2006 Zhongyan Zhu  
2005 Ann Zhang  
2004 Diego Agudelo, Rina Ray

### Supervision of Doctoral First Summer Literature Review

2011 Yifei Mao, Zhong Zhang  
2009 Shyam Venkatesan  
2005 Zhongyan Zhu  
2004 Sam Henkel, Pab Jotikasthira  
1999 Anna Danielova, Pankaj Jain  
1997 Patrick Chen  
1996 Len Lundstrum  
1994 Bob Miller  
1993 Jeff Bacidore  
1992 Todd Milbourn

**MEMBER, DEAN'S UNDERGRADUATE TOTAL EXPERIENCE TASK FORCE (2004-2005)**

- Chair, Curriculum Subcommittee, which developed 11 recommendations, including the overhaul of five major required courses taken by thousands of students each year

**CHAIR, ACADEMIC FAIRNESS COMMITTEE (2001 - 2002)**

- Based on a grade appeal hearing, the committee developed a recommendation that was communicated to all Kelley School instructors to provide feedback to students during the semester that will enable them to determine where they stand in terms of grades
- Based on an academic misconduct hearing, the cheating policy of a large-scale required course was changed to have penalties that fit the magnitude of the misconduct.

**CHAIR, TEACHING AND SERVICE EXCELLENCE COMMITTEE (1997 – 2001, 2016 - 2018)**

- Implemented a major new teaching award, Trustees Teaching Award (TTAs), for the first time in Spring 2001
- revised the teaching evaluation form to reduce the chance of reverse coding errors and to add a measure of absolute time and effort required by the class – effective Fall 2000
- converted to on-line administration of teaching evaluations where there was a combination of required portable computers and wired classrooms – testing was conducted in Summer and Fall 1999 – full roll-out in Spring 2000 – personnel turnover caused hold in Fall 2000
- standardizing on two or more peer / professional reviews of classroom performance for all untenured, tenure-track faculty and one or more peer reviews for all Associate Professors prior to applying for promotion to Full – the proposal passed unanimously and was implemented in Fall 1999
- requiring student evaluations for all instructors at all times. This included two groups that has historically been excluded: summer school instructors and discussion section instructors – the proposal passed unanimously and was implemented in summer 1999
- expanded the criteria used to evaluate instructors for the Teaching Excellence Recognition Awards (TERAs) beyond question 20 – it now incorporates eight questions, including output-oriented questions about student learning and a variety of classroom delivery questions – the TERA criteria were adopted by the Dean's Office as the basis of all future schoolwide evaluations of teaching performance effect Fall 1998
- implemented a major new teaching award, the Innovative Teaching Awards (ITAs), for the first time, which roughly doubled the workload of the TEC committee
- shifted the annual TEC newsletter to an e-mail format and expanded the distribution to include all KSB faculty and doctoral students
- created a 23 page web site ([www.kelley.iu.edu/tec](http://www.kelley.iu.edu/tec)) which provides comprehensive information about teaching awards, teaching development seminars, teaching evaluation policy, and TEC activities

**MEMBER, BUSINESS SCHOOL DEAN SEARCH AND SCREEN (1996)**

- **CHAIR, APPLICATION SCREENING SUBCOMMITTEE**
- **CHAIR, ONE OF TWO “AIRPORT INTERVIEW” ROOMS**

#### **CHAIR, DEAN’S TASK FORCE ON SCIENCE, ENGINEER., & TECHNOLOGY (1995)**

- the task force organized a symposium for major companies that recruit at the business school to obtain their input on the demand for undergraduates who combine business expertise and higher levels of training in science, engineering, or technology
- co-edited the videotape of the symposium
- reported to faculty briefings in Bloomington and Indianapolis
- reported to the Dean’s Advisory Council and used it as a focus group to conduct market research
- task force developed four major recommendations:
  - add a “More Technology” track to the CIS major – the A&IS department developed a comprehensive overhaul of the CIS major that adds four new technically-based classes – it was approved and begins implementation in Fall 1996
  - all business students should be exposed to the concept of business process – I-Core has now added a significant treatment of business process for all business undergraduates
  - all majors in the A&IS and O&DT departments should gain greater depth of knowledge about business process – this lead to a proposal by the O&DT department to create a Business Process Management major – it was approved and begins implementation in Fall 1996
  - the MBA program should consider analogous curriculum innovations – the O&DT department is exploring a MBA major in Business Process Management

#### **CHAIR OF FINANCE DEPARTMENT DOCTORAL COMMITTEE (2006 - 2010)**

- Recruited three new students starting Fall 2007, four new students starting Fall 2008, three new students starting Fall 2009, and two new students starting Fall 2010
  - Brought finance doctoral program up to full strength by filling positions that had been left unfilled
- Cannibalized one position in order to significantly raise stipends to be more competitive

#### **CHAIR OF FINANCE DEPT. UNDERGRADUATE COMM. (1994 – 2005, 2010 – 2012, 2013 – 2014)**

The following finance department proposals were made and passed on my watch:

1. A comprehensive overhaul of the Finance Major, including:
  - Three new finance courses: (1) F303 Intermediate Finance, (2) F409 Corporate Finance and Modeling Skills, and (3) F421 Derivative Securities,
  - Three new accounting courses for finance majors: (1) Cost Management, (2) Tax Analysis, and (3) Financial Statement Analysis and Interpretation, and

- Six new department policies, including a standard undergraduate grading policy.
2. Restructured F/G345 Money, Banking, and Capital Markets.
  3. Revised F304 Honors Financial Management.
  4. Restructured F409 Corporate Finance and Modeling Skills to build on F303 Intermediate Finance.
  5. Made permanent F307 Working Capital Management.
  6. Made permanent F335 Security Trading and Market Making.
  7. Accommodated a new class A310 Intermediate Financial Accounting, which freed-up 3 credit hours for an additional finance or accounting elective.
  8. Provided flexibility for the introductory real estate course to be either a prerequisite or a corequisite for another real estate course.
  9. Created a new 6.0 credit hour “Finance Core” composed of: (1) F303 Intermediate Investments and (2) F305 Intermediate Corporate Finance.
  10. Created an elite program the Investment Banking / Capital Markets Workshop, including two new half-semester courses, a speaker series, and trips to New York and Chicago.
  11. Simplified the Finance Track by getting rid of the “Option 1” and “Option 2” structure and replacing it with a single finance track and a permitted course substitution.
  12. Improved the ability of finance majors to articulate their coursework with the MBA in Accounting.
  13. Created a new course F228 Introduction to Investment Banking.
  14. Created a new course F306 Honors Intermediate Corporate Finance.
  15. Made permanent F419 Behavioral Finance.
  16. Created a new business minor in Financial Literacy, including the restructuring of F260 Personal Finance and the creation of a new course F262 Financial Markets.

#### **Miscellaneous Undergraduate Service**

- Developed *Links Between Undergraduate Courses*, a concise mapping of all curriculum links – held several Course Coordination Meetings with undergraduate instructors to share detailed

information about who is covering what and to update the *Links Between Undergraduate Courses* documentation

- Implemented a survey of recent finance majors to measure their long-run satisfaction with their IU finance education and provide useful feedback
- Committee worked with department MBA committee to develop comprehensive assessment plan – it received departmental approval and has been fully implemented
- Wayne Winston and I convinced the Associate Dean to budget additional funds for a major upgrade to @RISK 4.0 Industrial Version (including RISK Optimizer) and doubling to 200 licenses to cover all KSB labs and all UITs labs – I had originally arranged back in Fall 1996 to have 30 @Risk licenses installed in the UCS computer labs so that they would be available to undergraduate students
- I handled a wide variety of student matters, such as course waivers and substitutions, advice on policy and schedule concerns, selection of scholarship and award winners, etc.

## MY INITIATIVES ON THE SCHOOLWIDE UNDERGRADUATE POLICY COMMITTEE

- co-presented to the Academic Council a proposal to *require* portable computers for all undergraduate students starting with sophomore-level courses -- it passed unanimously and the implementation was referred to the technology committee
- chair, subcommittee on grade inflation – we determined that there *is* a grade inflation problem, but there was no agreement on possible solutions
- proposed Integration, Standardization, and Supervision of I-core in the Summer – a joint proposal by Finance, Marketing, and O&DT – it began implementation in Summer 1996
- proposed putting schoolwide bulletin online and updating it *annually* as the official, legal document of the school to reduce lag time between adoption of new curriculum and official publication of *biannual* bulletin – bulletin went on-line in 1997 and became annual in 2010

## COMMITTEE SERVICE

<u>Departmental Committees</u>	<u>Years</u>
Undergraduate	1991 – 1994, 2009; Chair: 1994 – 2005, 2010 – 2012, 2013
Doctoral	1992 – 2005, 2010; 2017, Chair: 2006 – 2009
Finance Club	1994 – 2005
Recruiting	1994 – 1998; 2003 – 2004; 2018, Chair: 2003
Non-Tenure-Track Recruiting	2016, Chair: 2018
Equities Cup Club	2006
Undergraduate Investment Club	2007 – 2012
Research Seminar and Coordination	1991 – 1993
Computer Coordination	1991 – 1993
RPM / M.S. in Finance	1994 – 1995
Ad Hoc RATS	1993 – 1994
Ad Hoc Department Brochure	1994

Ad Hoc Secretarial Resources	1996
Ad Hoc Doctoral Web Site	2017-2018

<u>Schoolwide Committees</u>	<u>Years</u>
Faculty Review Committee	2014, 2015
Teaching and Service Excellence	Chair: 1997 – 2000, 2016 – 2017
Academic Fairness	2000, Chair: 2001
Undergraduate	1994 – 2005, 2010 – 2012, 2013
Doctoral	2006 – 2009
Senior Lecturer Review	2011 – 2012
Environmental	1994 – 1996
Honors Program	1995 – 1996
Kelley Webmasters	1999 – 2000
Dean’s Task Force on Science, Engineering, and Technology	Chair: 1995
Ad Hoc Trading Room Design	1998
Faculty / Staff Campaign	1999
Task Force on Five Year Programs	2004
Undergraduate Total Experience Task Force	2004 – 2005
Undergraduate Ethics Curriculum Task Force	2006 – 2007

<u>Campus Committees</u>	<u>Years</u>
Tenure Advisory Committee	2011 – 2013
General Education Committee, Social and Historical Studies Subcommittee	2009 – 2011
Business School Dean Search and Screen <ul style="list-style-type: none"> <li>• Chair, Applications Screening Subcom.</li> <li>• Chair, One of Two Interview Rooms</li> </ul>	1996
Faculty / Student Financial Aid Advisory	1996
<u>IU Systemwide Committees</u>	
Research Misconduct Investigations	2013, 2015, 2016-2017

## SERVICE TO THE PROFESSION

Associate Editor, *Journal of Financial Markets*, 1997 - Present

Secretary-Treasurer, *Society for Financial Studies* (a global academic society), 2012 - Present

- Search Committee Member, *Review of Financial Studies* Executive Editor, 2013-2014
- Treasurer’s Presentation to Annual Membership Meeting, 2013 – Present
- SFS Council (Governing Board) Meeting, 2013 – Present
- Search Committee Member, *Review of Financial Studies* Executive Editor, 2018

Member of the Program Committee, *Western Finance Association*, 1999 - Present

Member of the Program Committee, *European Finance Association*, 1996, 2013 - Present

Member of the Program Committee, *Financial Economics and Accounting*, 2003, 2011

Member of the Program Committee, *Financial Management Association*, 1998, 2002

Member of the Program Committee, McMaster University and the Investment Industry Regulatory Organization of Canada (the Canadian Security Regulation Agency) Conference on “Market Structure and Market Integrity,” 2007, 2008

Member of the Program Committee, University of Toronto Capital Markets Institute Conference on “The Future of Stock Exchanges in a Globalizing World,” 2002

Co-organizer of the finance department’s Fifth Biennial Symposium on “The Implications of Market Microstructure for Investors, Firms, and Markets,” 1997

Distinguished visiting scholar, Securities and Exchange Commission, Washington, D.C., 2014

Outside Reviewer for Tenure and/or Promotion Cases: 2002, 2003, 2010, 2011, 2012, 2015 (2)

Outside Thesis Examiner for the University of Melbourne: 2016

Ad hoc reviewer for:

- \* *Journal of Finance*
- \* *Review of Financial Studies*
- \* *Journal of Financial and Quantitative Analysis*
- \* *Management Science*
- \* *American Economic Review*
- \* *Econometrica*
- \* *Journal of Economic Theory*
- \* *Journal of Political Economy*
- \* *National Science Foundation*
- \* *Israel Science Foundation*
- \* *Review of Finance*
- \* *Journal of Financial Markets*
- \* *Journal of Financial Intermediation*
- \* *Journal of Banking and Finance*
- \* *Financial Management*
- \* *Pacific-Basin Finance Research*
- \* *Journal of Economics and Business*
- \* *Journal of Financial Research*
- \* *Journal of Business Finance and Accounting*

- \* *Journal of Futures Markets*
- \* *Journal of Financial Service Review*
- \* *Financial Analysts Journal*
- \* *The Financial Review*
- \* *International Review of Economics and Finance*
- \* *Multinational Finance Journal*
- \* *Journal of Real Estate and Economics*
- \* *PLOS ONE*
- \* *Eastern Economic Journal*
- \* *North American Journal of Economics and Finance*
- \* *Economic Letters*
- \* *Managerial and Decision Economics*
- \* *The Manchester School*
- \* *Asia Pacific Management Review*
- \* *Journal of the Japanese and International Economies*
- \* *Quarterly Review of Economics and Finance*
- \* *Quarterly Journal of Business and Economics*
- \* *Journal of Financial Intermediation Symposium*
- \* *Indiana University Symposium*
- \* *Research Grants Council of Hong Kong*
- \* *Financial Practice and Education*
- \* *John Wiley and Sons, Inc.*
- \* *Financial Times Prentice Hall*
- \* *Richard D. Irwin, Inc.*
- \* *West Educational Publishing*
- \* *Kluwer Academic Publishers*

<u>Conferences</u>	<u>Years Attended (* = Discussant, ** = Session Chair)</u>
American Finance Association	1989, 1990, 1992, 1993, 1994, 1995, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016, 2017, 2019
SFS Cavalcade North America	2013*, 2014, 2015, 2016, 2017, 2018
Wabash River/State of Indiana Conf	2007, 2008**, 2009*, 2010**, 2011*, 2013**, 2015*, 2017
Western Finance Association	1987, 1988, 1990, 1991, 1992, 1994, 1995, 1996*, 1997, 1998*, 1999*, 2000, 2001, 2002*, 2003*, 2004, 2005, 2006, 2007, 2008**, 2009*, 2010*, 2011, 2012
IU Biennial Symposium	1991*, 1993*, 1995*, 1997**, 2000**, 2005***
Notre Dame Conferences	1999, 2000*, 2011**
SFS Cavalcade Asia-Pacific	2017
NYU Stern Microstructure	2014*
European Finance Association	1995**, 2018**
Financial Economics & Accounting	1996, 2003
Financial Management Association	2000, 2001
Vanderbilt FMRC Conference	2001



JFM-Yale ICF Conference	2000
European Finance Association	1995**
Illinois-Indiana-Purdue Symposium	1994, 1995, 1996*
Journal of Financial Intermediation	1992*, 1995*, 1997*
NYSE-UCLA-USC Conference	1988, 1990, 1992, 1994

## MISCELLANEOUS SERVICE ACTIVITIES

- Extensively quoted in “‘Dark pools’ growth fuels transparency debate,” The Bottom Line magazine, which is an independent voice for Canada’s accounting and finance professionals
- Served as the club faculty advisor for the Undergraduate Investment Club, which won First Place in the 2009 National Collegiate Investment Competition, co-sponsored by TCU and the FMA
- Created the finance department’s 90-page web site ([www.kelley.iu.edu/finance](http://www.kelley.iu.edu/finance)) in 1996 and served as the department Webmaster from 1996-2015
- Provided new analysis on the NYSE / Tokyo Stock Exchange Cooperation Agreement for *Bloomberg News*, January 31, 2007
- Hosted Harwick Simmons, CEO of NASDAQ, at the Kelley School 2003 business conference
- Gave a two-minute, televised “Kelley Commentary” on the subject of the “Pros and Cons of On-line Security Trading” for the television show “Inside Indiana Business,” which is broadcast by television stations throughout Indiana, June 9, 2000
- Managed the department’s on-line working paper series, 2000 – 2005.
- Provided news analysis on the Fed interest rate hike for *The Herald-Times*, May 17, 2000
- Faculty member of panel to interview candidates for the KSB position of Instructional Development Consultant, 1999
- Panelist for DSA session on dissertation planning, 1999
- Co-organizer, KSB New Faculty Teaching Orientation, 1997, 1998, 1999
- Attended Koch Industries Inc symposium on “Market-based Management,” Wichita, Kansas, 1997
- Faculty Marshal for Commencement: 1996, 1997
- Grant proposals to the Institute for Quantitative Research in Finance (the Q Group): 1995, 1996

- Provided news analysis on the Disney-ABC merger for *The Herald-Times*, August 2, 1995
- Served as UCLA delegate to the Inauguration of Myles Brand as the 16th President of IU
- Grant proposal to the National Science Foundation: 1994
- Faculty Mentor for Paulo Santos, Minorities in Business Program: 1992, 1993, 1994
- 1994 Faculty Advisor for high potential freshmen
- Assisted Ash Soni in preparing H.P. grant proposal to establish the Finance Information Center
- 1994 Speaker at an IU Global Forum at Carlisle Braking Systems
- 1992 IU Faculty Representative for the PNC Banking Challenge

## **COMMUNITY SERVICE**

- Brain Preservation Foundation
  - Treasurer, 2017-Present
  - Business and Fundraising Advisory Panel, 2015-Present
- Boy Scout Troop 100
  - Chartered Organization Representative, 2011 – 2017
  - Treasurer, 2007 – 2011
- St Marks United Methodist Church
  - Member, Finance Committee, 2003 – 2015
  - Chair, Finance Committee, 2005 – 2007
  - Chair, Endowment Fund Committee, 2005 – 2007
- Co-founder and President, Foster Parents for Early Permanency, 1996 – 1999
  - Participant in a two-day, Statewide Advisory meeting between the Indiana State Division of Family and Children and Indiana Foster Care and Adoption Association, 1998
  - Speaker, “Reform of the Child Welfare System,” Legal Education Seminar, 1998
- Co-founder of Adoption in Child Time, 1998

## **STUDENT EXPERIENCE AND FELLOWSHIPS**

- \* Research Assistant, Professors Michael Brennan And Eduardo Schwartz, 1987-90
- \* Teaching Assistant, Professor Eduardo Schwartz, 1989-90
- \* Financial Databases Consultant, Finance Department, 1985-1987
- \* Allstate Dissertation Fellowship
- \* President's Undergraduate Fellowship