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AREAS OF INTEREST

Research: Corporate Finance, Real Options, Capital Structure, Strategic Interaction, Credit Rating Agencies, Household Finance

Teaching: Corporate Finance, Real Options, Portfolio Theory, Credit Risk, Investments

EDUCATION

Universität Karlsruhe (TH)	Finance	2002-2007	Dr. rer. pol. (2007)
University of Massachusetts , Amherst, MA	Economics	2000-2001	Ph.D. level, non-degree
Universität Karlsruhe (TH)	Business Engineering	1997-2002	Dipl.-Wi.-Ing. (2002)

DISSERTATION

“Liquide Mittel und Investitionsentscheidungen - Ein optionstheoretischer Ansatz.”

(“Liquid Funds and Investment Decisions - An Option Theoretical Approach.”)

Advisor: Prof. Marliese Uhrig-Homburg, Karlsruhe Institute of Technology

DIPLOMA THESIS

“Das Nutzerverhalten in Dynamischen Fahrgemeinschaften aus der Sicht der Evolutionären Spieltheorie.”

(“Behavior of Dynamic Carpool Service Users Seen From Evolutionary Game Theory Perspective.”)

Advisor: Prof. Werner Rothengatter, Karlsruhe Institute of Technology

EXPERIENCE

Academic:

Aarhus BSS, Aarhus University	Associate Professor	2010-today
Aarhus BSS, Aarhus University	Parental Leave (4 months)	2016
University of Zurich , Switzerland	Visiting Scholar	2013
Columbia University , New York, USA	Visiting Scholar	2011
AUT University , Auckland, New Zealand	Visiting Researcher	2008
Aarhus BSS, Aarhus University	Assistant Professor	2007-2010
Universität Karlsruhe (TH)	Research & Teaching Assistant	2002-2007
United Asia Learning Resource Center, University of Massachusetts , Amherst, MA	Tutor (Statistics, Economics, Computer Science)	2000-2001
Universität Karlsruhe (TH)	Tutor (Statistics, Economics)	1998-2000
Ellental High School , Bietigheim, Germany	Stand-In Teacher (Latin Workgroup)	1995

Industry:

Banque de France , Paris, France	Visiting Scholar	2012
Daimler AG , Sindelfingen, Germany	Intern & Diploma Thesis (Game Theory)	2001-2002
Commerzbank AG , Frankfurt, Germany	Intern (Interest Rate Derivatives)	2000

TEACHING

Courses:

- [Aarhus BSS, Aarhus University](#)
 - Finance (BSc; part "Corporate Finance"): 2016-2017
 - Accounting and Financial Management (MBA; part "Financial Management"): 2014, 2016
 - Real Options and Strategic Interaction (MSc): 2008-2015
 - Corporate Finance II (MSc): 2013, 2015
 - Corporate Finance (MBA): 2014
 - Corporate Finance I (MSc): 2009-2012
 - Asset Pricing I (MSc): 2007-2008
- [HECTOR School of Engineering and Management, KIT](#)
 - Modern Theory of Investment (Exec MSc): 2008-2009
- [Universität Karlsruhe \(TH\)](#)
 - Credit Risk (Diploma): 2006-2007 (Teaching Assistant)
 - Capital Market Theory (Diploma): 2002-2005 (Teaching Assistant)

Supervision:

Various MSc Theses, BSc Theses, Diploma Theses, Seminars

PUBLICATIONS

Articles in peer-reviewed journals:

“Measuring the value of intangibles”

Co-Authored with Saskia Clausen

Journal of Corporate Finance, Volume 40, October 2016, Pages 110-127

[Available at ScienceDirect](#)

Abstract:

We propose a new earnings-based measure for the value of intangibles. To validate this measure, we compare it to commonly used proxies for intangible intensity, such as R&D expenses. While R&D expenses measure the investment in new intangibles, our new measure gauges the productivity of already existing intangibles. We show that our new measure serves as an additional factor to explain firm value, measured either as market capitalization or acquisition prices in M&A transactions. Moreover, it captures the increasing importance of intangibles over time. Finally, we present a specific application of our intangible-intensity measure in the context of capital structure. We find that more intangible-intensive firms have lower leverage.

- “Credit Rating Dynamics and Competition”

Journal of Banking and Finance, Volume 49, December 2014, Pages 100-112

[Available at ScienceDirect](#)

Abstract:

I analyze the market for credit ratings with competition between more than two rating agencies. How can honest rating behavior be achieved, and under which conditions can a new honest rating agency successfully invade a market with inflating incumbents? My model predicts cyclic dynamics if sophisticated investors have a high impact on agencies' reputation. In contrast, if trusting investors have the main impact, then the dynamics exhibits a saddle point rather than cycles. In this case, regulatory support for honest rating agencies is only needed for a limited time, but the effect is sustainable in the long run.

- “Asset Liquidity, Corporate Investment, and Endogenous Financing Costs”

Co-Authored with Christian Riis Flor

Journal of Banking and Finance, Volume 37, Issue 2, February 2013, Pages 474-489

[Available at ScienceDirect](#)

Abstract:

We analyze how the liquidity of real and financial assets affects corporate investment. The trade-off between liquidation costs and underinvestment costs implies that low-liquidity firms exhibit negative investment sensitivities to liquid funds, whereas high-liquidity firms have positive sensitivities. If real assets are not divisible in liquidation, firms with high financial liquidity optimally avoid external financing and instead cut new investment. If real assets are divisible, firms use external financing, which implies a lower sensitivity. In addition, asset redeployability decreases the investment sensitivity. Our findings demonstrate that asset liquidity is an important determinant of corporate investment.

- “Financing Constraints, Cash-Flow Risk, and Corporate Investment”

Co-Authored with Marc Viswanatha

Journal of Corporate Finance, Volume 17, Issue 5, December 2011, Pages 1496-1509

[Available at ScienceDirect](#)

Abstract:

Using an analytically tractable two-period model of a financially constrained firm, we derive an investment threshold that is U-shaped in cash holdings. We show analytically the relevant trade-offs leading to the U-shape: the firm balances financing costs for present and future investment, respectively. Our main argument is that financing costs today are more important than the risk of future financing costs. The empirically testable implications are that low-cash firms facing financing costs today are more reluctant to invest if they have less cash, or if their future cash flows are more risky. On the other hand, cash-rich firms facing no financing costs today invest in less favorable projects (i.e., forgo their real option to wait) if they have less cash, or if their future cash flows are more risky. The magnitude of these effects is amplified by the degree of market frictions that the

firms are facing.

- “Investment Timing When External Financing Is Costly”

Co-Authored with Marliese Uhrig-Homburg

Journal of Business Finance & Accounting, Volume 37, Issue 7-8, September/October 2010, Pages 929-949

[Available at Wiley InterScience](#)

Abstract:

This paper analyzes the investment timing of firms facing two dimensions of financing constraints: Liquidity constraints and capital market frictions inducing financing costs. We show that liquidity constraints are not sufficient to explain voluntary investment delay. However, when additionally considering financing costs, we can explain both voluntary delay and acceleration of investment. More precisely, we find that investment thresholds are U-shaped in liquid funds. For high-liquidity firms, investment thresholds are decreasing (i.e. accelerated investment takes place) in either dimension of financing constraint. In contrast, investment thresholds are increasing (i.e. investment is further delayed) in either form of financing constraint for low-liquidity firms. For intermediate levels of liquidity, investment thresholds are U-shaped in market frictions.

- “Investment Timing, Liquidity, and Agency Costs of Debt”

Co-Authored with Marliese Uhrig-Homburg

Journal of Corporate Finance, Volume 16, Issue 2, April 2010, Pages 243-258

[Available at ScienceDirect](#)

Abstract:

This paper examines the effect of debt and liquidity on corporate investment in a continuous-time framework. We show that stockholder-bondholder agency conflicts cause investment thresholds to be U-shaped in leverage and decreasing in liquidity. In the absence of tax effects, we derive the optimal level of liquid funds that eliminates agency costs by implementing the first best investment policy for a given capital structure. In a second step we generalize the framework by introducing a tax advantage of debt, and we show that an interior solution for liquidity and capital structure optimally trades off tax benefits and agency costs of debt.

Monographies:

“Liquide Mittel und Investitionsentscheidungen - Ein optionstheoretischer Ansatz”

(“Liquid Funds and Investment Decisions - An Option Theory Approach”)

Beiträge zur betriebswirtschaftlichen Forschung 118, Gabler Verlag, Wiesbaden 2008



Contributions to books:

Jonathan Berk and Peter DeMarzo, “Corporate Finance”, Global Edition, 2010

Provided three data cases, joint with Pernille Jessen and Henrik Nørholm

WORKING PAPERS

- “Inflation Despite Best Intentions - Rating Under Asymmetric Information”
Co-Authored with Christian Hilpert and Alexander Szimayer

Abstract:

We analyze how a firm’s reputation and track record affect its rating and cost of debt. We model a setting in which outsiders such as a rating agency and the firm’s creditors continuously update their assessment of the firm’s true state described by its cash flow. They observe the latter only imperfectly due to asymmetric information. Other things equal, the rating agency optimally rates a firm with the same observed cash flow higher, if the historical minimum is sufficiently low. Thus, the rating is not only driven by the most recent information, but history matters. The rating agency refines its unbiased cash flow estimate by ruling out the most overestimated types, leading to an overestimation at default. In response, the firm delays default and lower asset values are available to creditors upon default.

- “Secondary loan markets and bank loan supply”
Co-Authored with H. Özlem Dursun-de Neef

Abstract:

In this paper, we address the question how the opportunity to access a secondary loan market (SLM) affects a bank’s loan supply. We first show that the bank has a tendency to underinvest in its loans when there is a possibility of receiving attractive outside opportunities in the future. Our results suggest that an SLM has the potential to mitigate this underinvestment in normal times: the bank uses the SLM to sell out its loans and use the proceedings to invest in profitable outside opportunities when they arise. In this case, the bank provides an initial loan supply well above the level without an SLM. This increases the overall welfare of the economy. On the contrary, in crisis times, when the liquidity in the SLM is expected to be scarce, an SLM aggravates the underinvestment: the bank aims to sell fewer loans for low prices in the SLM, thus it provides an initial loan supply below the level without an SLM.

- “X2Xit - How to relax a currency union”

Abstract:

In this paper, I propose a mechanism for countries that aim at relaxing their memberships in a currency union such as the Eurozone, such that an exit in the medium or long run, if deemed necessary, becomes more easily feasible. Most existing approaches require secrecy for the preparation of an exit, as well as implementation over a weekend, possibly combined with capital controls or similar measures. My contribution is a democratically legitimated solution related to proposals of parallel currencies that can be discussed and implemented over a longer period without giving incentives for major capital flows. It avoids interfering with existing contracts. After introducing the proposal, I analyze the implications for selected classes of market participants. Finally, I also discuss the effect of releasing the exchange rate, based on two cases of currencies that are currently pegged or have been pegged to the EUR, namely the Danish DKK and the Swiss CHF.

- “Households and low-risk assets”
Co-Authored with Ran Sun Lyng and Christian Schmaltz

Abstract:

We investigate how households choose their wealth allocation into low-risk assets. Our project is motivated by the observation that households invest a very low share of their wealth directly in government bonds as risk-free assets and prefer bank deposits instead. We explain the propensity to invest in bonds by personal and country-specific factors, as well as the risk-return trade-offs that investors face. Finally, we will analyze these trade-offs in a theoretical model.

- “Asset liquidity and investment - empirical evidence”

Abstract:

How does the liquidity or tangibility of a firm's existing assets affect new investment? I link two current topics of the corporate investment literature: On the one hand, the U-shaped relation between investment and liquid funds, and on the other hand, the effect of tangibility on investment and its sensitivity to cash flow. Preliminary empirical results suggest that investment is indeed U-shaped in liquid funds, and that the tangibility of a firm's existing assets is an important additional determinant of investment.

RESEARCH PRESENTATIONS

“Inflation Despite Best Intentions - Rating Under Asymmetric Information”:

- [Western Finance Association \(WFA\)](#), Whistler, Canada 2017 (scheduled)

“Secondary loan markets and bank loan supply”:

- [International Conference on Credit Analysis and Risk Management](#), Basel, Switzerland 2017 (scheduled)

“XXXit - How to exit a currency union” (predecessor of “X2Xit - How to relax a currency union”):

- [EUROFRAME](#), Vienna, Austria 2015

“The Value of Intangibles” (published as “Measuring the value of intangibles”):

- [International Finance and Banking Society](#), Hangzhou, China 2015
- [Nordic Accounting Conference](#), Copenhagen, Denmark 2014
- Invited Guest Lecture, [Manchester Business School](#), Manchester, United Kingdom 2014

“Asset liquidity and investment - empirical evidence”:

- [12th Corporate Finance Day](#), Paris, France 2014
- [Multinational Finance Society](#), Prague, Czech Republic 2014

“Credit Rating Dynamics and Competition” (previous versions entitled “Beyond Duopoly: The Credit Ratings Game - revisited”):

- [Financial Engineering and Banking Society](#), Paris, France 2013
- Invited Guest Lecture, [University of Lausanne](#), Switzerland 2013
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2013
- Invited Guest Lecture, [Europlace Institute of Finance](#), Paris, France 2013
- [Danish Convent on Accounting and Finance](#), Copenhagen, Denmark 2012
- [German Finance Association](#), Hannover, Germany 2012
- [French Finance Association](#), Strasbourg, France 2012
- [5th Financial Risks International Forum on 'Systemic Risk'](#), Paris, France 2012
- [Symposium on Finance, Banking, and Insurance](#), Karlsruhe, Germany 2011
- [Globalization: Strategies and Effects](#), Kolding, Denmark 2011
- [10th International Conference on Credit Risk Evaluation](#), Venice, Italy 2011
- [European Summer Symposium in Financial Markets](#), Gerzensee, Switzerland 2011
- Invited Guest Lecture, [Karlsruhe Institute of Technology](#), Karlsruhe, Germany 2011

“Financing Constraints, Cash-Flow Risk, and Corporate Investment” (previous versions entitled “The Non-Monotonic Effect of Financing Constraints on Investment Timing”):

- [Midwest Finance Association](#), Chicago, IL 2011
- [Portuguese Finance Network](#), Ponta Delgada, Portugal 2010
- [D-CAF Members Meeting](#), Elsinore, Denmark 2010
- Workshop Financial Markets & Risk, [Universität Innsbruck](#), Obergurgl, Austria 2010
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2010
- [Campus for Finance](#), Vallendar, Germany 2010
- [European Conference on Operational Research](#), Bonn, Germany 2009

“Asset Liquidity, Corporate Investment, and Endogenous Financing Costs” (previous versions entitled “Financing Investment: The Cost Trade-Off”):

- [German Finance Association](#), Hamburg, Germany 2010
- [Portuguese Finance Network](#), Ponta Delgada, Portugal 2010
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2010
- Invited Guest Lecture, [Frankfurt School of Finance & Management](#), Frankfurt, Germany 2010
- [Eastern Finance Association](#), Washington, DC 2009 (presented by Christian Riis Flor)
- Workshop Credit Risk Management, [Universität Innsbruck](#), Obergurgl, Austria 2009
- [Midwest Finance Association](#), Chicago, IL 2009
- [Campus for Finance](#), Vallendar, Germany 2009
- [Australasian Finance & Banking Conference](#), Sydney, Australia 2008
- Invited Guest Lecture, [AUT University](#), Auckland, New Zealand 2008
- Invited Guest Lecture, [University of Otago](#), Dunedin, New Zealand 2008
- Invited Guest Lecture, [Victoria University of Wellington](#), New Zealand 2008
- [D-CAF Members Meeting](#), Ebeltoft, Denmark 2008

“Investment Timing, Liquidity, and Agency Costs of Debt” (previous versions entitled “Investment Timing and Endogenous Default”):

- [European Winter Finance Summit](#), Hemsedal, Norway 2008
- [Australasian Finance & Banking Conference](#), Sydney, Australia 2007
- [Quantitative Methods in Finance Conference \(QMF\)](#), Sydney, Australia 2007
- [European Financial Management Association](#), Vienna, Austria 2007
- [Verband der Hochschullehrer für Betriebswirtschaft e.V. \(VHB\)](#), Paderborn, Germany 2007
- Invited Guest Lecture, [Swiss Banking Institute \(ISB\), University of Zurich](#), Zurich, Switzerland 2007
- Invited Guest Lecture, [Aarhus BSS, Aarhus University](#), Aarhus, Denmark 2007
- Invited Guest Lecture, [Universität Konstanz](#), Constance, Germany 2007 (presented by Marliese Uhrig-Homburg)
- [Campus for Finance](#), Vallendar, Germany 2007
- [Financial Management Association Annual Meeting](#), Salt Lake City, UT 2006
- [German Finance Association](#), Oestrich-Winkel, Germany 2006
- [Financial Management Association European Conference](#), Stockholm, Sweden 2006
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2006
- Workshop Credit Risk Management, [Universität Innsbruck](#), Obergurgl, Austria 2005
- [Operations Research Conference](#), Bremen, Germany 2005

“Investment Timing When External Financing Is Costly”:

- [IFSAM VIIIth world congress](#), Berlin, Germany 2006
- Invited Guest Lecture, [University of Southern Denmark](#), Odense, Denmark 2006
- [Symposium on Finance, Banking, and Insurance](#), Karlsruhe, Germany 2005
- [Verein für Socialpolitik](#) (German Economic Association), Bonn, Germany 2005
- [German Finance Association](#), Augsburg, Germany 2005
- [Financial Management Association European Conference](#), Siena, Italy 2005
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2005
- [Campus for Finance](#), Vallendar, Germany 2005

- Doctoral Student Seminar, [German Finance Association](#), Tübingen, Germany 2004
- [Operations Research Conference](#), Tilburg, Netherlands 2004

OTHER RELEVANT ATTENDANCES

- PhD course on Empirical Corporate Finance, Zurich, Switzerland 2013 (Prof. Per Östberg)
- PhD course on Credit Risk and Bubbles, Aarhus, 2009 (Prof. R. Jarrow)
- PhD course on Corporate Finance, Aarhus, 2008 (Prof. J. Ritter)
- [Meetings of Nobel Laureates in Lindau](#), Germany 2006 (2nd Lindau Meeting in Economic Sciences, as fellow of Audi AG)
- [Spring School in Finance](#), Bologna, Italy 2006 (Prof. B. Dupire, Prof. D. Lambertson)

ORGANIZATION OF PHD COURSES

- PhD course on Real Options, Aarhus, 2011 (Prof. L. Trigeorgis)
- PhD course on Advanced Academic Writing, Aarhus, 2010 (Dr. E. Huizingh)

REFeree ACTIVITIES

Journals:

- [Journal of Banking and Finance](#)
- [Journal of Corporate Finance](#)
- [European Financial Management](#)
- [Quantitative Finance](#)
- [Finance Research Letters](#)
- [Financial Review](#)
- [European Journal of Finance](#)
- [Economic Notes](#)
- [Schmalenbach Business Review](#)
- [International Review of Financial Analysis](#)
- [International Review of Economics and Finance](#)
- [International Journal of Production Economics](#)
- [Quarterly Review of Economics and Finance](#)
- [Emerging Markets Finance and Trade](#)
- [Business Research](#)

Conferences:

- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2017
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2016
- [Verband der Hochschullehrer für Betriebswirtschaft](#), Vienna, Austria 2015
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2015
- [Symposium on Finance, Banking, and Insurance & German Finance Association](#), Karlsruhe, Germany 2014
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2014
- [Campus for Finance](#), Vallendar, Germany 2013
- [German Finance Association](#), Hannover, Germany 2012
- [SFS Finance Cavalcade](#), University of Virginia, USA 2012
- [Campus for Finance](#), Vallendar, Germany 2012
- [Symposium on Finance, Banking, and Insurance](#), Karlsruhe, Germany 2011
- [German Finance Association](#), Regensburg, Germany 2011

- [Campus for Finance](#), Vallendar, Germany 2011
- [German Finance Association](#), Hamburg, Germany 2010
- [Symposium on Finance, Banking, and Insurance](#), Karlsruhe, Germany 2008
- [Swiss Society for Financial Market Research](#), Zurich, Switzerland 2007

Foundations / Research Grants:

- [Research Foundation - Flanders \(Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO\)](#)
- [AXA Research Fund / European Science Foundation](#)

COMMITTEES AND ADMINISTRATION

- Doctoral Student Supervision
 - Ran Sun, Aarhus, September 2014-today
- Doctoral Committees
 - Andrea Barletta, Aarhus, oral defense 8 September 2016
 - John Marius Ørke, Trondheim, oral defense 23 June 2014
 - Martin Schultz-Nielsen, Aarhus, oral defense 24 March 2014
 - Margarita Sevostiyanova, Karlsruhe, oral defense December 14, 2012
 - Pernille Jessen, Aarhus, oral defense January 21, 2011
- Member of Departmental Forum, Department of Economics and Business Economics, [Aarhus BSS, Aarhus University](#), 2011-today
- Head of "[Finance Research Group](#)", [Aarhus BSS, Aarhus University](#), 2014-2016
- Job market committee at AEA/AFA, [Aarhus BSS, Aarhus University](#)
 - Boston, January 2015 (head)
 - San Diego, January 2013 (member)
 - Chicago, January 2012 (member)
- Interim head of "[Finance Research Group](#)", [Aarhus BSS, Aarhus University](#), 2011-2012

PROFESSIONAL MEMBERSHIPS

- [Western Finance Association \(WFA\)](#)
- [European Finance Association \(EFA\)](#)
- [German Finance Association \(DGF\)](#)

HONORS AND GRANTS

Travel grant for research visit to Banque de France, Paris	Fondation Banque de France	2012
Research grant for "The Credit Ratings Game - revisited" (10.000 €)	Europlace Institute of Finance (EIF)	2011
Travel grant for research visit to Columbia University, New York, USA (20.000 DKK)	Otto Mønstedts Fond	2011
Dr. rer. pol. with distinction	Universität Karlsruhe (TH)	2007
2nd prize for co-advised student paper (20.000€)	Postbank Finance Award 2006/07	2007
Graduate with distinction	Universität Karlsruhe (TH)	2002
Outstanding service award	United Asia Learning Resource Center, University of Massachusetts, Amherst, MA	2001