

# Angel Tengulov

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## RESEARCH INTERESTS

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Empirical Corporate Finance, Accounting, Asset Management, Applied Econometrics

## EDUCATION

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2011 - present Ph.D. Candidate in Finance, **Vienna Graduate School of Finance**, Austria

2009 - 2010 M.Sc. in Economics and Finance, **London Metropolitan University**, UK

2008 - 2009 Diploma for Graduates in Finance, **London School of Economics**, UK

2005 - 2009 B.Sc. in Economics/B.Sc. in BA (Accounting), **University of Plovdiv**, Bulgaria

## REFERENCES

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### Professor Josef Zechner

WU Vienna University of Economics and Business  
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### Professor Neal Stoughton

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### Professor Toni Whited

Ross School of Business  
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### Professor Christian Laux

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## WORKING PAPERS

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1. **The Impact of Borrowing Diversity on Firm Value, Financing and Real Decisions (JMP)**  
★Best Paper Award, Swiss Society for Financial Market Research (2015)★
2. **Valuation and long-term growth expectations**  
with Josef Zechner and Jeff Zwiebel
3. **Discretion and Systemic Risk in Credit-Line Contracts: Theory and Evidence**  
with Maria Chaderina
4. **Managerial Entrenchment, Residual Income, and The Cross-Section of Stock Returns**
5. **Gold Forecastability: An Evaluation of Model Performance**

## CONFERENCE PRESENTATIONS

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FMA Doctoral Consortium (2015) (scheduled), EFA Doctoral Tutorial (2015), The 18<sup>th</sup> SGF Conference (2015), The 27<sup>th</sup> Australasian Finance and Banking Conference (2014), Northwestern Causal Inference Workshop (2014), SFI Corporate Finance Workshop (2014), EFMA (2014), Austrian Working Group on Banking and Finance Conference (2013), The Annual VGSF Conference (2013-2015)

## TEACHING EXPERIENCE

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2013 Enrichment Course in Asset Management, 2013, M.Sc. level  
(teaching evaluation: 1.2 on a scale from 1 [excellent] to 5 [poor])

2013 Gutmann Private Wealth Management Seminar, 2013, M.Sc. level

2011 - present Bachelor and Master Theses Supervision (Topics in Corporate Valuation)

## OTHER ACADEMIC EXPERIENCE

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2014 - present	Organization of the VGSF Finance Brown Bag Seminar Series
2012 - present	Research Assistant for Professor Josef Zechner
2015	Discussion: The Big Innovation Bang, EFA Doctoral Tutorial (2015)
2015	Discussion: Asymmetric Information and Imperfect Competition in Lending Markets, The 18 <sup>th</sup> SGF Conference (2015)
2014	Discussion: Overcapitalization Part I: A Perspective on Canadian Banks, OSFI, and Basel I, The 27 <sup>th</sup> Australasian Finance and Banking Conference (2014)

## INDUSTRY EXPERIENCE

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2010 - 2011	<b>Raiffeisen Centrobank</b> , Vienna, Austria <i>Investment Banking Analyst</i> Preparation and execution of equity and equity-linked transactions (IPOs, convertibles, etc.) Training: Chartered Financial Analyst (CFA) preparation course
2009	<b>Deloitte</b> , Sofia, Bulgaria <i>Summer Internship - Corporate Finance</i> Compiled data for DCF analysis and prospective M&A transactions
2008	<b>Deloitte</b> , Sofia, Bulgaria <i>Trainee program - Audit</i> Performed Financial statements analysis and revised audit reports Training: IFRS and U.S. GAAP Accounting Standards

## AWARDS AND GRANTS

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2015	Best Paper Award, <b>Swiss Society for Financial Market Research (SGF)</b>
2011-present	Full Scholarship, <b>Vienna Graduate School of Finance (VGSF)</b>
2015	Research Grant, <b>WU Gutmann Research Center</b>
2014	Doctoral Student Travel Grant, <b>American Finance Association (AFA)</b>
2014	Doctoral Student Travel Grant, <b>Western Finance Association (WFA)</b>
2013	Doctoral Summer School Grant, <b>European Accounting Association (EAA)</b>
2008	CFA Scholarship, <b>Bulgarian CFA Society</b>
2005-2009	Scholarship for excellent performance, <b>University of Plovdiv</b>

## ADDITIONAL EDUCATION

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Passed Chartered Financial Analyst (CFA) Level 1 and Level 2 Exams, **CFA Institute, USA**  
Causal Inference Workshop 2014, **Northwestern University, USA**  
Doctoral Summer School on Accounting 2013, **University of Bern, Switzerland**  
Portfolio Management Program 2010, **London Metropolitan University, UK**

## LANGUAGES AND COMPUTER SKILLS

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**Languages:** Bulgarian (native), German (fluent), English (fluent), Macedonian (fluent), Russian (intermediate)  
**Programming:** Stata, Matlab, Mathematica, Eviews, L<sup>A</sup>T<sub>E</sub>X, Python  
**Databases:** WRDS, Datastream, Bloomberg, Capital IQ, SNL, EDGAR

## OTHER ACTIVITIES

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2005-2007: **AIIESEC** (NGO) Member  
Swimming, Cycling, Running, Hiking

**1. The Impact of Borrowing Diversity on Firm Value, Financing and Real Decisions (JMP)**

Does the diversity of borrowing sources affect how firms respond to exogenous credit supply and credit demand shocks? To answer this question I use the recent 2007-2009 credit crisis as an exogenous negative shock to the supply of credit to U.S. non-financial companies. I also use staggered U.S. state-level corporate income tax increases as an exogenous positive shock to the companies' demand for credit. Applying a difference-in-differences methodology, I find that when confronted with a negative credit supply shock companies that borrow ex ante from many debt sources (higher borrowing diversity) invest significantly more than otherwise similar companies that borrow from few debt sources (lower borrowing diversity). Moreover, companies with higher borrowing diversity have higher market valuations and also lower reduction in their debt financing. These companies also pay lower cost of debt, have lower cash holdings, and higher leverage ratios. Furthermore, when confronted with a positive shock to their demand for credit companies with higher borrowing diversity are able to rebalance their leverage to a higher level.

**2. Valuation and long-term growth expectations**

with Josef Zechner and Jeff Zwiebel

DCF corporate valuation usually features a terminal value to capture cash flows beyond the typical forecasting horizons of three to seven years. Despite its dominating effect on overall firm value, the academic literature provides very little guidance on how it should be determined. This paper presents an exploratory analysis of how firms' long-term growth is related to various firm and industry characteristics. We apply an extensive selection of predictors and document a negative relation between long-term growth rates and variables representing firms' riskiness, industry concentration, and firm size. We also find a positive relation between variables representing market and analysts' long-term growth expectations and subsequent long-term growth rates. Share prices do not seem to capture the full information on long-term growth. For the period from 1981 to 2012 we find that a strategy that goes long the quintile with the highest long-term growth expectations and short the bottom quintile yields positive and statistically significant abnormal returns in the range from two to six percent per year for both one and five year holding periods.

**3. Discretion and Systemic Risk in Credit-Line Contracts: Theory and Evidence**

with Maria Chaderina

We consider the role of credit line covenants in rationing scarce liquidity. Credit lines that serve as insurance against liquidity shocks, as in Holmstrom and Tirole [1998], provide firms with access to loans at favorable terms in case of a liquidity need. It is therefore surprising to see that banks renegotiate or even forgive violations of covenants. Even though banks have the right to withdraw access to credit lines when firms violate covenants, we often see that banks still provide the access to credit. We argue that this is an implicit feature of credit line contracts and it takes place during periods without a systemic shock. Banks preserve access to credit for firms violating covenants because of reputation concerns. Consistent with our model's predictions, we find that conditional on firm fundamentals, covenant violations outside of the crisis do not lead to a higher likelihood of credit-line revocation. While the crisis period 2007-2008 was associated with a 1.5% higher probability of credit line revocations for all firms, the revocation probability for firms violating a covenant was significantly higher - by an additional 7.1%.

**4. Managerial Entrenchment, Residual Income, and The Cross-Section of Stock Returns**

Does managerial entrenchment impair subsequent managerial performance? I use a novel measure for managerial performance - an augmented residual income return on assets for one year (short-term) and for five years (long-term). I perform two separate types of tests: fixed effects panel regression estimations, using a large set of corporate governance variables, and a difference-in-differences estimation using the adoption of state-level anti-takeover laws as a quasi-natural experiment. Both estimations yield results that support the entrenchment theory: higher managerial entrenchment (i.e. it is more difficult to replace the existing management) leads to lower subsequent short-term and long-term managerial performance. In addition, portfolio sorting tests based on the expected managerial performance measure yield profitable trading strategy abnormal returns ranging from five to eight percent on an annual basis. This evidence is consistent with efficient markets where investors ex ante price the risk associated with expected managerial performance and is in line with the residual income valuation model.

**5. Gold Forecastability: An Evaluation of Model Performance**

In this study I compare the in-sample and out-of-sample performance of several econometric models with respect to gold price forecasting. The models that I apply are: 1.) the simple random walk with a drift, 2.) the Multiple Linear Regression model (MLR), 3.) the Autoregressive Moving Average model (ARIMA), 4.) the Vector Error Correction Model (VECM), and 5.) the single equation Error Correction Model (ECM). The empirical results show that the MLR model has the best fit to the data as measured by adjusted  $R^2$  and SBC. However during the one month out-of-sample forecasting period the ARIMA (2,1,1) model has the best performance as measured by RMSE, MAE and MAPE. During the three, six and twelve months out-of-sample forecasting periods the MLR has the best performance. Nevertheless, during the 24 months out-of-sample forecasting period the ARIMA (2,1,1) model outperforms again all other models.