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WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

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Personal Information: Citizenship: United States

Previous Education:

MA, Applied Economics, University of Pennsylvania, The Wharton School, 2012
MSc, Economics (Research) (*with Merit*), The London School of Economics, 2010
BA, Economics and Philosophy (*Magna Cum Laude*), Columbia University, 2007

Doctoral Studies:

Wharton School, University of Pennsylvania, 2010 to present
Thesis Title: "A Theory of Asset Prices with Fluctuating Investor Sentiment."
Expected Completion Date: May 2015

References:

Professor Kent A. Smetters (Chair)
3620 Locust Walk 3302 SHDH
Philadelphia, PA 19104
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Professor Vincent Glode
3620 Locust Walk 2330 SHDH
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Professor Jeremy Tobacman
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Research Fields:

Asset Pricing, Behavioral Economics, Financial Markets and Macrofinance.

Teaching Experience:

MBA

Microeconomic Foundations/Advanced Topics in Managerial Economics, MGEC
611/612, Wharton.

Fall 2014 Head T.A. for Professor Michael Sinkinson.

Fall 2013 T.A. for Professor Michael Sinkinson.

Fall 2012 T.A. for Professor Michael Sinkinson.

Undergraduate

Intermediate Microeconomics, BEPP 250, Wharton.

Spring 2014	Head T.A. for Professor Joseph Harrington
Spring 2013	T.A. (Honors Section) for Professor Eduardo Azevedo.
Spring 2012	Behavioral Economics and Psychology, PPE 203, UPenn. T.A. for Professor Jason Dana.
Spring 2012	Risk Management, BEPP 305/805, Wharton T.A. for Professors Daniel Gottlieb and Greg Nini.
Fall 2011	T.A. for Professors Daniel Gottlieb and Greg Nini.
Fall 2011	Firms, Markets and Public Policy, BEPP 210/710. T.A. for Professor Lisa George.

Research Experience and Other Employment:

2011	Wharton School, Research Assistant to Santosh Anagol.
2008-2009	Board of Governors of the Federal Reserve System, Research Assistant, Division of International Finance, Trade and Financial Studies Section.
2007-2008	Executive Office of the President, Council of Economic Advisers, Research Assistant.

Professional Activities:

2013	Price Theory Summer Camp, Becker-Friedman Institute, University of Chicago (2011)
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Honors, Scholarships, and Fellowships:

2010-2015	Doctoral Fellowship, The Wharton School
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Research Papers:

“Preference Irregularities and Asset Pricing Regularities” *(with Christian Gouling)*
(Job Market Paper)

We present a model of asset prices with recursive preferences and the simple consumption growth dynamics of Mehra and Prescott (1985) but relax the assumption that preference parameters are constant over time. We show that rare, temporary, and plausible fluctuations in the elasticity of inter-temporal substitution (EIS) and risk aversion (RA) can quantitatively explain numerous regularities in U.S. asset prices including: the equity premium and risk-free rate puzzles, excess return and consumption growth predictability, a counter-cyclical risk premium and an upward-sloping real yield curve. A novel implication is that time-varying EIS is more important than time-varying RA for explaining many of these regularities, suggesting a new source of risk in investors' *ability to plan* their consumption over long horizons. In addition, our model can accommodate a behavioral interpretation of psychological factors (e.g. fear) that drive fluctuations in asset prices beyond traditional risk factors.

Research in Progress:

“Investor Sentiment and Business Cycle Co-Movements: An Equilibrium Time-Varying Price of Risk Story” *(with Ram Yamarthy)*

It is well documented that investor sentiment plays a critical role in the pricing of financial assets. We quantify this sentiment, structurally, in an equilibrium framework for investors with recursive preferences by implementing time-variation in preferences. Through a Bayesian estimation procedure utilizing macro-financial data, we extract latent states and time series properties that govern fluctuations in risk aversion as well as the elasticity of intertemporal substitution (EIS). We find that risk aversion is strongly counter-cyclical while the EIS is largely pro-cyclical. Furthermore, through the endogenous nonlinearities of the

investor's discount factor, we are able to generate levels of volatility in stock prices and risk premium that are consistent with those of the data. This time-variation is generated through stochastic market prices of risk that are driven purely by fluctuations in investor preferences. Moreover, we identify a new source of non-fundamental risk, priced in conditional asset moments. The model results are also consistent with a behavioral interpretation of investor sentiment driving preference fluctuations while re-producing many salient features of U.S. macro-financial data.

“Preference Irregularities: Investor Sentiment as an Overreaction to Market News”

I present a model of asset prices with recursive preferences, simple consumption growth dynamics and rare, temporary, fluctuations in the elasticity of inter-temporal substitution (EIS) and risk aversion (RA) that is an extension of Clements and Gouling (2014). This extension maintains the parsimonious setup of the original model but enriches the state space to allow for fluctuations in parameters across periods of both high and low consumption growth. The model can explain numerous regularities in U.S. asset prices including the equity premium and risk-free rate puzzles, excess return and consumption growth predictability, an upward-sloping real yield curve and counter-cyclical risk premium. It is also able to overcome the counterfactually low price dividend volatility implied by the original model. The model is amenable to behavioral interpretations of psychological factors influencing investor behavior: fluctuations in the EIS and RA correspond to periods of investors overreacting to positive market news in periods of exuberance or bad market news in periods of fear that drive fluctuations in asset prices beyond traditional risk factors.

“The Impact of High Frequency Trading on Effective Depth” *(with James Angel and Sterling Horne)*

Using electronic order data on U.S. equities, we construct “effective depth”, a new measure of equity market quality that captures the discrepancy between order volumes and traded volumes at a particular price. We then use a quasi-natural experiment to measure the impact that high frequency traders have on effective depth. The NYSE migrated the trading of equities from servers located in lower Manhattan to a data center in Mahwah, New Jersey in late 2010. They staggered the migration by dividing symbols into distinct pools and moving one pool at a time, which impacted the latency on electronic orders. We use this staggered policy change to obtain causal estimates of the impact that high frequency traders have on effective depth.

“Estimating the “I” in Team: The Marginal Contribution of Star College Athletes on University Revenues.” *(with Sterling Horne)*

College athletes in the U.S. are not allowed monetary compensation beyond scholarships and some basic living expenses under current NCAA regulations. Due to the fact that these athletes' wages are artificially constrained and university athletic programs are generating significant revenues, the compensation of college athletes has been a topic of much recent debate. We construct two novel datasets on individual player performance and university team media coverage and use publicly available revenue data to estimate the average marginal revenue product of star Division 1A men's basketball and football players. We find that star college basketball players are on average worth up to \$770,000 in terms of marginal revenue product, while star college quarterbacks are worth up to \$3.4 million. Interestingly, we find that the marginal revenue product of star college football players declines as the team's media coverage increases.