

MAX MILLER  
*Finance Department*  
*University of Pennsylvania*  
*Wharton School of Business*  
*Philadelphia, PA 19104 USA*  
*Email: maxmil@wharton.upenn.edu*  
*Website: max-miller.finance*

## Education

---

- PRESENT UNIVERSITY OF PENNSYLVANIA, WHARTON SCHOOL OF BUSINESS  
*PhD in Finance, August 2017 – May 2023 (Expected)*
- 2013 EMORY UNIVERSITY, GOIZUETA SCHOOL OF BUSINESS  
*Bachelor of Business Administration, Finance*

## Fields of Interest

---

- Asset Pricing
- Household Finance
- Political Economy

## Publications

---

1. **Relaxing household liquidity constraints through social security**  
with Sylvain Catherine and Natasha Sarin  
*Journal of Public Economics* (2020)  
Press: MarketWatch, MarketWatch, MarketWatch
2. **Mutual Funds: Skill and Performance**  
with Jonathan Berk and Jules van Binsbergen  
*Journal of Portfolio Management* (2020)

## Working Papers

---

1. **Democratization, Inequality, and Risk Premia**  
*MFA Best Doctoral Paper Award* (2021)  
*WEA PhD Candidate Award For Outstanding Research* (2021)  
*EFA Engelbert Dockner Memorial Prize for the Best Paper by Young Researchers, Runner-Up* (2021)  
*FMA Best Paper in Investments* (2021)

Risk premia are significantly elevated during periods of democratization in a cross-country panel of equity data covering 85 countries over 200 years, despite little evidence of a negative effect on either realized or expected GDP and dividends. This result is explained in an asset pricing model in which wealthy asset market participants face higher taxes when democratizations succeed. Finally, using a shift in Catholic church doctrine in support of democracy, majority Catholic autocracies display

significantly higher average excess returns relative to other countries in a difference-in-differences framework. These results shed light on how redistribution risk shapes asset prices.

Presented at: Econometric Society European Winter Meeting, Econometric Society World Congress, European Finance Association (EFA; Poster Session), MFA, MFA Doctoral Symposium, Trans-Atlantic Doctoral Conference, WFA, World Finance Conference, Young Economist Symposium, EFA, NFA, FMA

## 2. **Social Security and Trends in Wealth Inequality**

with Sylvain Catherine and Natasha Sarin

*Red Rock Finance Conference Best Paper Award (2020)*

*SFS Cavalcade Best Paper in Asset Pricing (2021)*

Recent influential work finds large increases in inequality in the U.S. based on measures of wealth concentration that notably exclude the value of social insurance programs. This paper revisits this conclusion by incorporating Social Security retirement benefits into measures of wealth inequality. We find that top wealth shares have not increased in the last three decades when Social Security is properly accounted for. This finding is robust to assumptions about how taxes and benefits may change in response to system financing concerns. When discounted at the risk-free rate, real Social Security wealth increased substantially from \$4.9 trillion in 1989 to \$52.6 trillion in 2019. When we adjust the discount rate for long-run macroeconomic risk, this increase remains sizable, growing from over \$4.0 trillion in 1989 to \$41.2 trillion in 2019. Consequently, by 2019, Social Security wealth represents 59% of the wealth of the bottom 90% of the wealth distribution.

Presented at: Chicago Annual Household Finance Conference\*, EconTwitter Conference\*, NBER SI CRIW\*, Red Rock Finance Conference\*, CEPR European Conference on Household Finance\*, Northern Finance Association\*, NBER Public Finance\*, ASU Sonoran\*, SFS Cavalcade, WFA\*, NBER SI Inequality and the Macroeconomy\*

\*Denotes presentation by co-author

Press: Marginal Revolution, Pro-Market, The Economist

## 3. **Sovereign default and the decline in interest rates**

with James Paron and Jessica Wachter

Sovereign debt yields have declined dramatically over the last half-century. Standard explanations for this decline, including aging populations and increases in asset demand from abroad, encounter difficulties when confronted with the full range of evidence across asset classes. We propose instead that the decline in inflation and default risk caused falling interest rates, a phenomenon that is not unique to our century. We show that a model with investment, inventory storage, and sovereign default captures the decline in interest rates, the stability of equity valuation ratios, and the recent reduction in investment and output growth corresponding to the zero lower bound.

Presented at: NBER SI Capital Markets, SF Fed Conference on Macro and Monetary Policy\*, WFA\*, NBER SI Asset Pricing

\*Denotes presentation by co-author

## Technical Reports

---

### 1. **International Portfolio Investment Holdings of Long-term Securities in the Enhanced Financial Accounts**

with Elizabeth Holmquist and Youngsuk Yook  
*FEDS Note (2016)*

### Conference Presentations

---

- 2021 NBER SI Asset Pricing, WFA, MFA, MFA Doctoral Symposium, SFS Cavalcade, Trans-Atlantic Doctoral Conference, World Finance Conference, Young Economist Symposium, EFA, NFA, FMA
- 2020 NBER SI Capital Markets, Econometric Society World Congress, EFA (Poster Session)
- 2019 Econometric Society European Winter Meeting

### Invited Discussions

---

- 2021 Trans-Atlantic Doctoral Conference, Young Economist Symposium, World Finance Conference

### Honors and Awards

---

- 2021 FMA Best Paper in Investments
- 2021 Jacobs Levy Center Dissertation Fellow
- 2021 EFA Engelbert Dockner Memorial Prize for the Best Paper by Young Researchers, Runner-Up
- 2021 WFA PhD Candidate Award For Outstanding Research
- 2021 SFS Cavalcade Best Paper in Asset Pricing
- 2021 MFA Best Doctoral Paper Award
- 2020 Red Rock Finance Conference Best Paper Award
- 2019 Rodney White Center Grant
- 2019 Jacobs Levy Center Grant

### Teaching Experience

---

#### *Teaching Assistant:*

- 2020 PhD Asset Pricing (Prof. Nikolai Roussanov)
- 2019 PhD Asset Pricing (Prof. Nikolai Roussanov), Investment Management (Prof. Robert Stambaugh), Investment Management (Prof. Donald Keim), Financial Technology (Prof. Shimon Kogan)
- 2018 Investment Management (Prof. Donald Keim), Policy Decisions by Central Banks (Prof. Zvi Eckstein)

### Service

---

Reviewer for the *American Economic Review: Insights, Review of Finance*

## Coding and Software Skills

---

Proficient Python, R, Stata, Matlab, L<sup>A</sup>T<sub>E</sub>X, LyX, Microsoft Excel

Basic SAS, SQL

## Employment/Research Experience

---

2021-22 Economist, Securities and Exchange Commission, Office of the Chief Economist

2019 Research Assistant to Jules van Binsbergen

2019 Research Assistant to Luke Taylor

2015-17 Research Assistant, Federal Reserve Board of Governors, Flow of Funds

2014-15 Research Assistant to Professor Francis X. Diebold; Expatriate of the Friday Morning Econometrics Group

2013-14 Operations Analyst, YP

## Other Education

---

2015-16 Non-Degree Student, George Washington University

2014-15 Post-Baccalaureate Certificate in Mathematical Economics, University of Pennsylvania

## Interests

---

Basketball Tuck Inter-MBA Tournament Champion (2018, 2019 — Runner-Up), Harvard Inter-MBA Tournament (2019 — Runner-Up), UPenn Inter-Graduate School Champions (2018, 2019), Graduate Division Intramural Champion (2018, 2019 — Runner-Up)

Football Graduate Division Intramural Flag Football Champion (2015)

Fantasy Fantasy Football League Champion (2006, 2014, 2019) — League Champion Trophy named “The Maxwell Jacobson Miller Achievement Award for Fantasy Football Excellence”

Chess Chess.com highest ratings — Blitz: 2012 (99th percentile), Bullet: 1967 (99th percentile)

Music Guitar, Ukulele, and Piano