

Education	University of Virginia Ph.D. Economics University of Virginia MA, Economics Hamilton College BA, Economics and Philosophy (both Honors), Summa Cum Laude	2019 to 2025 (Expected) 2019 to 2020 2010 to 2014
Fields	Primary: Industrial Organization, Econometrics, Applied Microeconomics Secondary: Digital Economics, Economics of AI, Economics of Music	
References	Professor Federico Ciliberto ciliberto@virginia.edu	Professor Simon Anderson Sa9w@virginia.edu
	Professor Julie Holland Mortimer mortimer@virginia.edu	Professor Anton Korinek akorinek@virginia.edu
Fellowships & Awards	Bankard Pre-Doctoral Fellowship (\$20,000), University of Virginia Raven Society Scholarship (\$2,000), University of Virginia University-Wide Graduate Teaching Award, University of Virginia (Nominated) Snively Graduate Teaching Award (\$500), University of Virginia	2024 2024 2022 2021, 2022
Teaching	Instructor: Econ 3010: Intermediate Microeconomics, University of Virginia Teaching Assistant: Econ 4444: AI and the Future of Work, University of Virginia Econ 3110: Mathematical Microeconomics, University of Virginia Econ 4720: Econometric Methods, University of Virginia Econ 3720: Intro to Econometrics, University of Virginia	2023 2024 2023 2021 to 2022 2020
Employment	Postal Regulatory Commission, Economist Federal Deposit Insurance Corporation, Research Assistant	2015 to 2019 2014 to 2015
Research	Research Assistant for Professors Simon Anderson and Özlem Bedre-Defolie Research Assistant for Professor Anton Korinek Research Assistant for Professor Amalia Miller	2021 to 2024 2022 to 2023 2020 to 2021
Job Market Paper	Playing to the Algorithm: How Spotify's Recommendations Shape Music Production	

I examine how recommender systems have influenced the music industry and shaped music production over the last decade. Using a structural model of the recorded music industry, I analyze consumer behavior, platform recommendations, and rightsholder release decisions. I estimate a fixed cost of \$80 thousand for songs entering Spotify's Top 200, with a 26% gross profit margin. Counterfactual analysis shows that with randomized recommendations, fewer songs enter the market, reducing consumer welfare by 4%. The songs that do enter would be 8 seconds longer on average and more heterogeneous in length. Popularity-based recommendations would generate a superstar effect, increasing gross profit margins for songs that enter the market to 48%, but reducing consumer welfare by 16%. While recommender systems have reduced overall variety in music, they have enabled additional entry and increased consumer welfare.

Publications

[“Reproducibility in Management Science,”](#) *Management Science* (Member of the Management Science Reproducibility Collaboration)

Papers in Progress

“Coordination and the Return on Capital” with Federico Ciliberto and Alon Eizenberg

This paper examines firm competition in dynamic settings, focusing on the airline industry where the discount rate is crucial for collusion but remains unobservable. We address the challenge of identifying the discount rate by linking it to the rental rate of capital, a component of marginal cost. Our novel approach exploits the dual role of the rental rate in both the discount factor and marginal cost. By leveraging observable data on capital, we identify a set of feasible discount factors and rental rates, along with corresponding firm behaviors.

“Distributing the Windfall from Transformative Technologies” with Anton Korinek

We are on the verge of developing transformative AI systems that promise to deliver unprecedented economic gains. This paper analyzes how an actor developing a transformative technology can best distribute the resulting windfall in order to benefit humanity at large. We develop four findings: First, instead of extracting large profits, a lab can create higher social welfare by passing the benefits of the technology to users via lower prices. Second, it can charge differential prices to redistribute benefits towards recipients who are especially in need, e.g., in poor countries or locations. Third, it can increase growth and welfare by prioritizing the use of TAI systems for R&D and investment over consumption. Fourth, a lab must pay particular attention to safety, which would be underprovided by competitive market forces.

“Demand Estimation for Novice Art on Digital Platforms” with Ishita Chakraborty and Sharmistha Sikdar

We estimate demand for novice art on Etsy. We use lab-based conjoint analysis to generate data on consumer choices and use these data to build a structural model of demand for novice artwork, e.g., paintings. The counterfactuals from our model estimation will help us understand how changes in the listing characteristics of novice artwork like paintings sold on e-commerce platforms can affect demand and prices paid.

“The Role of Business Models on Media Bias” with Jenna Blochowicz

Over the past fifteen years, the online news industry has weathered major upheavals in how it generates revenue and reaches readers. After a period of heavy reliance on social media platforms for distribution, many news outlets have pivoted to proprietary ad systems or doubled down on subscription-based models. At the same time, partisan distrust in media has surged, leading readers to gravitate towards sources that align with their political beliefs. We investigate how the choice of business model by newspapers affects their political coverage, and how responsive they are to the political leanings of their audience. We hypothesize that more subscription-heavy newspapers are more likely to be partisan in the direction of their subscribers. We also hypothesize that more ad-reliant news organizations are less likely to be partisan.

“TikTok Trends and Spotify Spillovers” with Tzolmon Otgon and Bella Jamiyan

While Spotify and other streaming services are the primary means by which consumers listen to music, TikTok and other short-form video services are a key channel for music discovery. As such, releasing music on these services is paramount for advertising. We hypothesize that successful releases on TikTok have spillover effects for longer-term streaming on Spotify and other digital platforms. We seek to estimate this spillover effect by leveraging a blackout of Universal Music

Group (UMG) songs on TikTok from February 1, 2024 to May 2, 2024. During this time, UMG withheld its catalog from TikTok, preventing users from listening to those songs on the app, and creators from embedding those songs in videos.

Seminars & Conferences	Southern Economic Association	November 2024
	Cornerstone Research and UMD	May 2024
	Quantitative Collaborative, University of Virginia	May 2024
	Economics Research Colloquium, University of Virginia	May 2024
	Research Computing Exhibition, University of Virginia	April 2024
	Quantitative Collaborative, University of Virginia	May 2023
	NBER Workshop on Digital Economics, Invited Attendee	March 2023
	NBER Digitization Tutorial, Competitively Selected	March 2023
Academic Service	Referee, Journal of Law and Economics	2024
	Futures Initiative Working Group, University of Virginia	2024
	Graduate and Professional Council, University of Virginia	2023 to 2024
	President, Graduate Student Council, University of Virginia	2023
	Organizer & Session Chair, Economics Research Colloquium, University of Virginia	2023
	Finance Committee Chair, Graduate Student Council, University of Virginia	2020 to 2023
	Economics Representative, Graduate Student Council, University of Virginia	2019 to 2020
Research Grants	Department of Economics Travel Grant (\$400), Steer Fund, University of Virginia	2024
	Graduate Student Council Research Grant (\$500), University of Virginia	2023
	Department of Economics Data Grant (\$250), Steer Fund, University of Virginia	2023
	Department of Economics Travel Grant (\$100), Steer Fund, University of Virginia	2023
Affiliations & Certifications	Raven Society, University of Virginia	2024
	Tomorrow's Professor Today Certification, University of Virginia	2023
	Quantitative Collaborative, University of Virginia	2023
Languages	English (native), German (intermediate)	
Software Skills	Python, R, MATLAB, STATA	