ZACHARY NOLAN

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EDUCATION

Ph.D. Economics, Duke University, 2020 (expected).

Committee: Allan Collard-Wexler (chair), Carl Mela, James Roberts, Curtis Taylor, Jonathan Williams

B.A. Economics, *Summa Cum Laude*, University of Florida, 2014.

B.S. Mathematics, University of Florida, 2014.

RESEARCH INTERESTS

Industrial Organization, Applied Microeconomics, Applied Econometrics

WORKING PAPERS

1. Pricing and Foreclosure on Integrated Platforms: Evidence from Internet Service Providers (JOB MARKET PAPER).

   Abstract: This paper studies the joint pricing decisions of internet service providers (ISPs), who sell internet access and pay-TV subscriptions. I estimate a model of consumer choice over ISP and third-party online video subscriptions (such as Netflix) using novel household-level data containing online video usage information at the hourly level. I find that the elasticity of demand for internet access is -0.99, and that TV elasticities are between -6.45 and -3.13, implying much higher margins for internet than TV. The average internet subscriber is willing to pay $19 for Netflix and $32 for Streaming TV. When access to online video is removed from the average household's preferred bundle, willingness-to-pay falls by 20%, or $38. Next, I use a model of bundle pricing to study the implications of alternative ISP strategies for pricing internet content. I find that foreclosure of online video is not profitable due to a combination of the large contribution of online video access to internet valuations and low TV profit margins. When the ISP adopts an add-on pricing strategy for online video, the price changes cause most consumers to purchase both internet and TV, and new consumer surplus is unlocked through additional TV subscriptions.

2. Steering Incentives on Platforms: Evidence from the Telecommunications Industry (with Brian McManus, Aviv Nevo, and and Jonathan W. Williams).

   Abstract: Internet Service Providers (ISPs) offer both TV packages and access to the internet, which allows customers to view streaming video that competes with TV and can increase ISPs' network costs. This provides ISPs with an incentive to steer its customers toward more profitable subscriptions and viewing choices. We study these incentives using a unique dataset that documents individual consumers' internet usage choices and TV subscriptions, all in a setting where an ISP introduced a new policy of internet usage allowances and overage charges. We extend the textbook monopoly bundling model to describe the policy's main effects, including how ISPs' incentives to encourage or discourage streaming video varies with its ability to steer consumers. We then analyze empirically the price policy's impact on consumers' choices. Consistent with our theoretical model, the new policy steered internet-only consumers into bundled TV and internet subscriptions; this effect was greatest for heavy users of streaming services most similar to conventional TV. Internet usage growth was curtailed for consumers of all types, regardless of choices about subscriptions, and it reduced usage of and subscriptions to third-party streaming video services. Finally, we discuss the implications of these findings for antitrust and regulatory issues in the telecommunications industry, including net neutrality.

3. The Unbundling of the Telecommunications Industry: Evidence from Cord-cutting (with Jacob Malone, Aviv Nevo, and Jonathan W. Williams).

CONFERENCE PRESENTATIONS

2019: ASSA Annual Meeting (Atlanta), IIOC (Boston), SEA Annual Meeting (Fort Lauderdale)

2018: SEA Annual Meeting (Washington D.C.), NET Institute Conference (NYU Stern)

2017: CableLabs Smaller Market Conference (Keystone)

TEACHING

Duke University

ECON 205 - Intermediate Microeconomics: Fall 2015, teaching assistant for Curtis Taylor

ECON 208 - Econometrics: Spring 2016, teaching assistant for James Roberts

University of Florida

Teaching Center, Mathematics Tutor, 2012-2014

Courses: Multivariate Calculus, Linear Algebra, Differential Equations, Real Analysis

RESEARCH AND PROFESSIONAL EXPERIENCE

University of North Carolina at Chapel Hill, Department of Economics, research assistant for Jonathan Williams (2016-2019)

CableLabs, Summer Internship - Strategy (2017)

HONORS, SCHOLARSHIPS, & AWARDS

NET Institute Summer Research Grant, 2019

NET Institute Summer Research Grant, 2018

Summer Research Fellowship, Duke University, 2015, 2016

Graduate Tuition Scholarship, Duke University, 2015, 2016

Graduate First-year Fellowship, Duke University, 2014

Anderson Scholar, University of Florida, 2012

Phi Beta Kappa, University of Florida, 2012

REFERENCES

Allan Collard-Wexler, allan.collard.wexler@duke.edu

James Roberts, j.roberts@duke.edu

Jonathan Williams, jonwms@unc.edu

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