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Lucas Zavala

Address: Department of Economics
Yale University
New Haven, CT 06520-8268

Telephone: +1 732 713 6851

E-mail: lucas.zavala@yale.edu

Web page: XXX

Citizenship: USA and Argentina

Fields of Concentration:
International trade
Development

Desired Teaching:
International trade,
Development Economics
Applied Econometrics
Microeconomics

Comprehensive Examinations Completed:
2017 (Oral): International trade, Development
2016 (Written): Microeconomics, Macroeconomics

Dissertation Title: *Competition in Global Value Chains*

Committee:
Professor Peter Schott (Chair)
Professor Lorenzo Caliendo
Professor Samuel Kortum
Professor Michael Peters

Expected Completion Date: May 2021

Degrees:
Ph.D., Economics, Yale University, 2021 (expected)
M.Phil., Economics, Yale University, 2018
M.A., Economics, Yale University, 2017
B.A., Economics (*with high distinction*), Princeton University, 2013

Fellowships, Honors and Awards:

Nathan Hale Associates Scholarship, Yale University, 2020-2021
Graduate Research Fellowship, National Science Foundation, 2017-2020
Cowles Foundation Fellowship, Yale University, 2015-2019
Phi Beta Kappa, Princeton University, 2013

Research Grants:

James Tobin Grant for Graduate Research, Yale University, 2020
MacMillan Center International Dissertation Fellowship, Yale University, 2019

Teaching Experience:

Yale School of Management
Spring 2019, 2020, Teaching Assistant to Prof. Peter Schott, Decision Making with Data (MBA)

Practitioner Workshops
Summer 2019, Analysis of Tax Data using R, Internal Revenue Service of Ecuador
Summer 2014, Impact Evaluation Methods for Audits, Comptroller General of Chile

Advising and Mentoring Experience:

Executive Director, Graduate Application International Network, 2020-present
Co-Director, Herb Scarf Summer Research Opportunities in Economics, 2017-2019

Research and Work Experience:

Consultant, World Bank Group, 2011, 2019
Research Manager, Lorenzo Caliendo, Yale School of Management, 2016
Research Manager, Dina Pomeranz, Harvard Business School, 2014-2015
Research Assistant, Dina Pomeranz, Harvard Business School, 2013-2014
Research Assistant, Consumer Financial Protection Bureau

Working Papers:

"Unfair Trade? Market Power in Agricultural Value Chains" (November 2020), *Job Market Paper*

Work In Progress:

"More than a Technicality: Technical Barriers to Trade and International Market Structure", with Ana Fernandes and Daniel Reyes

Publications:

"Export Promotion and Firm Entry into and Survival in Export Markets" with Daniel Lederman and Marcelo Olarreaga (2016), *Canadian Journal of Development Studies,* 37.2, 142-158.

"Impact of the Pacific Alliance Agreement on the Competitiveness of Ecuadorian Firms" (2019), *Ecuador Trade and Investment Competitiveness Report*. Washington, D.C.: World Bank Group.

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Seminar and Conference Presentations:

2020: North East Universities Development Consortium

Referee Service:

Young Economists Symposium, 2017 (Organizer), 2018, 2019

Languages:

English, Spanish (native), German (proficient)

References:

Prof. Peter Schott
Yale University
School of Management
New Haven, CT 06520
PO Box 208200
Phone: +1 203 436 4260
peter.schott@yale.edu

Prof. Lorenzo Caliendo
Yale University
School of Management
New Haven, CT 06520
PO Box 208200
Phone: +1 203 432 4069
lorenzo.caliendo@yale.edu

Prof. Samuel Kortum
Yale University
Department of Economics
New Haven, CT 06520
PO Box 208268
Phone: +1 203 432 6217
samuel.kortum@yale.edu

Prof. Michael Peters
Yale University
Department of Economics
New Haven, CT 06520
PO Box 208268
Phone: +1 203 436 8475
m.peters@yale.edu

Dissertation Abstract

Unfair Trade? Market Power in Agricultural Value Chains (Job Market Paper)

Two thirds of the world's poor work in agriculture. In developing countries, where many of them live, agricultural value chains involve many small farmers selling to a few large intermediaries. This creates the potential for both inefficiency and unequal division of surplus. I document that market power among exporters is an important driver of low farmer shares and estimate the effectiveness of policies designed to promote fair trade.

Using confidential tax records from Ecuador, I assemble a rich new dataset which maps the entire value chain for over 100 exported agricultural products. This novel dataset links Customs microdata, which measures exporter revenue, with Value Added Tax (VAT) microdata, which measures their payments to the farmers who supply them. I document three new facts. First, agricultural markets in Ecuador are highly concentrated, with just a few exporters in each crop

purchasing the entire value produced by farmers. Second, farmer income is very low relative to exporter revenue of the same crop. Finally, farmer income is lower when the exporter controls more of the market for a crop. This last fact links the first two and suggests market power among exporters as a possible explanation.

The facts motivate a model of imperfect competition in agricultural value chains. Farmers choose a crop to produce and an exporter to supply, trading off the price with the cost of producing that crop and reaching that exporter. Exporters engage in Cournot competition over crops in Ecuador but are price takers in international markets. The optimal price they offer farmers is lower for exporters who control more of the crop market, consistent with the relationship in the data. In the model, the strength of the relationship is governed by the elasticities of substitution across crops and across exporters in the farmer's choice problem. The lower are the elasticities, the harder it is for farmers to switch crops and switch exporters within a crop, and the more that farmer income falls as exporter control rises.

To estimate the model, I exploit the fact that Ecuador is a small open economy, which implies that variation in how exporters respond to changes in international prices identifies the two elasticities. Intuitively, the sensitivity of large exporters to these demand shocks reveals how easily farmers can substitute across crops, while the sensitivity of small exporters reveals how easily farmers can substitute across exporters within a crop. The estimated elasticities are small, consistent with a high degree of market power. Farmer income would be 70% higher in a counterfactual economy with perfectly competitive exporters. Increased efficiency explains one-third of the gains.

Finally, I use the model to study how two common policies influence farmer income in this setting. I find that a Fair Trade program, which I model as a perfectly competitive exporter in each market, can achieve up to half of the gains from fully competitive markets. In contrast, mandated minimum prices achieve comparable benefits only if the price is unreasonably high. Although both policies increase farmer income directly, only Fair Trade reduces exporter market power, leading to further gains. Fair Trade emerges as a practical, broad-based policy for reducing inequality and inefficiency in agricultural value chains.

More than a Technicality: Technical Barriers to Trade and International Market Structure, with Ana Fernandes and Daniel Reyes

Governments around the world use technical barriers to trade to ensure that imported products meet certain quality standards. However, there is little empirical evidence of how these barriers shape the structure of global markets. In this paper, we examine how technical barriers to trade impact both buyers and sellers in international markets. We construct the first dataset combining firm-level data on trade flows for all importers and exporters across seven Latin American countries, which allow us to observe both sides of regional markets, and market-level data on all technical barriers affecting those markets over 20 years. At the market-level, we show that following the introduction of a new restriction, the export side of the market becomes more concentrated relative to the import side, and import prices rise. Higher prices could be driven by greater market power among exporters or better quality. Using the firm-level data, we decompose

the price change into the compositional effect of low price exporters exiting the market, which we interpret as higher quality, and the competition effect of high price exporters raising their prices, which we interpret as higher market power. Results suggest that while quality explains most of the price increase, exporter market power still plays an important role.