

(Jose) Alejandro Lopez-Lira

November 19, 2019

CONTACT INFORMATION Finance Department E-MAIL: joselop@wharton.upenn.edu
The Wharton School PHONE: +1(267)690-1586
University of Pennsylvania
Philadelphia, PA 19104

WEBSITE <https://fnce.wharton.upenn.edu/profile/joselop/>

EDUCATION The Wharton School, University of Pennsylvania
Ph.D. in Finance 2015-2020
Instituto Tecnologico Autonomo de Mexico (ITAM)
M.A., Economic Theory 2014-2015
B.A., Economics (with honors) 2010-2014
B.A., Financial Management (with honors)

RESEARCH INTERESTS Asset Pricing, Macro Finance, Machine Learning, Bayesian Econometrics, Fintech

WORKING PAPERS **Risk Factors That Matter: Textual Analysis of Risk Disclosures for the Cross-Section of Returns** (Job market Paper)

I exploit unsupervised machine learning and natural language processing techniques to elicit the risk factors that firms themselves identify in their annual reports. I quantify the firms' exposure to each identified risk, design an econometric test to classify them as either systematic or idiosyncratic, and construct factor mimicking portfolios that proxy for each undiversifiable source of risk. The portfolios are priced in the cross-section and contain information above and beyond the commonly used multi-factor representations. A model that uses only firm identified risk factors (FIRFs) performs at least as well as traditional factor models, despite not using any information from past prices or returns.

Presented at: WFA, The Future of Financial Information Conference, European Investment Forum Research, INFORMS Annual Meeting, NLP and Machine Learning in Investment Management Conference, Baltimore Area Finance Conference, 5th Annual University of Connecticut Finance Conference, International Finance Conference 11, 27th Finance Forum, 2nd Dauphine Finance PhD Workshop, EFA Doctoral Tutorial, Financial Markets and Corporate Decisions, Southern Finance Association, 2019 ITAM Alumni Conference, Inquire Autumn Seminar 2019, Macro Finance Society PhD Session, TCU Finance Conference

Best Paper, European Investment Forum Research Prize, Cambridge, 2019; Best Paper in the Investment Track, Baltimore Area Finance Conference, 2019

A machine learning-based canonical set of portfolios for testing factor models

joint with Nick Roussanov

We use machine learning to efficiently combine a broad set of signals and produce a testing set of portfolios sorted by ex-ante estimates of expected returns. None of the well-known factor models can explain the returns of the testing set, and we observe monotonically increasing realized risk-adjusted excess returns. A long-short value-weighted portfolio produces significant realized risk-adjusted

excess returns above 1%. We also provide an even more troublesome testing set: ex-ante covariance neutral portfolios sorted on ex-ante estimates of expected returns. A long-short covariance-neutral portfolio produces a Sharpe ratio well above one and no statistically significant covariation with any of the well-known factors, posing notable challenges to both reduced-form and consumption-based asset pricing models.

Demand-Driven Risk and the Cross-Section of Expected Returns

Firms that concentrate their activities towards goods with higher income elasticity are more exposed to demand-driven risk since the consumption of high-consumption households is more exposed to aggregate shocks. These firms earn higher risk-adjusted equity returns. A portfolio that goes long on the most exposed firms and short on the least exposed gets an abnormal risk-adjusted annual return of 7.5%. This risk does not seem to be coming from competition. A portfolio that goes long in firms exposed to demand-driven risk and competitive pressure and short on firms not exposed to demand-driven risk nor competitive pressure earns an abnormal risk-adjusted annual return of 14%.

When do we feel confident about a predictor? A Bayesian framework for time-varying predictor relevance

I use a Bayesian econometric model with time-varying coefficients to measure when investors have enough information to conclude that a variable is useful for the prediction of stock returns. In the model, investors have epistemic uncertainty: they do not know whether a given variable is useful for prediction. The model provides a natural framework to deal with multiple hypothesis testing concerns and has a clear advantage over frequentist inference: at any point in time, we have the joint probability distribution that the variables belong in the model. I apply the model to the cross-section of returns and find that the relevance of well-known predictors changes substantially during the business cycle. A long-short portfolio constructed using the predicted values generates significant risk-adjusted returns of around 1% per month.

WORK IN PROGRESS

Being Innovative pays off, but when?

joint with Roberto Gomez-Cram and Marco Grotteria

A measure of investor sentiment using Conference Calls and Machine Learning

FELLOWSHIPS, HONORS, AWARDS AND GRANTS

WFA Cubist Systematic Strategies Ph.D. Candidate Award for Outstanding Research, 2019

Macro Finance Society Ph.D. Student Award, 2019

Best Paper, European Investment Forum Research Prize, Cambridge, 2019

Best Paper in the Investment Track, Baltimore Area Finance Conference, 2019

Irwin Friend Doctoral Fellowship in Finance, Wharton, 2019

The Jacobs Levy Equity Management Center for Quantitative Financial Research Grant, 2019

Rodney L. White Center for Financial Research Grant, 2019

The Mack Institute for Innovation Management Research Grant, 2019

George James Term Fund Travel Award, Wharton, 2019

Jacob Levy Fellowship, Wharton, 2019

Rodney L. White Center for Financial Research Grant, Wharton, 2018

The Mack Institute for Innovation Management Research Grant, 2018

CONFERENCES AND PRESENTATIONS 2019: WFA, The Future of Financial Information Conference, European Investment Forum Research, INFORMS Annual Meeting, NLP and Machine Learning in Investment Management Conference, Baltimore Area Finance Conference, 5th Annual University of Connecticut Finance Conference, International Finance Conference 11, 27th Finance Forum, 2nd Dauphine Finance PhD Workshop, EFA Doctoral Tutorial, Financial Markets and Corporate Decisions, Southern Finance Association*, 2019 ITAM Alumni Conference, Inquire Autumn Seminar 2019, Macro Finance Society PhD Session, TCU Finance Conference
*Scheduled

2018: INSEAD-Wharton Doctoral Consortium, Wharton PhD Lunch Seminar

TEACHING EXPERIENCE **Lecturer, The Wharton School, University of Pennsylvania**

Leadership in the Business World

Statistics, 2017, 2018

Global Young Leaders Academy

Business Statistics, Interest Rates and Bonds, Risk and Return, Capital Structure, 2019

Teaching Assistant, The Wharton School, University of Pennsylvania

Empirical Methods in Asset Pricing (PhD), Prof. Amir Yaron, 2018

Empirical Methods in Asset Pricing (PhD), Prof. Nikolai Roussanov, 2019

DEPARTMENT SERVICE Coordinator of the PhD Student Seminar 2017, 2018

Wharton Doctoral Program Executive Committee 2017, 2018

REFEREE *Review of Financial Studies, Review of Finance, Economic Letters, Journal of Asset Management*

LANGUAGES English (fluent), Spanish (native), Portuguese (basic), French (basic)

REFERENCES **Jules van Binsbergen (Chair)**

Nippon Life Professor of Finance
The Wharton School
University of Pennsylvania
Phone: +1(215)573-1606
E-mail: julesv@wharton.upenn.edu

João F. Gomes

Howard Butcher III Professor of Finance
The Wharton School
University of Pennsylvania
Phone: +1(215)898-3666
E-mail: gomesj@wharton.upenn.edu

Nikolai Roussanov

Moise Y. Safra Associate Professor of Finance
The Wharton School
University of Pennsylvania
Phone: +1(215)746-0004
E-mail: nroussan@wharton.upenn.edu