# UNIVERSITY OF ROCHESTER Economics

# Job Market Candidates 2019-2020

# University of Rochester - Department of Economics
## 2019-2020 Job Market Candidates

| NAME | Job Market Paper | FIELDS | REFERENCES |
|---|---|---|---|
| **Vyacheslav Arbuzov** | *Ex-post Investments and Information Aggregation* | • Economic Theory<br>• Game Theory<br>• Industrial Organization | Paulo Barelli*<br>Srihari Govindan<br>Alp E. Atakan<br>Yu Awaya |
| **Minjie Deng** | *Inequality, Taxation, and Sovereign Default Risk* | • International Economics<br>• Macroeconomics | Yan Bai*<br>George Alessandria<br>Narayana Kocherlakota<br>Yena Park |
| **Shafaat Khan** | *How Trade Responds to Anticipated Tariff Changes: Evidence from NAFTA* | • International Trade<br>• International Macroeconomics | George Alessandria*<br>Yan Bai<br>Dan Lu |

*Advisor

# Vyacheslav Arbuzov

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## Education

Ph.D. in Economics, University of Rochester, USA, 2020 (expected)

M.A in Economics, University of Rochester, USA, 2017.

M.A in Economics, Koç University, Turkey, 2014.

B.A. in Economics with Highest honors, Boğaziçi University, Turkey, 2012.

## Research Fields

Economic Theory, Game Theory

## Working Papers

- "Ex-post Investments and Information Aggregation," 2019 (joint with Alp E. Atakan)
- "Collusion Under Persistent Shocks," 2019 (joint with Yu Awaya and Gustavo Gudiño)
- "Endogenous Repo Cycles," 2019 (joint with Yu Awaya, Hiroko Fukai and Makoto Watanabe)

## Work In Progress

- "The Value of Uncertainty in Cournot Competition Models"

## Appointments

- Research Assistant for Professor Yu Awaya, November 2016 - May 2019

## Teaching Experience

Teaching Assistant, University of Rochester

Principles of Economics, Spring 2017, Spring 2018, Spring 2019

Intermediate Microeconomics, Fall 2016

Modern Value Theory (Graduate), Fall 2017, Fall 2018

Lecturer, Koç University

Math Camp for new graduate students, Summer 2013

Teaching Assistant, Koç University

Industrial Organizations, Fall 2012, Spring 2013

Microeconomics (Graduate), Fall 2013

Teaching Assistant, Boğaziçi University

Statistics, Spring 2011

Econometrics, Fall 2012

## Fellowships, Scholarships, and Awards

Graduate Fellowship and Tuition Scholarship, University of Rochester, 2014-2019

Summer Research Grant, University of Rochester, Summer 2015, Summer 2016

The Lionel and Blanche McKenzie Family Fellowship, 2016-2017

Graduate Fellowship and Tuition Scholarship, Koç University, 2014

Project Assistantship Grant, TÜBİTAK (The Scientific and Technological Research Council of Turkey) code:1001, 2013-2014

Tatarstan Trade House scholarship for high achievements in study and social activities, 2013, 2014

Boğaziçi University Alper Orhon Econometrics Award, 2012

Turkish Ministry of Education B.A. Scholarship, 2008-2012

## Others

Languages: Russian (native), English (fluent), Turkish (fluent)

Computer Skills: Stata, Matlab, Mathematica

## References

**Professor Paulo Barelli** (Co-Advisor)
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**Professor Alp E. Atakan**
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**Professor Yu Awaya**
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## Ex-post Investments and Information Aggregation

*(with Alp E. Atakan; Job Market Paper)*

We study a uniform price auction where $k$ identical objects are allocated among $n$ bidders with unit demands. The common valuation of the object is jointly determined by the state of the world and an action that is chosen after winning the object. State of the world is unobservable to bidders. Instead, each bidder receives a signal that provides bounded information about the state of the world. When the valuation is increasing in state given “plausible" actions, a unique equilibrium exists in the class of symmetric equilibria with monotone bidding strategy. In large auctions, monotonicity of the valuation function is also a sufficient condition for full information aggregation in a symmetric and monotone equilibrium. We also provide an example illustrating that full information aggregation is plausible even when the object valuation is non-monotone with respect to state.

## Collusion under Persistent Shocks

*(with Yu Awaya and Gustavo Gudiño)*

We study a repeated Cournot competition model where prices are determined not only by firms' quantities but also by unobservable market shocks (Green and Porter, 1984). Unlike Green and Porter (1984), market shocks are persistent and today's market condition affects tomorrow's market condition. With such persistence, a cheating firm can manipulate its rival's belief about future market conditions. Such belief manipulation creates another channel for the firm to optimally cheat on the opponent. Despite this additional channel, we show that under certain conditions, firms can still collude. Moreover, persistence rather makes it easier to collude.

## Endogenous Repo Cycles

*(with Yu Awaya, Hiroki Fukai and Makoto Watanabe)*

This paper presents a simple and tractable equilibrium model of repos, where collateralized credit emerges under limited commitment. We show that even if there is no time variation in fundamentals, repo markets can fluctuate endogenously over time. In our theory, repo market fragilities are associated with endogenous fluctuations in trade probabilities, collateral values, and debt limits. We show that the collateral premium of a durable asset will become the lowest right before a recession and the highest right after the recession, and that secured credit is acyclical.

# Minjie Deng


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## Education

Ph.D. in Economics, University of Rochester, United States, 2020 (expected)

M.A. in Economics, University of Rochester, United States, 2017

M.A in Economics, Renmin University of China, 2015

B.A. in Economics, Renmin University of China, 2013

## Research Fields

International Economics, Macroeconomics

## Working Papers

"Inequality, Taxation, and Sovereign Default Risk" (Job Market Paper)

"Migration and Sovereign Default Risk ", joint with George Alessandria and Yan Bai; Accepted for November 2019 Carnegie-Rochester-NYU Conference on Public Policy, July 2020 issue of *Journal of Monetary Economics*

## Work In Progress

"International Spillovers of U.S. Monetary Policy: Evidence from Chinese Firm-level Data", joint with Yumei Guo and Yanbin Chen

"Capital Flows, Migration, and Business Cycles"

"Financial Heterogeneity and Aggregate Shocks Transmission", joint with Min Fang

## Conference Presentations

Carnegie-Rochester-NYU Conference (Pittsburgh), November 2019

SED Annual Meeting (St. Louis), June 2019

Midwest Macro Meetings (Athens, Georgia), May 2019

## Teaching Experience

Teaching Assistant, University of Rochester

Macroeconomics (Ph.D. core) – Professor Yongsung Chang, Professor Yena Park (Spring 2018)

Economics of Globalization (Undergraduate) – Professor Yan Bai (Fall 2017, 2018)

Intermediate Macroeconomics (Undergraduate) – Professor Dan Lu (Spring 2019)

## Fellowships, Scholarships, and Awards

Graduate Fellowship and Tuition Scholarship, University of Rochester, 2015-2020

PEPR Grant, W. Allen Wallis Institute of Political Economy, University of Rochester, 2017

Summer Research Grant, University of Rochester, 2017

## Publications Before Graduate School

Zhengyan Xiao, Zhexi Liu, Minjie Deng, "Is Monetary Policy Effective During New Phase in China?", World Economic Papers, 2016(02) (in Chinese)

Chenyang Yu, Minjie Deng,"Municipal Bond: A New Channel to Finance Urbanization in China", Academic Forum, 2013(03) (in Chinese)

## Others

Languages: English (fluent), Chinese (native)

Computer Skills: Python, MATLAB, Stata, LaTeX, Linux

## References

**Professor Yan Bai (Advisor)**
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## Inequality, Taxation, and Sovereign Default Risk

***(Job Market Paper)***

This paper studies the impact of income inequality on sovereign spreads under elastic labor and endogenous taxation. I first document that high pre-tax income inequality is associated with high spreads both across countries and across the U.S. states. To explain this, I develop a sovereign default model with endogenous progressive taxation and heterogeneous labor in productivity and migration choice. The government chooses the optimal combination of tax and debt, considering the interaction between the two policies. Progressive taxes redistribute income but discourage labor supply and immigration, eroding the tax base and government's ability to repay debt. Default risk increases sovereign spreads, which indicates higher debt financing costs. Thus, the government faces a trade-off between redistribution and spreads. In a highly unequal economy, the government is more likely to choose redistribution over low spreads. With the model calibrated to state-level data, I find that income inequality is an important determinant of spreads, generating 20% higher spreads compared with a model without income inequality. Abstracting from migration reduces the effect of inequality on spreads by 35%.

## Migration and Sovereign Default Risk

*(with George Alessandria and Yan Bai)*

We study the role of migration in a sovereign debt crisis. Empirically, we show that a massive outflow of workers accompanied a rise in sovereign debt default risk. We develop a model with sovereign default and endogenous migration choice to understand how migration interacts with the default risk and how the interaction affects the debt crisis. In the model, the outflow of workers increases government debt burden by increasing debt-per-capita, further increasing default risk. As a result, the government decreases investment, which affects the consumption of the workers. Lower consumption, in turn, increases the probability of emigration. Compared with a model without endogenous migration, our model generates a higher default risk, lower investment, and a more in-depth and more prolonged recession. The impact of migration channel is even more substantial when the average migrant has higher levels of human capital relative to locals.

## International Spillovers of U.S. Monetary Policy: Evidence from Chinese Firm-level Data

*(with Yumei Guo and Yanbin Chen)*

We study the international spillovers of U.S. monetary policy on foreign firms. Using detailed Chinese quarterly firm-level data, we find that contractionary U.S. monetary policy reduces Chinese firm investment. To identify the spillover channels, we use cross-firm variations. We find empirical evidence for three channels: the credit channel, the asset price channel, and the exchange rate channel. The credit channel means that monetary policy in the U.S. changes the interest rate, which affects the financing cost of the firms. The asset price channel is that U.S. monetary policy affects the firm stock price, which affects firms' Tobin's q and stock pledges. The exchange rate channel indicates the effect of interest rate on the real exchange rate, which has a larger impact on exporting firms.

## Financial Heterogeneity and Aggregate Shocks Transmission

*(with Min Fang)*

We study the role of firms' financial heterogeneity in determining the responses to aggregate TFP shocks and monetary policy shocks. We focus on both leverage and maturity as heterogeneity in firm financial positions. For TFP shocks, We adopt utilization-adjusted quarterly-TFP series and use more traditional TFP series (output growth less the contribution of capital and labor) as a robustness check. To identify monetary policy shocks, we use high-frequency data on the changes in the traded rate on the Federal Funds Futures in a narrow time window around the FOMC press releases. Then we aggregate the shocks into quarterly frequency using moving average weighted by the number of days in the quarter after the shock. Using firm-level data in Compustat Quarterly, we find that firms with higher leverage and longer maturity invest less facing a positive aggregate TFP shock or an expansionary monetary policy shock. We then develop a heterogeneous-firm model with long-term debt and default risk to interpret these facts and study the aggregate implications. With the presence of long-term debt, the debt price captures the entire future path of default probabilities. In the model, firms with high leverage or long maturity are less responsive to positive shocks because their marginal cost of external finance is high.

# Shafaat Yar Khan

last updated: October 2019

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## Education

- Ph.D. Student, Economics, University of Rochester, 2015-present.

  Advisors: George Alessandria (main), Yan Bai, Dan Lu

- M.A. Economics, University of Rochester, 2015-2017.

- B.Sc (Hons) Economics, *Valedictorian*,
  Lahore University of Management Sciences, Pakistan, 2011-2015.

## Research Interests

International Trade, International Macroeconomics

## Working Papers

- "How Trade Responds to Anticipated Tariff Changes: Evidence from NAFTA"
  (with Armen Khederlarian; Job Market Paper)

- "Taking Stock of Trade Policy Uncertainty: Evidence from China's Pre-WTO Accession"
  (with George Alessandria and Armen Khederlarian)

- "Mismeasured Productivity Gains from Trade Liberalizations" (with Armen Khederlarian)

## Work In Progress

- "Productivity Gains from Trade Liberalization: Inventory Management Efficiency Channel"
  (with George Alessandria and Armen Khederlarian)

## Conference Presentations

2019: Economics Graduate Students' Conference, Washington University in St. Louis

2019: F.R.E.I.T. Empirical Investigations in International Trade, University of Colorado Boulder

2019: Bank of Canada-Tsinghua PBCSF-University of Toronto Conference on Chinese Economy, Bank of Canada

2019: Midwest International Trade Meetings, Indiana University

2019: Midwest Macroeconomics Meetings, University of Georgia

2015: International Student Symposium, Lady Shri Ram College (Delhi, India)

2014: South Asian Economics Student Meet (Thimpu, Bhutan).

## Research Grants

- River Campus Data Grant, University of Rochester, 2019
- Conference Travel Grant, University of Rochester, 2019
- Summer Research Grant, University of Rochester, 2017

## Teaching Experience

### Instructor

- *Principles of Economics*, University of Rochester, Summer 2018

  Evaluations: Teaching Skills 5/5 Overall Rating 4.8/5

### Teaching Assistant

- *Money, Credit and Banking*, University of Rochester, Spring 2018 & Spring 2019
- *Intermediate Microeconomics*, University of Rochester, Fall 2017 & Fall 2018
- *Intermediate Microeconomics*, Lahore University of Management Sciences, Fall 2014
- *Operations Research-I*, Lahore University of Management Sciences, Spring 2014
- *Calculus-II*, Lahore University of Management Sciences, Fall 2013
- *Principles of Financial Accounting*, Lahore University of Management Sciences, Spring 2013

## Honors and Awards

- Best 5$^{\text{th}}$ Year Paper in Empirical Economics, University of Rochester, 2019-2020
- Ronald Jones Scholar, University of Rochester, 2019-2020
- W. Allen Wallis Fellowship, University of Rochester, 2018-2019
- Ronald Jones Scholar, University of Rochester, 2017-2018
- Economics Department Ph.D. Fellowship and Scholarship, University of Rochester, 2015-present
- Gold Medal for Best Undergraduate Student (Overall), 2015
- Gold Medal for Best Undergraduate Student (Economics), 2015
- Dr. Saroj Gupta Award for Best Paper, International Student Symposium (Delhi), 2015
- Undergraduate Full Tuition Scholarship 2012-2015
- Dean's Honor List (Undergraduate), 2012-2015

## Others

- Computer Skills: Stata, Matlab, Julia, Latex
- Languages: English (Fluent), Urdu (Native), Hindi

## How Trade Responds to Anticipated Changes in Tariffs: Evidence from NAFTA

(with Armen Khederlarian; *Job Market Paper*)

Free Trade Agreements phaseout existing tariffs gradually. We study the dynamics of trade when policy changes are anticipated. With storable inputs, firms respond by delaying their purchases until the tariff reduction is effective. In the meantime, they continue to satisfy their demand using inventories, as imports diverge from their consumption. These anticipatory dynamics bias the elasticity of substitution when using the response of trade to tariffs. We document the existence of anticipation to tariff reductions during the early years of NAFTA, when most of the tariff reductions came in the form of gradual phaseouts. Anticipation is increasing in the degree to which products are held as inventories. We propose an empirical measure of consumption of imports using a constant inventory-sales ratio determined by the lumpiness of trade. We explore the bias under different estimation strategies. Using actual imports instead of consumed imports overestimates the static elasticity of substitution by 16% and the short-run elasticity by 68%. The use of consumed imports increases the ratio of long-run to short-run response from 2 to 3.5.

## Taking Stock of the Trade Policy Uncertainty: Evidence from China's Pre-WTO Accession

(with George Alessandria and Armen Khederlarian)

We study the effects on trade from the annual tariff uncertainty about China's MFN status renewal prior to joining the WTO. We have three main findings. First, counter to the evidence elsewhere, trade increases strongly in anticipation of uncertain future increases in tariffs. Second, even though the trade response can be quite large, the probability of a tariff increase was perceived to be relatively small, with an average annual probability of non-renewal of about 6 percent. And third, what matters more is the expected future tariff rather than the uncertainty around it. We identify these effects using within-year variation in the risk of trade policy changes around the renewal vote and trade flows. We show that an (s,S) inventory model generates this behavior and that variation in the strength of the stockpiling in advance of the vote is increasing in the storability of goods. The model is also consistent with a sizeable fraction of the cross-industry variation in annual trade flows documented elsewhere. Our results explain why trade may hold up well in advance of a prospective policy change such as Brexit or the US-China escalating tariff war of 2018-19, but may fall off sharply even if expected tariff increases do not materialize.

## Mismeasured Productivity Gains from Trade Liberalizations

(with Armen Khederlarian)

Input tariff reductions shift the composition of firms' inputs towards imported goods. Foreign inputs entail higher ordering costs and delivery lags relative to domestic inputs. We show that neglecting increased inventory costs leads to an upward bias in the productivity gains from trade liberalizations. We build a model of different inventory intensity of home and foreign inputs and show that under standard accounting practices the effect of input tariffs on productivity is biased. When the mix of inputs changes, the value of previous stock holdings contains lower holding and ordering costs relative to the value with increased foreign inputs. This understates the input usage. The use of estimated inventory deflators based on observables eliminates the measurement bias. We study the relevance of this potential bias during India's trade liberalization in the early 1990s. We find that inventory holdings increased significantly with reduced inputs tariffs and that not accounting for increased inventory costs overestimates TFP gains by around 30%. Moreover, the bias is larger early in the reform than later.

## Productivity Gains from Trade Liberalization: Inventory Management Efficiency Channel

(with George Alessandria and Armen Khederlarian)

We augment a standard general equilibrium model of trade with inventory dynamics and evaluate its implications on welfare and aggregate productivity gains. In the quantitative model, importers hold more inventories than the domestic goods seller. As trade barriers fall, revenue expansion justifies more frequent payment of fixed ordering costs. Efficiency emanates from lower inventory holding costs due to a faster turnover. To assess the quantitative relevance of this channel we calibrate the model to match Colombia's producer-level data prior to the trade liberalization of the early 1990s. We compare gains from the observed trade liberalization in a standard trade model with those of the inventory-augmented one. There are two main results. First, the welfare gain from trade is 18% larger than in the standard no-inventory model. Second, the decomposition of the gain shows that more efficient inventory management accounts for 34% of the aggregate productivity gain.