

Irina Firsova

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Education

2019-Present	Ph.D. Economics, University of California, Davis Fields: Environmental Economics, Applied Microeconomics, Industrial Organization, Econometrics <i>Expected Completion: June 2025</i>
2019-2020	M.A. Economics, University of California, Davis
2016-2019	B.Sc. Mathematics and Economics, University of London (LSE supervised)
2015-2019	B.Sc. Economics, NRU HSE, International College of Economics and Finance

Working Papers

Does air pollution affect the likelihood of a fatal car crash? Evidence from the US, Job Market Paper

Abstract: This paper examines the impact of fine particulate matter (PM_{2.5}) on fatal car accidents across the United States, using instrumental variable (IV) analysis with wind direction as an instrument for air pollution. Results indicate that a 1 µg/m³ increase in PM_{2.5} is associated with a 1.34% increase in daily accidents after controlling for weather conditions and fixed effects. Further analysis at the hourly level shows that pollution exposure one hour prior to an accident raises fatal crash likelihood by 1.97%, suggesting that short-term pollution exposure impairs cognitive function in real time, increasing accident risks. These findings imply that the social costs of air pollution may be underestimated, as its impact extends beyond health outcomes to include immediate public safety risks.

Effect of the Clean Air Act (1970) on Mental Health Outcomes

Abstract: This study examines the impact of the 1970 Clean Air Act on mental health outcomes, with a focus on changes in suicide and depression rates following regulatory-driven reductions in air pollution. Using county-level data and an instrumental variable approach with non-attainment status as an instrument, I analyze the relationship between air quality improvements and mental health. The results indicate no significant effect of air quality improvements on mental health outcomes, underscoring the inconsistency of findings across existing literature on pollution and mental health. These findings suggest that while environmental regulations may yield substantial physical health benefits, their influence on mental health outcomes remains uncertain.

Work in Progress

Air Pollution and Road Safety: An Analysis of Fatal and Non-Fatal Car Crashes in Chicago
Does Location of Exposure to Air Pollution Matter? Evidence from Commuting Patterns and Accident Risk

Teaching Experience

Associate Instructor (fully responsible for the course), Industrial Economics, Summer 2023, UC Davis

Associate Instructor (fully responsible for the course), Intermediate Microeconomics, Summer 2024, UC Davis

Teaching Assistant, 2019-2024, UC Davis:

Courses: Principles of Microeconomics, Intermediate Microeconomics, Game Theory, Industrial Organization, Energy Economics, International Microeconomics

Presentations

2024	UC Davis Energy and Environmental Economics Dissertation Group UC Davis Public/Labor Seminar
2022	UC Davis Undergraduate Womxn in Economics Association

Awards and Fellowships

2019-2022	UC Davis Graduate Fellowship
2015	AP Scholar with Honors (Calculus, Statistics, Economics)
2015-2019	International College of Economics and Finance, Merit-based Scholarship

Other Service

2014-2019	Academic Representative, NRU HSE
2020-2022	Graduate Student Mentor, Economics Department, UC Davis
2021-2023	Event planner for Economics Graduate Student Association, UC Davis
2022-2023	Vice President of Economics Graduate Student Association, UC Davis

Personal Information

Citizenship: Russian

Languages: Russian (native), English (fluent)

Programming skills: R, Matlab, Stata, Julia, \LaTeX

References

Professor Erich Muehlegger (Chair)
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Professor Marianne Bitler
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Professor Janine Wilson
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