

# Mahtab Karimi

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## EDUCATION

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<b>Ph.D. in Economics</b>	2019-2025(expected)
<i>Department of Economics, University of Washington, Seattle, U.S.</i>	
<b>MA. in Economics</b>	2021
<i>Department of Economics, University of Washington, Seattle, U.S. (Fields of Study: Finance, Empirical Industrial Organization)</i>	
<b>M.SC. in Economics</b>	2019
<i>Graduate School of Management and Economics, Sharif University of Technology, Iran</i>	
<b>B.SC. in Computer Science</b>	2016
<i>Department of Mathematical Sciences, Sharif University of Technology, Tehran, Iran</i>	

## RESEARCH

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<b>The Hidden Role of Employee Stock Based Compensation</b>	2024
<i>Job market paper</i>	
<ul style="list-style-type: none"><li>I study whether mutual monitoring could be a key benefit of broad-based stock bonus plans by mitigating the threat of a data breach. I conduct a comprehensive textual analysis to identify distinct data breach incidents reported by the same firm. I then examine how the ratio of active participants in employee stock ownership plans (ESOPs) relative to total employees affects the probability of a data breach incident. I find that a higher active ratio is individually associated with a lower probability of an incident. Next, I analyze how the first noticeable data breach in an industry affects the active ratio in peer firms within the same industry. I find that ESOP firms increase their active ratio by 4% following the industry shock. I also find that firms implement layoffs ranging from 2% to 9% and reduce the average employee wage by 4% to 6%. Additionally, they decrease executive equity compensation by 4% and non-equity incentives by 5%. In a broader context, after the first noticeable incident in an industry, firms take actions to reduce their costs and risks. This partly leads to an increase in their active ratio, or the number of employee monitors, which in turn acts as a protective mechanism against future data breaches.</li></ul>	
<b>The Role of Target Firm Non-executive Employees' Information in M&amp;As</b>	2023
<i>Working Paper</i>	
<ul style="list-style-type: none"><li>In this work, I explore whether a firm looking for a takeover target can use a target firm's non-executive information as a signal of the potential worthiness of the acquisition. Specifically, I use the stock purchased by rank-and-file employees in the Employee Stock Purchase Plan (ESPP) of the target firm as the signal. Utilizing a novel dataset of all public target firms' ESPP purchases since 2000, I find that the acquirer's abnormal return at merger and acquisition (M&amp;A) announcements increases with the target firm's non-executive ESPP purchase ratio. Furthermore, acquisition synergies, measured as the acquirer-target combined cumulative abnormal returns at M&amp;A announcements, also increase with the target's non-executive ESPP purchase ratio. However, I do not find a significant effect of the target's ESPP purchase ratio on the deal premium. Overall, my findings suggest that valuable information held by non-executives of a target firm, prior to the M&amp;A announcement, to some extent serves as a credible signal for acquisition outcomes.</li></ul>	
<b>Pension Funds Governance: Issues and Challenges</b>	2018
<i>Iran's Social Security Journal, joint work with Prof. A. Ebrahimnejad</i>	

- The Iranian pension system has faced multiple challenges and significant deficits over the past years. This has made the pension system reform a top priority and improving the governance of pension funds is increasingly recognized as an important element of such reform. This paper highlights the main differences between the effectiveness of internal and external corporate governance mechanisms in corporations and pension funds. We argue that the typical external governance mechanisms that help align the interest of managers and main stakeholders, namely shareholders, in corporations, are not applicable in the context of pension funds. As a result, the governance of pension funds mostly relies on internal governance mechanisms and, in particular, the board of trustees. We offer tentative thoughts and solutions about the structure of the board of trustees and other internal governance mechanisms.

## Trilemma and the Transmission of Exogenous U.S. Monetary Shocks

2020

*Working paper*

- Klein and Shambaugh (2015) explore the impossible trinity by analyzing how interest rate transmission differs across countries with varying exchange rate systems and capital flow restrictions. They argue that the significant differences in transmission coefficients among these groups support the trilemma. However, the accuracy of their results depends on the equality of covariances between unobservable factors and interest rate changes across the compared groups. To address potential bias and the global influence of the U.S. economy, this study replaces base-country interest rate changes with exogenous U.S. shocks estimated around FOMC meetings. The findings reveal that mid-open capital control systems can effectively limit the transmission of U.S. monetary shocks, with countries using floating exchange rate systems being less impacted compared to those with fixed systems. Unlike Klein and Shambaugh, this study does not find evidence that semi-fixed exchange rate systems offer similar protection, but it confirms that long-term capital controls can shield countries from external shocks.

## TEACHING EXPERIENCE

*Unless otherwise noted, all positions were held at UW. Evaluations are in parentheses, out of 5. Master's courses and reader/grader positions do not have evaluations.*

### Independent Instructor

<i>Introduction to Macroeconomics (4.6)</i>	<i>Summer 2022</i>
<i>Math Camp instructor for Ph.D. students</i>	<i>Sep 2021</i>
<i>Logical Circuits (Neda e Azadi High School, Tehran, Iran)</i>	<i>Winter 2015</i>
<i>Algorithms and Problem Solving Laboratory (Sharif University)</i>	<i>Winter 2013-Spring 2014</i>

### Teaching Assistant

<i>Corporate and Intellectual Property Law (4.7)</i>	<i>Winter 2024</i>
<i>PhD-level Microeconomics Analysis III: Contract Theory (4.2)</i>	<i>Spring 2022</i>
<i>PhD-level Microeconomics Analysis II: Game Theory (4.4)</i>	<i>Winter 2021</i>
<i>PhD-level Microeconomics Analysis I (4.9)</i>	<i>Fall 2021</i>
<i>Business Analytics: Pricing Analytics in R (Reader/Grader)</i>	<i>Spring 2022</i>
<i>Investment, Capital and Finance (Reader/Grader)</i>	<i>Spring 2021</i>
<i>Microeconomics I (Sharif University)</i>	<i>Fall 2018</i>
<i>Financial Economics I (Sharif University)</i>	<i>Spring 2018</i>

<i>Human-Centered Data Science, Master of Data Science (in Python)</i>	<i>Fall 2023 and 2024</i>
<i>Statistical Inference in Applied Research in R (4.2)</i>	<i>Spring 2023</i>

## PROJECTS

### Political Risk and Stock Markets

*Winter 2022-Fall 2022*

*Research Assistant, Supervisor: Prof. S. Siegel*

- A project to investigate the causal effect of political risk on stock market prices.
- Developed an efficient Python algorithm to process and break down news digest content for targeted analysis.
- Carefully extracted and categorized a random sample of 1000 news articles from an extensive database, determining the sentiment for each.

## Pension Funds Investment and Governance

April 2018-Oct 2018

Data Analyst and Research Assistant, Supervisor: Prof. A. Ebrahimnejad

- Developed a framework for optimal regulation focusing on board appointments and investment policies in Iran's pension funds.
- Analyzed 40 years of investment trends in pension funds.
- Researched global best practices in pension systems for comparative analysis.

## Welfare Effects of Air Pollution

Winter 2018

Research Assistant, Supervisor: Prof. M. Vesal

- A project to design a market-based policy to reduce air pollution in Tehran (Iran's capital, with a population of 10 million and very low air quality).
- Conducted deep economics literature review on the effects of air pollution on welfare.
- Conducted deep research into successful market mechanisms to address air pollution.

## AWARDS

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James K. & Viola M. Hall Fellowship

2019

James O. York Fellowship

2019

Semi Finalist in National Olympiad of Mathematics

2007, 2008, 2009

Semi Finalist in National Olympiad of Informatics

2008

## SKILLS

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### Computer Languages

Python(Expert), R(Expert), Stata(Expert), SQL(Advanced), MATLAB(Advanced), Java(Expert)

### Human Languages

Persian (Native), English (Fluent), Arabic (Elementary), French (Elementary)

## REFERENCES

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### Jarrad Harford (co-chair)

Foster School of Business  
University of Washington  
Seattle, WA  
jarrad@uw.edu

### Eric Zivot (co-chair)

Department of Economics  
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### Jing Tao

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