# Ansökan om forskningsmedel

| Datum |
|---|
| 2021-01-14 |

**Observera att ansökan och bilagor endast ska skickas elektroniskt till konkurrensverket@kkv.se.**

## 1   Sökande (huvudansvarig för projektet)

| Namn *| |
|---|---|
| Maksym Khomenko | |
| Universitet/högskola eller motsvarande | Institution eller motsvarande |
| Stockholms universitet | Nationalekonomiska institutionen |
| Postadress | Postnr och ortsnamn |
| Nationalekonomiska institutionen | 106 91, Stockholm |
| Telefonnummer | E-post |
| ▮▮▮▮▮▮▮ | ▮▮▮▮▮▮▮▮▮▮▮▮▮ |

* **Huvudansvarig för projektet** är ansvarig för att uppgifterna som lämnas i ansökningsblanketten är korrekta.

## 2   Anslagsförvaltare

| Universitet/högskola eller motsvarande | Institution |
|---|---|
| Stockholms universitet | Nationalekonomiska institutionen |
| Postadress | Postnr och ortsnamn |
| Nationalekonomiska institutionen | 106 91, Stockholm |
| Telefonnummer | |
| 08-16 30 55 | |

## 3   Projektbeskrivning

| Projekttitel |
|---|
| Optimal Design and Regulations in Healthcare |

| Projektets relevans för Konkurrensverket (högst 240 tecken) |
|---|
| One of the key goals of this project is to study the competition between healthcare providers and how competition is effected by the presence of insurance policies. This is highly understudied and relevenant area for competition polices. |

| Projektet avses starta/startade, datum | Projektet beräknas vara slutfört, datum |
|---|---|
| May 2021 | April 2023 |

| Sammanfattning på svenska av projektets syfte, betydelse och genomförande (högst 1 000 tecken). |
|---|
| Att säkerställa jämlik tillgång till den väsentliga sjukvården av hög kvalitet är en stor utmaning. Många policyer har föreslagits och antagits för att ta itu med denna fråga. I detta projekt studerar vi två huvudområden inom hälsovårdpolitiken. Först analyserar vi samspelet mellan privat och offentlig vård. För det andra studerar vi välfärdskonsekvenserna av socialförsäkring som samspelar med den privata hälsovårdmarknaden. Vi utvecklar en omfattande strukturell modell om patienternas val, klinikerkonkurrens och jämvikten på hälsovårdmarknaderna. Vi uppskattar modellen på detaljerade administrativa data och tilltalande institutionell uppställning i Sverige. Modellen möjliggör simuleringar av alternativa policyutformningar som gäller samspelet mellan offentlig och privat vård och utformningen av försäkringssystem. Våra resultat kommer att informera om alternativa regler som syftar till att förbättra hälso- och sjukvårdens effektivitet och tillgänglighet. |

**Bifoga även en utförligare projektbeskrivning (svenska eller engelska, max 10 A4–sidor) som bilaga till denna ansökan.**

KB-022

## 4 Kostnadsredovisning

Observera att den högsta tillåtna arbetstiden för disputerad forskare, docent och professor är 75 procent av heltid.
För doktorand, forskningsassistent eller liknande är den högsta tillåtna arbetstiden 85 procent av heltid.

| Projektår 1 Personalnamn och akademisk titel (bifoga CV) | | Månadslön (brutto) | Anställningstid i projektet, månader | Arbetstid i procent av heltid | Lönekostnad inkl. sociala avgifter |
|---|---|---|---|---|---|
| Namn | Akademisk titel | | | | |
| ███████████ | Dr. | 0 | 12 | 25 | 0 |
| ██████ | Prof. | 0 | 12 | 5 | 0 |
| ████████ | Prof. | 0 | 12 | 5 | 0 |
| ███████ | Prof. | 0 | 12 | 5 | 0 |
| Forskningsassistent | | 25900 | 12 | 50 | 359020 |
| | | | | | |
| | Summa lönekostnader inkl. sociala avgifter | | | | 0 |
| | Summa övriga kostnader (hämtas från tabell 4a) | | | | 0 |
| | Summa förvaltningskostnader inklusive lokalhyra | | | | 0 |
| | Total kostnad inklusive sociala avgifter och förvaltningsavgifter | | | | 0 |

| Projektår 2 Personalnamn och akademisk titel (bifoga CV) | | Månadslön (brutto) | Anställningstid i projektet, månader | Arbetstid i procent av heltid | Lönekostnad inkl. sociala avgifter |
|---|---|---|---|---|---|
| Namn | Akademisk titel | | | | |
| ███████████ | Dr. | 0 | 12 | 25 | 0 |
| ██████ | Prof. | 0 | 12 | 5 | 0 |
| █████████ | Prof. | 0 | 12 | 5 | 0 |
| ████████ | Prof. | 0 | 12 | 5 | 0 |
| Forskningsassistent | | 25900 | 12 | 50 | 359020 |
| | | | | | |
| | Summa lönekostnader inkl. sociala avgifter | | | | |
| | Summa övriga kostnader (hämtas från tabell 4a) | | | | |
| | Summa förvaltningskostnader inklusive lokalhyra | | | | |
| | Total kostnad inklusive sociala avgifter och förvaltningsavgifter | | | | |

| Projektår 3 Personalnamn och akademisk titel (bifoga CV) | | Månadslön (brutto) | Anställningstid i projektet, månader | Arbetstid i procent av heltid | Lönekostnad inkl. sociala avgifter |
|---|---|---|---|---|---|
| Namn | Akademisk titel | | | | |
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| | Summa lönekostnader inkl. sociala avgifter | | | | |
| | Summa övriga kostnader (hämtas från tabell 4a) | | | | |
| | Summa förvaltningskostnader inklusive lokalhyra | | | | |
| | Total kostnad inklusive sociala avgifter och förvaltningsavgifter | | | | |

3 (3)

## 4a  Redovisning övriga kostnader

Maxbelopp för övriga kostnader per år är 25 000 kronor. Ifall detta belopp överskrids ska detta motiveras särskilt i ansökan.

|  | År 1 | År 2 | År 3 |
|---|---|---|---|
| Material och utrustning | 210000 |  |  |
| Resor | 20000 | 20000 |  |
| Andra kostnader | 24000 |  |  |
| **Summa** | 254000 | 20000 |  |

## 5  Kostnadssammanfattning (anges i kronor) för nu sökt anslag

Total projektkostnad
992040

| Därav söks från | | Tidigare erhållna anslag från | |
|---|---|---|---|
| Konkurrensverket 992040 | Annan anslagsgivare * | Konkurrensverket | Annan anslagsgivare ** |

| * Anslagsgivarens namn | Ansökan inlämnad, datum | Sökt belopp |
|---|---|---|
| ** Anslagsgivarens namn | Ansökan beviljad, datum | Bevi jat belopp |

## 6  Övriga projekt som samtidigt kommer att ledas av huvudansvarig

Projekttitel
Structural Changes, Human Capital, and Dynamic Labour Supply

**OBS! Namn och institution på personer som beviljas forskningsbidrag kommer att publiceras på Konkurrensverkets webbplats.** Om en ansökan om forskningsbidrag skickas in till Konkurrensverket innebär det ett medgivande till att dina personuppgifter registreras och behandlas av Konkurrensverket samt att uppgifter om namn och institution för beviljade bidrag publiceras på webbplatsen.

**Project Description**

# Optimal Design and Regulations in Healthcare

Maksym Khomenko (Stockholm University)

with Nikhil Agarwal (MIT), Liran Einav (Stanford University), Amy Finkelstein (MIT)

## Motivation and Relevance

Healthcare around the world has been recently going through major distress due to the pandemic. Even in the absence of the pandemic, healthcare policies have been subject to active policy debates without any foreseeable consensus. The reason for these inconclusive debates is the complexity of healthcare and an inevitable need to sacrifice some of the desirable properties. More precisely, healthcare policies are focused on designing the system which provides:

1. High quality of care.

2. Universal availability for all socio-economic or health conditions.

3. Sustainable costs for the government.

Despite a nearly universal consensus on what the healthcare system should look like, achieving all these goals is impossible, which creates a trilemma for policymakers. Targeting high quality of care should lead to excess costs or requires restricting some groups of individuals from receiving necessary care. Ensuring universal access to healthcare requires increasing healthcare costs or sacrificing quality (e.g. quality of provided care, waiting times). Finally, budget limitations inevitably create a trade-off between the availability of care for everyone and the quality of care. The attempts to balance these trade-offs have led to various policy measures being implemented around the world.

One of the major policy questions is whether healthcare should be provided by the government, private market, or as a mixed system with both public and private actors. These discussions are often based on the idea that the private market is more incentivized to improve quality and more rapidly adjusts to healthcare demand since it is directly linked to profits. Besides, in this case, a part of healthcare expenditures falls onto a private market instead of the government budget and taxpayers. At the same time, outsourcing healthcare to a private market raises the concerns that the profit-maximizing private healthcare would not be incentivized to ensure universal access to necessary care and might lead to the exclusion of certain groups.

The main policy instrument aimed at addressing these concerns is social insurance policies. The social insurance policies attempt to directly address the issue by covering the share of the healthcare costs for individuals using various schemes. Despite being an important tool for addressing equal access to healthcare, social insurance policies might be too costly to sustain while providing high quality of care due to the private information problem. This means that cheap or free healthcare stimulates overconsumption of care (e.g. taking unnecessary treatments, which would not be taken by patients at the higher level of out-of-pocket expenditures). This problem exists since the government cannot adjust social insurance conditions to the individual needs which are not even observed. Therefore, designing an efficient social insurance policy is challenging even with a pure public healthcare system.

The importance of social insurance program design becomes even more critical in the presence of the private market. As discussed above, the rationale behind the private market might be incentivizing quality improvement and reducing budget costs which, however, raises concerns related to the universal availability of healthcare. One of the policy instruments used to alleviate this problem is social insurance programs. However, the symbiosis of the private market and government cost coverage leads to another dimension of distortion. Since private healthcare providers are aware that individuals should be less sensitive to prices because they pay only a part of it, private providers have incentives to raise prices and provide excess unnecessary care.

This project attempt to address these questions by systematically studying several key areas of healthcare policies. We hope that our results will inform policymakers about potential ways to improve existing policies to create more efficient and inclusive healthcare systems. As a result, we expect to write two papers.

Paper 1: Welfare Effects of Private and Public Provision of Healthcare, *with Nikhil Agarwal (MIT), Liran Einav (Stanford University), Amy Finkelstein (MIT).* In this paper, we study the consequences of co-existence and competition between private and public healthcare. We build an equilibrium model of patients' choices of healthcare providers and the competition between private and public providers. We estimate the model using unique detailed administrative data and appealing institutional details of the Swedish dental market. We use the model to study how competition between private and public healthcare affects the quality and accessibility of healthcare in comparison with pure private and public systems. Furthermore, our model allows studying how the private market should be regulated in this case. Among others, we study such policy measures as price restrictions, reference prices, and investment in public healthcare.

Paper 2: Optimal Design of Social Insurance with Private Healthcare, *with Nikhil Agarwal (MIT), Liran Einav (Stanford University), Amy Finkelstein (MIT).* In this paper, we address the question of how the private market responds to the presence of a social insurance program aimed at alleviating the undesirable consequences of the profit-maximizing providers. More precisely, we use the unique detailed administrative data from the Swedish dental market and variation in the generosity of the public insurance program to document how the private market responds to changes in insurance conditions. We build an equilibrium model of patient choices and the healthcare provider competition to study the effects of social insurance policies on market outcomes. We

simulate and study alternative designs of insurance policies to inform policymakers about potential ways to design a better insurance program to maximize social welfare.

In the remainder of this project description, I briefly discuss contributions, related literature, and data. I also describe the methods and present the expected project timeline and budget.

## Contribution and Related Literature

The questions aimed to be addressed within this project have been a focus in the literature for a long time. However, the absence of the appropriate data and institutional setup, as well as methodological limitations hindered the progress in these directions. This project aims at filling these gaps in the literature by combining unique administrative data, suitable institutional details, and a novel modeling approach. This research is related to several strands of the literature.

Firstly, the competition between private and public sectors even beyond healthcare has attracted considerable theoretical attention but very limited empirical evidence is available. One of the concerns with the numerous theoretical studies is the ambiguity of the results that hinge on differences in modeling assumptions. The empirical literature is not abundant primarily because of the absence of the required data with observed public and private sectors. The area where these data limitations have been partly overcome recently is school competition literature which led to many papers (e.g. *Epple, Romano, 1998; Hoxby, 2000; Epple, Figlio, Romano, 2004; Dinerstein, Smith, 2014; Figlio, Hart, 2014*). Among the few papers that provide evidence on the relationship between private and public healthcare are *Duggan (2000)* and *Finkelstein, Gentzkow, & Williams (2016)* who conclude the important effect of ownership on quality and costs of healthcare. More convincing empirical evidence related to the competition between private and public healthcare is absent to the best of our knowledge. As a result, the effect of various regulations and competition between public and private healthcare providers is also lacking.

Similarly, the literature on the interaction of the private healthcare market and social insurance programs is also limited. There is extensive literature on the effect of insurance programs (e.g. *Einav, Finkelstein, Schrimpf, 2010; Einav, Finkelstein, Schrimpf, 2015; Einav, Finkelstein, Mahoney, 2018; Einav, Finkelstein, Polyakova, 2018; Einav, Finkelstein, Schrimpf, 2017; Einav, Finkelstein, Ji, Mahoney, 2020*). The main takeaway from this literature is that despite the importance of insurance programs in healthcare, these can lead to sizable welfare losses due to individuals overconsuming and exploiting insurance policies in various ways. Therefore, well-designed insurance programs are important to prevent adverse consequences. This project attempts to make one step further and study how health insurance policies act in the presence of the private healthcare market and which regulations are required to prevent the undesirable impact of these policies.

Although the goal of this project is more general and we do not specifically focus on the dental market, we also contribute to the literature on the dental market, which is an important part of healthcare. Among few studies, *Cabral(2013)* and *Grönqvist (2004a, 2004b, 2006)* provide evidence that suggests that the dental care market is similar to the rest of the healthcare sector in terms of a

private information problem and issues stemming from profit-maximizing incentives of the private sector. As a result, policymakers face similar obstacles while attempting to design an efficient and accessible dental care system.

In summary, this project intends to provide an important contribution to these fields and overall to understanding the trade-offs in designing healthcare policies that arise from the intersection of private and public healthcare. We also aim at shedding light on the effects of socials insurance programs in the presence of the private market. To the best of our knowledge, these important questions have not been answered in the empirical literature primarily due to methodological issues and the absence of the required data which we intend to overcome in the project.

## Data

Despite the urgent need for conclusive empirical evidence regarding the optimal design of healthcare policies, data have been a major obstacle for credible analysis. The main complication arises because such fundamental research questions require detailed data on patient choices and key characteristics as well as information on public and private healthcare providers including price and cost data. For the detailed model which we estimate within the project, individuals and healthcare providers also must be connected through the transaction data which allows observing all visits and key visits characteristics such as price and diagnosis. Also, to credibly estimate key parameters of interest, we need exogenous variation in consumer and provider incentives meaning that there should be some changes in the institutional environment that are beyond the control of patients and providers. This allows estimating parameters from observing how patients and clinics adjust to changes in the environment. The ideal case of such environment changes is the variation in insurance conditions which typically changes the share of prices paid by patients. In addition, such policy variation allows studying the interaction between the private healthcare market and social insurance.

Such a scenario is very rare and challenging to find. We intend to overcome this obstacle by using unique administrative data on the Swedish dental market from several sources. We obtain and match detailed administrative records about patients and dental clinics as well as match them together via transaction data of all dental visits. The data come from Statistics Sweden, Socialstyrelsen, Försäkringskassan, and Tandvårds-& läkemedelsförmånsverket. The project has already received ethical and security approvals from each of the above-mentioned authorities. Therefore, upon obtaining funding to finance the data, we can immediately proceed to obtaining the data and commencing the analysis.

More precisely, the data covers the entire universe of clinic visits including prices and other details matched to the entire population of individuals and clinics from 2008 to 2018. We also obtain detailed records of key individuals' demographic and income characteristics, and detailed data on both public and private providers including measures of economic performance and cost structure. Finally, we match all this data to social insurance records which allows observing insurance conditions for each visit. This is an important source of identification for the model discussed

above as well as it allows us to study questions related to the interaction of private market and social insurance policies.

## Method

Despite considerable differences in models we use in the two papers of the project, both rely on a similar approach which I discuss in the section. Since the main purpose of the analysis is to study alternative policies that have not been observed but which could potentially generate welfare gains, we need to formulate an economic equilibrium model of the behavior of patients and clinics. We estimate the model using detailed administrative data to obtain fundamental behavioral parameters that guide the choices of these agents. Since their fundamental preference parameters should not change due to policy changes, this allows simulating alternative policy designs to predict responses and assess the welfare consequences.

First, we formulate an economic micro model of consumer behavior in which individuals receive a health shock with varying size which requires receiving dental care. A consumer chooses a dental clinic that would maximize here utility. The utility of dental care consists of several components including the price of dental services which depends on the complexity of the required treatment, and the quality of the clinic which is unobserved to us but observed to clinics and patients. We also include various other components such as individual demographics (income, age, gender, etc.) and distance to a clinic. The overall formulation of the patient model is a standard discrete choice model used in the Industrial Organization literature (e.g. Berry, 1994; Berry, Levinsohn, Pakes, 1995). The main difference is that the detailed data allows us to formulate a very general model without imposing restrictive assumptions on the unobserved quality of clinics, which typically creates a problem for the credibility of estimating individual preferences. This together with the conditions from the second stage model described below allows recovering the entire distribution of clinic qualities together with other parameters, which is important for our policy analysis.

The second stage model describes the behavior of clinics that differ in quality, costs, and set prices to maximize their welfare. There is an important difference between public and private clinics. Private clinics maximize profits. Public clinics maximize social welfare but are restricted by the government budget. We define the equilibrium as a set of prices that makes all clinics maximize their criterion conditionally on the choices of all competitors (Nash equilibrium). We allow clinics to enter if they could make a profit conditionally on their costs and quality. We also allow clinics to leave the market if further economic activity becomes unprofitable. This clinic-related part of the model is conditional on the patient model described above. It means that when private and public clinics set prices, they are aware of patients' preferences which we recover in the previous stage.

The basic setup of these two stages is common for both papers. The main difference is the way we specify the criterion of public clinics. We need a more comprehensive structure of the public clinic decision-making process for Paper 1, which directly studies the competition between public

and private clinics. Paper 2 does not require such a comprehensive structure but requires a more elaborate description of the insurance program.

The model outlined above is a comprehensive attempt to target all main channels where government policies could impact the market outcome and welfare of individuals. Such a model implies high computation costs to estimate the preference parameters of patients and clinics. Besides, one must be concerned with the identification of the model. This means that the data should provide enough information to recover model parameters of interest. The former problem would make analysis infeasible while the latter one threatens the credibility of the study. We overcome these challenges with the help of the unique detailed data, the appealing institutional setup discussed above, and the novel method. More precisely, we develop a computational procedure that allows recovering the entire distribution of qualities of clinics. We provide formal proof for our procedure. The idea behind the approach is based on the model structure and equilibrium conditions described above together with the data that allows us to observe the costs of providing each procedure. We augment this with a novel approach to summarize the distribution of firm quality to keep the model tractable and computationally feasible. Therefore, we are left with a standard exercise of finding parameters that make the model match the observed data using the maximum likelihood estimation procedure.

Upon estimating the parameters of these models using detailed administrative data within each paper, we perform a counterfactual analysis. In the first paper, we simulate alternative outcomes under only private, only public, and various mixes of the healthcare system. We study how welfare is affected by changes in government spending on public healthcare. Our model not only allows computing mechanical differences due to an increase in spending but also how the private market would react by entry/exit and price setting, which changes demand for public healthcare. This would allow answering a question regarding whether private and public healthcare can successfully coexist, and which regulations are required to sustain this. We consider price restrictions (reference prices) and licensing which allows only entry of clinics with minimum quality level to enter the market. We investigate the impact of these various policies on social welfare to find the most promising regulations.

In the second paper, we use a similar model while largely treating public sector fixed to study how the presence and various designs of a social insurance program affect social welfare. We leverage the variation in Swedish dental insurance program conditions to study how the private market responds to these changes within the model outline above. Upon estimating the model, we document how much of the government spending on social insurance benefits patients and how much is captured by the private healthcare sector. The idea is that when the government introduces an insurance program, it distorts market allocation by reducing the price for health care. Clinics, who are aware of these policies, also react by changing prices as well as extra firms might enter the market due to the potential expansion of market demand as a result of cheaper service for patients. Therefore, the benefits of the insurance policy are split between patients and private clinics.

Out model allows calculating these gains directly by simulating the scenario without any insurance program and comparing it with the current and various alternative designs of insurance policies.

We study the use of reference prices, mandatory and voluntary insurance programs among others. This allows calculating welfare costs/gains of the insurance program and proposing potential improvements in the design.

Upon finalizing the analysis in these papers and obtaining all necessary results, we will be able to provide a comprehensive picture of how various components of healthcare policies affect social welfare and which reforms are more likely to lead to welfare improvements.

## Project Timeline and Budget

The project has already received ethical and security approvals from all relevant authorities. Therefore, the project is ready to proceed to data collection and empirical analysis as soon as funding is available.

We are currently working on finalizing all necessary steps before obtaining the data. More precisely, we formalize all details of the model, specifications, create preliminary data exploration and estimation codes, and complete necessary mathematical proofs.

Upon obtaining funding, the project will proceed as follows:

1. June 2021 - August 2021: match data from all sources.
2. August 2021 - November 2021: explorative and descriptive analysis to document evidence on the interaction of private and public healthcare, and private market responses to insurance policies.
3. November 2021 - March 2022: estimation of structural econometric models described above.
4. March 2022 – August 2022: counterfactual simulation analysis.
5. September 2022 – April 2023: summarizing results, writing paper drafts, revisions, presentations, and preparation for submission to journals.

We apply for funding to cover the following costs:

- Research assistants: 718 040 SEK. Research assistant salary is 25 900 SEK according to the department rules. The department charges 53% LKP and 51% overhead costs on the top of that. This amounts 718 040 SEK for 50% work over two years of the project.
- Data costs: 210 000 SEK. We will obtain administrative data from Socialstyrelsen, Försäkringskassan and SCB. SCB price estimate is 120 000 SEK. Socialstyrelsen and Försäkringskassan estimated data costs to be 90 000 SEK in total.
- Server: 24 000 SEK. We need a secure server to store administrative data which should also be powerful enough for computationally expensive procedures we intend to perform. Therefore, we require a server with 64 Gb RAM and 16-32 core CPU required for parallel estimation of large-scale models. We assess the costs of this server to be 24 000 SEK.
- Travel: 20 000 SEK per year for conferences and meeting with project collaborators.

## Expertise and Feasibility

This project is in collaboration with Prof. Amy Finkelstein (MIT), Prof. Liran Einav (Stanford University), and Prof. Nikhil Agarwal (MIT). Liran Einav and Amy Finkelstein are pioneering researchers who made an important contribution to understanding healthcare policies, insurance markets, and healthcare markets. Nikhil Agarwal has published important papers in the empirical market design on such important questions as the design of kidney exchange and doctor matching systems. I have been working on questions related to insurance markets, labor markets, and public policies after obtaining a PhD in Economics in 2019. Therefore, I have no doubts that this project has all the necessary competencies required for successful completion.

Despite the ambitious goal of the project, we are equipped with unique and appropriate data and institutional details that would allow us to complete the project and provide an important contribution to understanding the effect of various healthcare policies and propose possible ways for urgent policy changes.

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Einav, L., Finkelstein, A., & Polyakova, M. (2018). Private Provision of Social Insurance: Drug-Specific Price Elasticities and Cost Sharing in Medicare Part D. *American Economic Journal: Economic Policy*, *10*(3), 122-53.

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Figlio, D., & Hart, C. M. (2014). Competitive Effects of Means-Tested School Vouchers. *American Economic Journal: Applied Economics*, *6*(1), 133-156.

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Grönqvist, E. (2006). (M) oral Hazard? (No. 642). SSE/EFI Working Paper Series in Economics and Finance.

# MAKSYM KHOMENKO

## EXPERIENCE

**IFAU,** *Research Fellow*                                                04/2020 - present
· Research Fellow

**Stockholm University,** *Post-Doctoral Research Fellow*                  09/2019 - present
· Wallander Post-Doctoral Research Fellow

**Stanford University,** *Research Scholar*                                08/2017 - 06/2018
· Visiting Research Scholar at Stanford Institute for Economic Policy Research

**International Labour Organisation,** *Consultant*                        03/2016 - 05/2017
· Consulted ILO Small and Medium Enterprises department regarding implementation and evaluation of the
project aimed at improving business environment in Mexico, Costa Rica and Uruguay

**University of Gothenburg,** *PhD Researcher*                             09/2015 - 05/2019
· Courses Taught: Industrial Organization (Grad.), Research Methods (Grad.), Econometrics (Undergrad.),
Thesis Advisor (7 students)

## EDUCATION

**University of Gothenburg**                                              09/2014 - 07/2019
PhD Economics

**University of Oxford**                                                  12/2015 - 03/2016
Visiting PhD Researcher in Economics

**Lund University**                                                       08/2013 - 06/2014
MSc Economic Development and Growth, joint with University of Warwick

**University of Warwick**                                                 09/2012 - 09/2013
MSc Economic Development and Growth, joint with Lund University

**Kharkiv National University of Economics**                              09/2007 - 02/2013
MSc, BSc Mathematical Economics

## TECHNICAL SKILLS

| | |
|---|---|
| **Programming Languages** | Python, R, Julia, Matlab, C/C++, TensorFlow |
| **Analytical Skills** | Machine Learning, Deep Learning, Causal Inference, Econometrics, Reinforcement Learning, Natural Language Processing, Data Visualization |
| **Analytics Tools** | Stata, SQL, Pandas, Numpy, Sklearn, Keras, Tableau, Jupyter, Hive, Spark, ArcGIS, BigQuery |
| **Other Software & Tools** | LaTeX, Git, Hadoop |

## WORKING PAPERS

Private Information and Design of Unemployment Insurance
Behavioral Responses and Design of Bequest Taxation, *with Simon Schürz*
Determinants of University Competition and Student Demand in Higher Education: Evidence from Australia, *with Natalie Bachas*

## CURRENT RESEARCH

Long-Term Consequences of Family-Based Income Taxation: Evidence from Sweden, *with Mikael Lindahl*
Technological Changes and Profitability of Financial Market Trading
Behavioral Responses and Design of Wealth Taxation, *with Simon Schürz*
Labor Markets, Individual Preferences and Housing Market Equilibria
General Equilibrium Effects of Debt Relief Policies: Evidence from Making Home Affordable Program
Patent Regulations and Destruction of Innovations
Long-Term Effects of Earned Income Tax Credit Program: Evidence from Sweden, *with Mikael Lindahl*

## HONORS AND AWARDS

| | |
|---|---:|
| Nordic Research Council Grant, *51 000 SEK* | *2019* |
| Wallander Post-Doctoral Fellowship, *1.725 mln. SEK* | *2019* |
| Åförsk Grant, *30 000 SEK* | *2018* |
| Siamon Stiftelsen Grant, *20 000 SEK* | *2018* |
| Handelsbanken Grant, *361 000 SEK* | *2017* |
| Donationsnämnden Grant, *20 000 SEK* | *2017* |
| Nordic Research Council Grant, *60 000 SEK* | *2016* |
| Adlerbertska Grant, *20 000 SEK* | *2016* |
| Erasmum Mundus Scholarship, *48 000 EUR* | *2012 - 2014* |

## LANGUAGES

English – *fluent*;     Russian – *native*;     Ukrainian – *native*;     Swedish – *working proficiency*

# Liran Einav

Department of Economics
Stanford University, Stanford, CA 94305-6072
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URL: http://www.stanford.edu/~leinav

## Employment

*Professor*, Department of Economics, Stanford University, 2012 – present
*Associate Professor* (with tenure), Department of Economics, Stanford University, 2007 – 2012
*Assistant Professor*, Department of Economics, Stanford University, 2002 – 2007

## Education

*Ph.D. in Economics*, Harvard University, 2002 (Committee: Ariel Pakes (chair), Drew Fudenberg, Al Roth)
*M.A. in Economics*, Harvard University, 2000
*B.A. Summa Cum Laude in Computer Science and Economics*, Tel Aviv University, Israel, 1997

## Published and Forthcoming Papers

1. "Can Health Insurance Competition Work? Evidence from Medicare Advantage," with Vilsa Curto, Jonathan Levin, and Jay Bhattacharya, *Journal of Political Economy* 129(2), February 2021, forthcoming.

2. "Screening and Selection: The Case of Mammograms," with Amy Finkelstein, Tamar Oostrom, Abigail Ostriker, and Heidi Williams, *American Economic Review* 110(12), December 2020, 3836-3870.

3. "Rising Opioid Prescription Fulfillment among Non-Cancer and Non-Elderly Patients—Israel's Alarming Example," with Oren Miron, Dan Zeltzer, Tzvi Shir, Ran Balicer, and Becca Feldman, *Regional Anesthesia and Pain Medicine*, forthcoming.

4. "Can Targeting High-Risk Patients Reduce Readmission Rates? Evidence from Israel," with Efrat Shadmi, Dan Zeltzer, Tzvi Shir, Natalie Flaks-Manov, and Ran Balicer, *Journal of Applied Economics* 23(1), November 2020, 729-745.

5. "Randomized Trial Shows Healthcare Payment Reform has Equal-Sized Spillover Effects on Patients not Targeted by Reform," with Amy Finkelstein, Yunan Ji, and Neale Mahoney, *Proceedings of the National Academy of Sciences*, August 2020, 18939-18947.

6. "Prediction Accuracy With Electronic Medical Records Versus Administrative Claims," with Dan Zeltzer, Ran Balicer, Tzvi Shir, Natalie Flaks-Manov, and Efrat Shadmi, *Medical Care* 57(7), July 2019, 551-559.

7. "Healthcare Spending and Utilization in Public and Private Medicare," with Vilsa Curto, Amy Finkelstein, Jonathan Levin, and Jay Bhattacharya, *American Economic Journal: Applied Economics* 11(2), April 2019, 302-332.

8. "The Impact of Financial Incentives on Health and Healthcare: Evidence from a Large Wellness Program," with Stephanie Lee and Jonathan Levin, *Health Economics* 28(2), February 2019, 261-279.

9. "Provider Incentives and Healthcare Costs: Evidence from Long-Term Care Hospitals," with Amy Finkelstein and Neale Mahoney, *Econometrica* 86(6), November 2018, 2161-2219.

10. "Moral Hazard in Health Insurance: What We Know and How We Know It," with Amy Finkelstein, *Journal of European Economic Association* 16(4), August 2018, 957-982.

11. "Private Provision of Social Insurance: Drug-Specific Price Elasticities and Cost Sharing in Medicare Part," with Amy Finkelstein and Maria Polyakova, *American Economic Journal: Economic Policy* 10(3), August 2018, 122-153.

12. "Consumer Price Search and Platform Design in Internet Commerce," with Michael Dinerstein, Jonathan Levin, and Neel Sundaresan, _American Economic Review_ 108(7), July 2018, 1820-1859.

13. "Predictive Modeling of U.S. Health Care Spending in Late Life," with Amy Finkelstein, Sendhil Mullainathan, and Ziad Obermeyer, _Science_ 360, June 2018, 1462-1465.

14. "Auctions versus Posted Prices in Online Markets," with Chiara Farronato, Jonathan Levin, and Neel Sundaresan, _Journal of Political Economy_ 126(1), February 2018, 178-215.

15. "Is American Pet Health Care (Also) Uniquely Inefficient?" with Amy Finkelstein and Atul Gupta, _American Economic Review: Papers & Proceedings_ 107(5), May 2017, 491-495.

16. "Outpatient Office Wait Times and Quality of Care for Medicaid Patients," with Tamar Oostrom and Amy Finkelstein, _Health Affairs_ 36(5), May 2017, 826-832.

17. "Developments in Data for Economic Research," with many other authors, in: R. Blundell et al. (eds.), _Economics without Borders – Economic Research for European Policy Challenges_, Chapter 13.6, 596-603, Cambridge University Press, March 2017.

18. "Bunching at the Kink: Implications for Spending Responses to Health Insurance Contracts," with Amy Finkelstein and Paul Schrimpf, _Journal of Public Economics_ 146, February 2017, 27-40.

19. "Peer-to-Peer Markets," with Chiara Farronato and Jonathan Levin, _Annual Review in Economics_ 8, September 2016, 615-635.

20. "Beyond Statistics: The Economic Content of Risk Scores," with Amy Finkelstein, Raymond Kluender, and Paul Schrimpf, _American Economic Journal: Applied Economics_ 8(2), April 2016, 195-224.

21. "Paying on the Margin for Medical Care: Evidence from Breast Cancer Treatments," with Amy Finkelstein and Heidi Williams, _American Economic Journal: Economic Policy_ 8(1), February 2016, 52-79.

22. "Managed Competition in Health Insurance," with Jonathan Levin, _Journal of the European Economic Association_ 13(6), December 2015, 998-1021.

23. "Moral Hazard in Health Insurance: Do Dynamic Incentives Matter?" with Aviva Aron-Dine, Amy Finkelstein, and Mark Cullen, _Review of Economics and Statistics_ 97(4), October 2015, 725-741.

24. "The Response of Drug Expenditure to Nonlinear Contract Design: Evidence from Medicare Part D," with Amy Finkelstein and Paul Schrimpf, _Quarterly Journal of Economics_ 130(2), May 2015, 841-899.

25. "Assessing Sale Strategies in Online Markets using Matched Listings," with Theresa Kuchler, Jonathan Levin, and Neel Sundaresan, _American Economic Journal: Microeconomics_ 7(2), May 2015, 215-247.

26. "Economics in the Age of Big Data," with Jonathan Levin, _Science_ 345(6210), November 2014, 715.

27. "Growth, Adoption, and Use of Mobile e-Commerce," with Jonathan Levin, Igor Popov, and Neel Sundaresan, _American Economic Review: Papers & Proceedings_ 104(5), May 2014, 489-494.

28. "The Data Revolution and Economic Analysis," with Jonathan Levin, in _Innovation Policy and the Economy_, Volume 14, edited by Josh Lerner and Scott Stern, May 2014, 1-24.

29. "Sales Tax and Internet Commerce," with Dan Knoepfle, Jonathan Levin, and Neel Sundaresan, _American Economic Review_ 104(1), January 2014, 1-26 (lead article).

30. "A Model of Market Power in Customer Markets," with Paulo Somaini, _Journal of Industrial Economics_ 61(4), December 2013, 938-986.

31. "The Impact of Credit Scoring on Consumer Lending," with Mark Jenkins and Jonathan Levin, _RAND Journal of Economics_ 44(2), 249-274, Summer 2013.

32. "The RAND Health Insurance Experiment, Three Decades Later," with Aviva Aron-Dine and Amy Finkelstein, _Journal of Economics Perspectives_ 27(1), 197-222, Winter 2013.

33. "Selection on Moral Hazard in Health Insurance," with Amy Finkelstein, Stephen Ryan, Paul Schrimpf, and Mark Cullen, _American Economic Review_ 103(1), 178-219, February 2013.

34. "How General Are Risk Preferences? Choices under Uncertainty in Different Domains," with Amy Finkelstein, Iuliana Pascu, and Mark Cullen, *American Economic Review* 102(6), 2606-2638, October 2012.

35. "On the Optimality of Line Call Challenges in Professional Tennis," with Ran Abramitzky, Shimon Kolkowitz, and Roy Mill, *International Economic Review* 53(3), 939-964, August 2012.

36. "Contract Pricing in Consumer Credit Markets," with Mark Jenkins and Jonathan Levin, *Econometrica* 80(4), 1387-1432, July 2012.

37. "Jonathan Levin: 2011 John Bates Clark Medalist," with Steve Tadelis, *Journal of Economics Perspectives* 26(2), 207-222, Spring 2012.

38. "Selection in Insurance Markets: Theory and Empirics in Pictures," with Amy Finkelstein, *Journal of Economics Perspectives* 25(1), 115-138, Winter 2011.

39. "Beyond Testing: Empirical Models of Insurance Markets," with Amy Finkelstein and Jonathan Levin, *Annual Review of Economics* 2, 311-336, September 2010.

40. "Estimating Welfare in Insurance Markets using Variation in Prices," with Amy Finkelstein and Mark Cullen, *Quarterly Journal of Economics* 125(3), 877-921, August 2010 (lead article).

41. "Is Hanukkah Responsive to Christmas?" with Ran Abramitzky and Oren Rigbi, *Economic Journal* 120(545), 612-630, June 2010.

42. "Recording Discrepancies in Nielsen Homescan Data: Are They Present and Do They Matter?" with Ephraim Leibtag and Aviv Nevo, *Quantitative Marketing and Economics* 8(2), 207-239, June 2010.

43. "Optimal Mandates and The Welfare Cost of Asymmetric Information: Evidence from The U.K. Annuity Market," with Amy Finkelstein and Paul Schrimpf, *Econometrica* 78(3), 1031-1092, May 2010.

44. "Empirical Industrial Organization: A Progress Report," with Jonathan Levin, *Journal of Economics Perspectives* 24(2), 145-162, Spring 2010.

45. "Not All Rivals Look Alike: Estimating an Equilibrium Model of the Release Date Timing Game," *Economic Inquiry* 48(2), 369-390, April 2010.

46. "Stock Market Response to Changes in Movies' Opening Dates," with Abraham Ravid, *Journal of Cultural Economics* 33(4), 311-319, November 2009.

47. "Liquidity Constraints and Imperfect Information in Subprime Lending," with William Adams and Jonathan Levin, *American Economic Review* 99(1), 49-84, March 2009.

48. "Production Targets," with Guillermo Caruana, *RAND Journal of Economics* 39(4), 990-1017, Winter 2008.

49. "Discrete Choice Models of Firms' Strategic Decisions," with Michaela Draganska, Sanjog Misra, Victor Aguirregabiria, Pat Bajari, Paul Ellickson, Dan Horsky, Sridhar Narayanan, Yesim Orhun, Peter Reiss, Katja Seim, Vishal Singh, Raphael Thomadsen, and Ting Zhu, *Marketing Letters* 19(3-4), 399-416, December 2008.

50. "A Theory of Endogenous Commitment," with Guillermo Caruana, *Review of Economic Studies* 75(1), 99-116, January 2008.

51. "Uniform Prices for Differentiated Goods: The Case of the Movie-Theater Industry," with Barak Orbach, *International Review of Law and Economics* 27(2), 129-153, June 2007.

52. "Estimating Risk Preferences from Deductible Choice," with Alma Cohen, *American Economic Review* 97(3), 745-788, June 2007.

53. "Seasonality in the U.S. Motion Picture Industry," *RAND Journal of Economics* 38(1), 127-145, Spring 2007.

54. "Equilibrium Demand Elasticities across Quality Segments," with Olivier Coibion and Juan Carlos Hallak, *International Journal of Industrial Organization* 25(1), 13-30, February 2007.

55. "Multilateral Bargaining with Concession Costs," with Guillermo Caruana and Daniel Quint, _Journal of Economic Theory_ 132(1), 147-166, January 2007.

56. "Empirical Models of Imperfect Competition: A Discussion," with Aviv Nevo, in _Advances in Economics and Econometrics: Theory and Applications, Ninth World Congress_, Volume II, edited by Richard Blundell, Whitney K. Newey, and Torsten Persson, Cambridge University Press, Chapter 3, 86-96, November 2006.

57. "What's in a Surname? The Effects of Surname Initials on Academic Success," with Leeat Yariv, _Journal of Economic Perspectives_ 20(1), 175-188, Winter 2006.

58. "Efficient Entry," with Daniel Quint, _Economics Letters_ 88(2), 278-283, August 2005.

59. "Informational Asymmetries and Observational Learning in Search," _Journal of Risk and Uncertainty_ 30(3), 241-259, June 2005.

60. "Determinants of International Tourism: A Three-Dimensional Panel Data Analysis," with Yair Eilat, _Applied Economics_ 36(12), 1315-1328, July 2004.

61. "The Effect of Mandatory Seat Belt Laws on Driving Behavior and Traffic Fatalities," with Alma Cohen, _Review of Economics and Statistics_ 85(4), 828-843, November 2003.

62. "Flawed Rankings: A Comment [on Dusansky-Vernon]" (comment), with Zvi Griliches, _Journal of Economic Perspectives_ 12(4), 233-235, Fall 1998.

## Papers under Review

63. "Voluntary Regulation: Evidence from Medicare Payment Reform," with Amy Finkelstein, Yunan Ji, and Neale Mahoney, revise and resubmit, _Quarterly Journal of Economics_

64. "Assessing The Gains from E-Commerce," with Paul Dolfen, Pete Klenow, Ben Klopack, Jonathan Levin, Larry Levin, and Wayne Best

65. "Why is End-of-Life Spending so High? Evidence from Cancer Patients," with Dan Zeltzer, Amy Finkelstein, Tzvi Shir, Salomon Stemmer, and Ran Balicer, revised and resubmitted, _Review of Economics and Statistics_

66. "Long Term Care Hospitals: A Case Study in Waste," with Amy Finkelstein and Neale Mahoney, revise and resubmit, _Review of Economics and Statistics_

67. "Supply-Side Variation in the Use of Emergency Departments," with Dan Zeltzer, Avichai Chasid, and Ran Balicer, revised and resubmitted, _Journal of Health Economics_

68. "Consolidation of Primary Care Physicians and Its Impact on Healthcare Utilization," with Jonathan Zhang, Yiwei Chen, Jonathan Levin, and Jay Bhattacharya, revised and resubmitted, _Health Economics_

## Past Positions Held

**Mini Courses**
CEMMAP, University College London, UK, June 2021
ECORES Summer School, Université catholique de Louvain, Belgium, June 2017
University Carlos III (Madrid, Spain), June 2016
University of Mannheim Summer School (Bronnbach, Germany), August 2015
Georgia State University, 2nd Annual CEAR/Huebner Summer Risk Institute, July 2015
University of Amsterdam, Tinbergen Lectures (with Jonathan Levin), June 2014
University of Chile (Santiago, Chile), December 2013
CEMFI Summer School (Madrid, Spain), September 2013
Finnish Doctoral Programme in Economics, University of Helsinki (Finland), March 2013
Department of Economics, Tel Aviv University, July 2012

**Visiting Positions**
_Visitor_, Cowles Foundation, Yale University, September 2013
_PER Visitor_, Columbia University, October 2011
_Ben Porath Visiting Professor_, Hebrew University of Jerusalem, June 2011

*Distinguished Visitor*, Boston University, April 2011
*Visiting Scholar*, Federal Reserve Bank of Minneapolis, June 2006 and September 2014
*Visiting Fellow*, Center of Studies in Industrial Organization, Northwestern University, Feb-March 2006

**Pre-Ph.D. Positions**

*Lecturer*, School of Economics, Tel-Aviv University, Summer 1998
*Teaching Fellow*, Department of Economics, Harvard University, Sept 1998 – Jan 2002
*Research Assistant*, Harvard University, for Zvi Griliches (1998-1999) and Ariel Pakes (1999-2000)
*Teaching Assistant*, School of Economics and Dept. of Computer Science, Tel-Aviv University, 1995-1997
*Research Assistant*, Tel-Aviv University, for Manuel Trajtenberg, 1995-1997

## Other Professional Activities

**Director**, NBER Industrial Organization program, National Bureau of Economic Research, 2016 – present
**Co-organizer**, NBER Insurance working group, National Bureau of Economic Research, 2012 – 2016
**Research Associate**, National Bureau of Economic Research, 2008 – present
**Faculty Research Fellow**, National Bureau of Economic Research, 2005 – 2008

**Senior Fellow**, Stanford Institute for Economic Policy Research, 2011 – present
**Steering committee member**, Stanford Institute for Economic Policy Research, 2015 – 2021

**Co-Editor** American Economic Review, 2018 – 2022
**Co-Editor** Econometrica, 2013 – 2017
**Co-Editor** American Economic Journals: Applied Economics, 2010 – 2013
**Associate Editor** American Economic Journals: Microeconomics, 2007 – 2015
**Associate Editor** RAND Journal of Economics, 2007 – 2015
**Associate Editor** Quantitative Economics, 2009 – 2013

**Referee** for American Economic Review, Berkeley Electronic Press, Econometrica, Economic Inquiry, Economic Journal, Economic Quarterly (in Hebrew), Economica, Economics Letters, European Economic Review, International Economic Review, Israeli Science Foundation, International Journal of Industrial Organization, Journal of Business and Economic Statistics, Journal of Cultural Economics, Journal of Economics and Management Strategy, Journal of European Economic Association, Journal of Health Economics, Journal of Industrial Economics, Journal of Law and Economics, Journal of Law Economics and Organizations, Journal of Marketing Research, Journal of Political Economy, Journal of Public Economics, Management and Decision Economics, Marketing Science, National Science Foundation, Quantitative Economics, Quarterly Journal of Economics, RAND Journal of Economics, Review of Economic Studies, Review of Economics and Statistics, Review of Industrial Organization, Science, Sloan Foundation, Theoretical Economics, U.S.-Israel Binational Science Foundation

**Scientific Committee**, Federal Trade Commission conference, October 2014
**Scientific Committee**, European Association for Research in Industrial Economics, 2012-2020
**Program Committee**, World Congress of the Econometric Society, August 2010
**Program Committee**, Econometric Society Winter Meeting, January 2010
**Co-Organizer**, Stanford Institute for Theoretical Economics, "Credit and Insurance Markets," July 2008
**Program Committee**, Society of Economic Dynamics Annual Meeting, July 2006 and June 2007
**Co-Organizer**, NBER Industrial Organization Winter Meeting, February 2006

**Elected Member** (North America Region) of the Council of the Econometric Society, 2017 – 2020
**Member** of American Economic Association, Econometric Society

## Fellowships and Awards

Economics Distinguished Faculty Teaching Award, 2016
American Academy of Arts and Sciences, Elected member, 2015
Econometric Society, Fellow, 2012
Excellence in Refereeing Award, American Economic Review (2010, 2011, 2012, 2013) and Quarterly Journal of Economics (2011)
Selected as "Best Economic Inquiry Article of 2010" for "Not All Rivals Look Alike: Estimating an Equilibrium Model of the Release Date Timing Game," 2010

Center for Advanced Study in the Behavioral Sciences, Fellow, 2009-2010
Winner of an Emerald Management Reviews Citation of Excellence as one of the 50 best articles published in 2007 in management for "Estimating Risk Preferences from Deductible Choice," 2007
Guggenhime Faculty Scholar, Stanford University, 2007-2010
Hoover Institution, National Fellow, 2005-2006
Harvard University: "Summer A" Graduate Society Fellowship, 1999; and Department of Economics scholarship, 1997-2001
Tel Aviv University: Rector's List, 1995; Dean's List, 1994, 1995, 1996; University-wide, Program for Excellency scholarship, 1994-1997; and Department of Economics, Jump Start Honors Program, 1995

## Research Grants

National Science Foundation Grant #SES-1729395, "The Welfare Effects of E-Commerce and Entry in U.S. Retail," with Pete Klenow and Jonathan Levin, 2017-2020.
National Science Foundation Grant #SES-1527942, "Health Insurance Competition and Healthcare Costs," with Jay Bhattacharya and Jonathan Levin, 2015-2018.
Sloan Foundation Grant, "Public versus Private Provision of Health Insurance," with Jay Bhattacharya, Amy Finkelstein, and Jonathan Levin, 2015-2018.
National Institute of Aging Grant # R01 AG032499-07, "Determinants of Medical Spending for the Elderly: Insurance, Patients, Providers," with Amy Finkelstein, 2015-2020.
National Science Foundation Grant #SES-1227606, "The Economics of Internet Markets," with Jonathan Levin, 2012-2015.
Sloan Foundation Grant, "The Economics of Internet Markets," with Jonathan Levin, 2012-2015.
Social Security Administration Grant #5RRC08098400-04-00, "Moral Hazard in Health Insurance: How Important is Forward Looking Behavior," with Amy Finkelstein and Mark Cullen, 2011-2012.
Social Security Administration Grant #5RRC08098400-03-00, "Selection on Moral Hazard in Health Insurance: Implications for the Design of Public and Private Health Insurance," with Amy Finkelstein and Mark Cullen, 2010-2011.
Social Security Administration Grant #10-M-98363-1-02, "Domain specific risk aversion and its implications for the design of public pension and disability insurance programs," with Amy Finkelstein and Mark Cullen, 2009-2010.
National Institute of Aging Grant # R01 AG032499-01A1, "The Design of Social Insurance for the Elderly: Public Pensions and Health Insurance," with Amy Finkelstein and Mark Cullen, 2009-2014.
National Science Foundation CAREER Grant #SES-0643037, "Empirical Analysis of Markets with Adverse Selection," 2007-2012.
Social Security Administration Grant #10-P-98363-1-04, "Costs and Benefits of Choice in the Annuitization of Retirement Assets," with Amy Finkelstein, 2006-2007.
U.S. Department of Agriculture Grant, "Homescan Data Quality Analysis," with Aviv Nevo, 2006-2007.
National Science Foundation Grant No. SES-0452555, "Estimating Risk and Risk Preferences in Insurance Markets," 2005-2007.
Stanford University, UPS Endowment Fund, "Urban Structure and the Location of Firms: Evidence from Santiago de Chile," 2005.
Stanford University, Stanford Center for International Development, "Urban Structure and the Location of Firms: Evidence from Santiago de Chile," with Esteban Rossi-Hansberg, 2005.
Stanford University, The Office of Technology Licensing Research Incentive Fund Award, "Estimating Risk Preferences from Deductible Choice," 2004-2006.
Stanford University, Stanford Institute for International Studies, Hewlett Endowment Fund Award, "Parametric Estimation of Asymmetric IPV Auctions," 2004-2005.
The Russell Sage Foundation, Small Grants in Behavioral Economics, "Informational Asymmetries and Observational Learning in Search," 2000.

## Conference Presentations

01/2021: American Economic Association annual meeting, by Zoom (Discussant)

06/2020: 9th Annual Conference of American Society of Health Economics, by Zoom (keynote speaker)
12/2019: 10th Behavioral Insurance Workshop, Atlanta, GA (keynote speaker)

11/2019: RISC Forum on Inclusive Insurance, York University, Toronto, Canada
10/2019: Conference on Health Care Markets, Johns Hopkins University, Baltimore, MD
10/2019: World Bank Conference on Private Sector Digital Platforms, Washington, DC
09/2019: Industrial Organization Conference, Carnegie Melon University (Discussant), Pittsburgh, PA

06/2019: 17th ZEW Conference on "The Economics of ICT," Mannheim, Germany (keynote speaker)
04/2019: Health Economics Initiative Annual Conference, Becker Friedman Institute, Chicago, IL
03/2019: Platform Strategy Conference, Harvard Business School, Boston, MA
12/2018: 3rd Annual Asia-Pacific Industrial Organization Conference, Melbourne, Australia (keynote speaker)
12/2018: IO Day, Hebrew University, Jerusalem, Israel (keynote speaker)
11/2018: Econometric Society Latin America Meeting, Guayaquil, Ecuador (Invited speaker)
11/2018: Swiss Risk and Insurance Forum, Zurich, Switzerland
10/2018: TEC2018 National Association for Business Economics conference, San Francisco, CA
09/2018: London-Paris Public Economics conference, London, UK

06/2018: CAGE Workshop in Applied Economics, Venice, Italy
06/2018: MaCCI Summer Institute in Competition Policy, Annweiler, Germany
03/2018: Bunching estimators and their applications (Discussant), UC San Diego, San Diego, CA
12/2017: NBER Insurance Working Group and Health Care meeting, Cambridge, MA
12/2017: IO Fest, UC Berkeley
10/2017: Workshop on Structural Industrial Organization, Javeriana University, Bogota, Colombia
09/2017: Interaction Workshop (Discussant), University of Chicago, Chicago, IL

08/2017: Workshop on Healthcare and Industrial Organization, Santiago, Chile
07/2017: Conference in honor of Dan McFadden's 80th Birthday (Discussant), USC, Los Angeles, CA
05/2017: CRES Empirical Microeconomics conference (Discussant), Washington University
02/2017: Stanford-Berkeley Health Economics Workshop, Stanford, CA
12/2016: Applied Micro Workshop, Tel Aviv University, Tel Aviv, Israel
11/2016: The third annual Cornell-PennState conference on Econometrics and IO, Penn State University, PA
09/2016: The Health Sector and the Economy, BFI, University of Chicago, Chicago, IL
09/2016: CIREQ Workshop on the Applications of IO, McGill University, Montreal, Canada
09/2016: IO Workshop, CREST, Paris, France

06/2016: Economics at IDC Workshop, Herzeliya (Panelist), Israel
05/2016: Economics of Markets and Organizations conference, Toronto, Canada
01/2016: American Economic Association annual meeting, San Francisco, CA
12/2015: Advances in Price Theory Conference, BFI, University of Chicago, Chicago, IL
12/2015: Canadian Sharing Economy Symposium, Toronto, Canada
10/2015: Designing the Digital Economy, Microsoft Research New England, Cambridge, MA
09/2015: 8th Annual Searle Ctr Symposium on Antitrust and Competition Policy (Discussant), Chicago, IL

08/2015: Econometric Society World Congress, Montreal, Canada (Invited Speaker)
07/2015: Summer Institute in Competitive Strategy, Berkeley, CA
07/2015: COEURE Workshop on Data and Methods, Brussels, Belgium
06/2015: Cowles Conference in Structural Microeconomics, New Haven, CT
06/2015: The "Sharing Economy" Workshop, FTC, Washington, DC (Presenter and Panelist)
06/2015: The 7th Health Policy Workshop, Netherlands' CPB, Haag, Netherlands
04/2015: 6th Workshop on the Economics of ICTs, Evora, Portugal (Keynote speaker)
03/2015: NBER IT and Digitization Meeting, Stanford, CA (Panelist)
02/2015: Health Economics: Micro and Macro Perspectives, Arizona State University
01/2015: American Economic Association annual meeting, Boston, MA
11/2014: Econometric Society Latin America Meeting, Sao Paulo, Brazil (Invited speaker)
10/2014: Federal Trade Commission conference, Washington, DC (Keynote address)

08/2014: European Economic Association Meeting (Marshall Lecture), Toulouse, France
07/2014: NBER Industrial Organization Summer Meeting, Cambridge, MA (Discussant)
06/2014: NBER Market Design Meeting, Stanford, CA
06/2014: Health Economics Workshop, TIGER Forum, Toulouse, France

04/2014: Harrington Conference on Industrial Organization, Austin, TX
03/2014: Financial Risk International Forum (Plenary Speaker), Paris, France
02/2014: NBER Insurance and Healthcare meeting, Cambridge, MA
01/2014: American Economic Association annual meeting, Philadelphia, PA
09/2013: 6th Annual Searle Ctr Symposium on Antitrust and Competition Policy (Discussant), Chicago, IL

07/2013: NBER Summer Institute, joint IO Program & IT and Digitization Meeting, Cambridge, MA
06/2013: NBER's "Economics of Digitization: An Agenda" conference, Park City, UT (Discussant)
04/2013: NBER Innovation Policy and the Economy conference, Washington, DC
03/2013: NBER IT and Digitization Meeting, Stanford, CA (Discussant)
12/2012: Columbia/Duke/Northwestern 11th Annual IO Theory Conference, Evanston, IL (Discussant)
09/2012: EARIE Annual Conference, Rome, Italy (Keynote speaker)
08/2012: Econometric Society European Meeting, Malaga, Spain (Invited speaker)

07/2012: NBER Summer Institute, joint IO Program & IT and Digitization Meeting, Cambridge, MA
06/2012: WEAI 87th Annual Meeting, San Francisco, CA (Best *Economic Inquiry* paper session)
06/2012: "Dynamic Models in IO" Workshop, SciencesPo, Paris
03/2012: NBER, PE Program Winter Meeting, Cambridge, MA
02/2012: NBER, IO Program Winter Meeting, Stanford, CA
02/2012: FRB Symposium on Health Benefits, San Francisco, CA
01/2012: American Economic Association annual meeting, Chicago, IL
09/2011: 4th Annual Searle Center Research Symposium on Antitrust and Competition Policy, Chicago, IL

07/2011: NBER Summer Institute, Economics of IT and Digitization Meeting, Cambridge, MA
04/2011: MFI Health Care Conference, Chicago, IL
04/2011: CAPCP Conference on Auctions and Procurements, University Park, PA
04/2011: Marketing-IO Conference (MIO), New York, NY
04/2011: NBER, PE Program Winter Meeting, Stanford, CA
02/2011: MFI Price Dynamics Conference, Chicago, IL
02/2011: NBER, IO Program Winter Meeting, Stanford, CA
01/2011: The Econometrics of Individual Choice Under Risk and Over Time, Denver, CO
01/2011: American Economic Association annual meeting, Denver, CO
12/2010: Sixth Biennial Conference of Hong Kong Economic Association (Tianjin, China) (Invited speaker)
11/2010: IO Fest, Stanford University

07/2010: Summer Institute in Competitive Strategy, Berkeley, CA
07/2010: Stanford Institute of Theoretical Economics (SITE), Stanford, CA
04/2010: CAPCP Conference on Auctions and Procurements, University Park, PA (Discussant)
02/2010: NBER, IO Program Winter Meeting, Stanford, CA (Discussant)
01/2010: American Economic Association annual meeting, Atlanta, GA

07/2009: NBER Summer Institute, IO Program and IT Working Group joint Meeting, Cambridge, MA
03/2009: CAPCP Conference on Auctions and Procurements, University Park, PA
02/2009: NBER, IO Program Winter Meeting, Stanford, CA
11/2008: IO Fest, Stanford University

07/2008: NBER Summer Institute, IO Program Meeting, Cambridge, MA
01/2008: American Economic Association annual meeting, New Orleans, LA
10/2007: Conference on the Economics of Competition and Innovation (Discussant), Berkeley, CA
10/2007: NBER EFG Research Meeting, Chicago, IL
10/2007: Minnesota Applied Micro Workshop, Minneapolis, MN

08/2007: Challenges and Solutions for Retirement Security, Washington, DC
07/2007: Stanford Institute of Theoretical Economics (SITE), Stanford, CA
06/2007: Society of Economic Dynamics annual meeting, Prague, Czech Republic
06/2007: Society for the Advancement of Economic Theory Conference, Kos, Greece
06/2007: Cowles 75th Anniversary Conf.: Policy Applications of Structural Microeconomics, New Haven, CT
06/2007: Invitational Choice Symposium, Philadelphia, PA
02/2007: NBER, IO Program Winter Meeting, Stanford, CA

01/2007: American Economic Association annual meeting, Chicago, IL

07/2006: Society of Economic Dynamics annual meeting, Vancouver, Canada
04/2006: ICAS-SCID Trade conference, Stanford, CA (Discussant)
01/2006: Econometric Society Winter meeting, Boston, MA
01/2006: American Economic Association annual meeting, Boston, MA
10/2005: Minnesota Applied Micro Workshop, Minneapolis, MN (Discussant)

07/2005: Summer workshop, Tel-Aviv University
06/2005: Summer Institute in Competitive Strategy, UC Berkeley
02/2005: NBER, IO Program Winter Meeting, Stanford, CA
01/2005: Econometric Society Winter meeting, Philadelphia, PA
11/2004: 6th Bus. and Econ. Scholars Summit in Motion Picture Industry Studies, Florida Atlantic University
11/2004: IO Fest, Stanford University

07/2004: Stanford Institute of Theoretical Economics (SITE), Stanford, CA
01/2004: Econometric Society, Winter meeting, San Diego, CA
10/2003: Harvard Business School Strategy Conference, Boston, MA

07/2003: NBER Industrial Organization Summer Meeting, Cambridge, MA (Discussant)
06/2003: Society of Economic Dynamics, Annual meeting, Paris, France
04/2003: Workshop on the economics of the movie Industry, Washington University
01/2003: American Economic Association annual meeting, Washington, DC
01/2003: Econometric Society, Winter meeting, Washington, DC (Discussant)
11/2002: 4th Bus. and Econ. Scholars Summit in Motion Picture Industry Studies, Florida Atlantic University

05/2000: Cowles Foundation Conference on Strategy and Decision Making, Yale University (Discussant)

06/1999: Econometrics in Tel-Aviv, Tel-Aviv University

07/1996: Summer School in Industrial Organization, Universidade Nova, Lisbon, Portugal

## Invited Seminars

2020-2021: Stanford HAI

2019-2020: Caltech, Indiana University, ITAM, Ohio State University, Rice University

2018-2019: Bocconi University (Italy), Brigham Young University, Carnegie Melon University, Columbia University, Emory University, ETH Zurich (Switzerland), Georgetown University, New York University (Stern), Queen's University (Canada), RAND, Tel Aviv University (Berglas Lecture), University of Georgia, University of Wisconsin, University of Zurich, Yale University

2017-2018: Northwestern University (Kellogg, M&S)

2016-2017: Academia Sinica (Taiwan), CREST (Paris), Harvard University (IO), Harvard University (PF), John Hopkins University, Kyoto University, National Graduate Institute for Policy Studies (GRIPS, Tokyo), Princeton University, Simon Fraser University, University of British Columbia, UC Berkeley (Haas), UC Davis, UC Los Angeles, University of Tokyo

2015-2016: Columbia GSB, Israel Antitrust Authority, Johns Hopkins University (Carey Business School), Michigan State University, Universidad Carlos III (Madrid), University of Chicago, University of North Carolina, University of Virginia

2014-2015: Chinese University of Hong Kong, Harvard Law School, IESE Barcelona, London School of Economics (Industrial Organization), London School of Economics (Managerial Economics), London School of Economics (Public Economics), Minneapolis Fed, Texas A&M, Ohio State University, UAB Barcelona, UC Berkeley (Haas Marketing), University of Pennsylvania (Wharton), Universitat Pompeu Fabra, University of Minnesota, University of Notre Dame, Indiana University (Kelly School of Business)

2013-2014: Arizona State University, Cornell University (Frank Knight Lecture), Harvard Business School, Harvard Kennedy School (BU/Harvard/MIT Health Econ Seminar), Insper (Sao Paulo, Brazil), Inter Disciplinary Center (Israel), Massachusetts Institute of Technology, PUC Rio (Brazil), Universidad de los

Andes (Chile), University of Amsterdam, University of Southern California (Schaeffer Center), Washington University, Yale University

2012-2013: Bocconi University, Brown University, Danish National Centre for Social Research (Copenhagen, Denmark), Duke University, Georgia State University, Hebrew University (Jerusalem, Israel), Helsinki Center for Economic Research (Finland), New York University (Stern), Penn State University, Northwestern University (Kellogg M&S), Tel-Aviv University, Tilburg University, University of Arizona, University of Chicago (Harris School), University College London, UI Chicago, University of Mannheim, University of Michigan, University of Oxford, University of Warwick

2011-2012: Bates White, CU Boulder (Leeds Finance), Columbia University, EIEF (Rome, Italy), EUI (Florence, Italy), Harvard-MIT, New York University (Stern), University of Chicago (Booth Economics), Princeton University, UW Madison, World Bank

2010-2011: Bank of Mexico, Ben-Gurion University, Boston University, Federal Trade Commission, Hebrew University of Jerusalem, HEC Montreal, ITAM, UC Berkeley, Vanderbilt University

2009-2010: Bank of Israel, London School of Economics, UC Berkeley, University of British Columbia (Sauder), University of Chicago (Booth Marketing), University College London, University of Oxford, Princeton University, Tel Aviv University (Recanati)

2008-2009: Carnegie Melon University, Cornell University, Northwestern University, Stanford GSB (Finance), SUNY Stony Brook, UC San Diego, University of Rochester (Simon), Yale University

2007-2008: Harvard University, New York University (Stern), UC Berkeley, UC Santa Cruz, UT Austin

2006-2007: UC Berkeley, UC Davis, University of Chicago (GSB), Columbia University, Stanford University

2005-2006: UC Berkeley, UC Los Angeles, CEMFI (Madrid, Spain), Department of Justice, London School of Economics, Minneapolis Fed, New York University (Stern), Northwestern University, University of Chicago, University of Illinois at Urbana-Champaign, University of Pennsylvania (Wharton), Yale University

2004-2005: UC Berkeley (Haas-Marketing), University of Minnesota, Duke University, UW Madison, University of Chicago (GSB), Harvard University, Northwestern University, Penn State University, Stanford University, Washington University (Olin)

2003-2004: UC Berkeley, UW Madison, University of Tokyo

2002-2003: CEMFI (Madrid, Spain), London Business School, Stanford University

2001-2002: Boston University, Harvard Business School, Hebrew University of Jerusalem, Kennedy School of Government, MIT Sloan School of Management, Northwestern University (Kellogg & Economics), NYU Stern School of Business, Princeton University, Stanford University (GSB & Economics), Tel Aviv University, UC Berkeley (Haas), UCLA, University of Chicago (GSB & Economics)

**Former Students** (first job in parentheses, 'P' for primary advisor)

2020-2021: Nano Barahona, Diego Jiménez Hernández (co-P), Franklin Qian (co-P), Milena Wittwer (co-P), Tom Zohar

2019-2020: Rodrigo Carril (co-P) (Pompeu Fabra, Economics), Juan Camilo Castillo (University of Pennsylvania, Economics), Paul Dolfen (Uber), Jonathan Zhang (co-P) (McMaster University, Economics)

2018-2019: Yiwei Chen (co-P) (Quantco), Charles Hodgeson (P) (Yale, Economics), Ben Klopack (P) (Texas A&M, Economics)

2017-2018: Nicola Pierri (IMF)

2016-2017: Vilsa Curto (co-P) (Harvard School of Public Health), Atul Gupta (P) (University of Pennsylvania, Wharton: Health), Stephanie Lee (P) (University of Washington, Foster School of Business), Evan Mast (P) (Upjohn Institute)

2015-2016: Isaac Opper (RAND), Joe Osini (Nuna Health), Igor Popov (P) (Airbnb), Pietro Tebaldi (P) (Chicago, Economics)

2014-2015: Michael Dinerstein (co-P) (Chicago, Economics), Chiara Farronato (Harvard Business School), Dan Knoepfle (Uber), Paul Wong (NERA)

2013-2014: Andrey Fradkin (NBER, postdoc), Ana Gomez Meyer (P) (Amazon), Daniel Grodzicki (co-P) (Penn State, Economics)

2012-2013: John Anderson (PG&E), Dominic Coey (eBay Research), Misha Dworsky (RAND), Patricia Foo (P) (continued to Medical School), Theresa Kuchler (NYU Stern, Finance), Roy Mill (Ancestry.com), Gui Woolston (Boston Consulting Group)

2011-2012: Tim Armstrong (Yale, Economics), Paulo Somaini (MIT, economics)

2010-2011: Marika Cabral (co-P) (UT Austin, Economics), Neale Mahoney (University of Chicago, Booth School of Business), Chris Stanton (University of Utah, School of Business: Finance)

2008-2009: Mark Jenkins (co-P) (University of Pennsylvania, Wharton: Finance), Andrea Pozzi (P) (EIEF, Italy), Oren Rigbi (P) (Ben Gurion University, Economics, Israel)

2007-2008: Amitay Alter (P) (Washington University, Olin School of Business), Itai Ater (P) (Tel Aviv University, Recanati School of Management), Yee Wai Chong (Private sector, Hong Kong), Lori Parcel (P) (Department of Justice), Alejandro Ponce Rodriguez (World Bank)

2006-2007: Max Gulker (P) (NERA), Mark Jacobsen (UCSD, Economics), Bryan Keating (P) (Competition Policy Associates), Minjung Park (University of Minnesota, Economics), Daniel Quint (UW Madison, Economics)

2005-2006: Ignacio Esponda (NYU, Stern School of Business)

2004-2005: Lu Han (University of Toronto, Rothman School of Management), Seung-Hyun Hong (University of Illinois at Urbana-Champaign, Economics), Catherine Tucker (MIT, Sloan School of Management: Marketing)

2003-2004: Phoebe Chan (P) (University of Michigan at Flint, Economics), Rob Macmillan (Federal Trade Commission), Joao de Mello (PUC-RIO, Brazil), Morten Sorensen (University of Chicago, GSB: Finance)

## Department and University service

Teaching matrix coordinator, 2012-present
Department vice chair, 2011-2012
Chair of graduate admissions, 2009
Graduate policy committee, 2008
Transfer credit policy, 2006-07

## Pre-Academic Experience

Israeli Defense Forces – Officer (Captain) in the Israeli Intelligence's elite program, 1988-1996
Core Software – Software engineer, lead design of automated solution to Y2K computer bug, 1996-1997
Economic Consulting – Freelancing for Amnon Neubach, Israeli former economic minister to the United States (1996-1997), and Michael Rukstad (RIP), Harvard Business School (2001)

## Personal Information

# AMY NADYA FINKELSTEIN
### JOHN & JENNIE S. MACDONALD PROFESSOR OF ECONOMICS
### MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

# CURRICULUM VITAE

## PERSONAL INFORMATION

Address:     MIT Department of Economics
             The Morris and Sophie Chang Building
             50 Memorial Drive, Building E52
             Cambridge, Massachusetts 02142

## EDUCATION
1998 – 2001    Ph.D., Economics, Massachusetts Institute of Technology
1995 – 1997    M.Phil., Economics, Oxford University
1991 – 1995    A.B., Government, *summa cum laude*, Harvard University

## EMPLOYMENT
2016 –         John & Jennie S. MacDonald Professor of Economics
2012 – 2016    Ford Professor of Economics, MIT. Cambridge, MA.
2008 – 2012    Professor of Economics, MIT. Cambridge, MA.
2010 – 2011    Visiting Professor of Economics, University of Chicago Booth School of Business
2007 – 2008    Associate Professor of Economics (with tenure), MIT. Cambridge, MA.
2005 – 2007    Assistant Professor of Economics, MIT. Cambridge, MA.
2002 – 2005    Junior Fellow, Harvard Society of Fellows. Cambridge, MA
2001 – 2002    Visiting Scholar in the Demography of Aging, NBER. Cambridge, MA
1997 – 1998    Staff Economist, Council of Economic Advisers. Washington D.C.

## CURRENT PROFESSIONAL ACTIVITIES AND SERVICES
2021 –    Elected Member (North America Region) of the Council of the Econometric Society
2020 –    co-Director, Health Care Program, National Bureau of Economic Research
2018 –    Board Member, Health Care Cost Institute
2017 –    Founding Editor, *American Economic Review: Insights*
2016 –    co-Director, Health and Aging Fellowship, National Bureau of Economic Research
2013 –    Member, Congressional Budget Office's (CBO's) Panel of Health Advisers
2013 –    co-Founder and co-Scientific Director, J-PAL North America
2007 –    Research Associate, National Bureau of Economic Research (Public Economics, Health Care, Aging, Industrial Organization)

## HONORS AND AWARDS
2020    Corresponding Fellow, British Academy
2020    MERIT Award, National Institutes of Health
2019    Distinguished CES Fellow
2018    MacArthur Foundation Fellowship
2018    Member, National Academy of Sciences
2016    RIIA's Achievement in Applied Retirement Research Award
2016    George Tolley Fellow, Becker Friedman Institute.
2016    Mark and Sheila Wolfson Distinguished Visitor, SIEPR
2014    ASHEcon Medal

| 2014 | Hicks Tinbergen Award |
| 2013 | Arrow Award for Best Paper in Health Economics, iHEA |
| 2013 | HSR Impact Award, AcademyHealth |
| 2012 | Fellow, Econometric Society |
| 2012 | Graduate Teacher of the Year Award, Graduate Economics Association, MIT |
| 2012 | John Bates Clark Medal |
| 2012 | Elected to the American Academy of Arts and Sciences |
| 2011 | World Economic Forum, Young Global Leader |
| 2010 | Best Advisor, Graduate Economics Association, MIT |
| 2009 | Presidential Early Career Award for Scientists and Engineers |
| 2009 | Elected to the Institute of Medicine |
| 2008 | TIAA-CREF Paul A. Samuelson Award |
| 2008 | Elaine Bennett Research Prize |
| 2007 | Elected to National Academy of Social Insurance |
| 2007 – 2009 | Alfred P. Sloan Research Fellowship |
| 2007 – 2008 | Zvi Griliches National Fellow, National Bureau of Economic Research |
| 2006 | Research!America 's Eugene Garfield Award |
| 2006 | CESifo Distinguished Research Affiliate Award |
| 2004 | TIAA-CREF Paul A. Samuelson Certificate of Excellence |
| 2004 | Robert Wood Johnson Foundation Scholar in Health Policy Award |
| 2003 | Eligible Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford University |
| 2003 | Ernst Meyer Prize of the Geneva Association |
| 2002 | Review of Economic Studies Tour |
| 2001 | National Academy of Social Insurance's Heinz Dissertation Award, Honorable Mention |
| 2001 | National Tax Association's Outstanding Dissertation Award, Honorable Mention |
| 2000 – 2001 | Aging and Health Economics Fellowship, National Bureau of Economic Research |
| 1998 – 2000 | Economics Fellowship, MIT |
| 1997 | George Webb Medley Prize for best performance in the M.Phil. Exams, Oxford |
| 1997 | George Webb Medley M.Phil. Thesis Prize, Oxford |
| 1995 – 1997 | Marshall Scholar |
| 1995 | Harvard Undergraduate Senior Thesis Prizes: Thomas T. Hoopes Prize (college-wide); James Gordon Bennett Prize (departmental); Gerda Richards Crosby Prize (departmental) |
| 1994 | Harry S. Truman Scholar |
| 1994 | Phi Beta Kappa (elected Junior Year). |

## WORKING PAPERS

*Voluntary Regulation: Evidence from Medicare Paper Reform*
NBER Working Paper 27223 May 2020 (with Liran Einav, Yunan Ji and Neale Mahoney)
Revise and Resubmit, Quarterly Journal of Economics

*Out of the Woodwork: Enrollment Spillovers in the Oregon Health Insurance Experiment*
NBER Working Paper 26871 March 2020 (with Adam Sacarny and Katherine Baicker)
Revise and Resubmit, American Economic Journal: Economic Policy

*Why is End of Life Spending So High? Evidence from cancer patients.*
NBER Working Paper 28162, December 2020 (with Dan Zeltzer, Liran Einav, Tzvi Shir, Salomon Stemmer, Ran Balice).
Revised and Resubmitted Review of Economics and Statistics

*The Challenges of Universal Health Insurance in Developing Countries: Evidence from a Large-Scale Randomized Experiment in Indonesia*
NBER Working Paper 26204, August 2019 (with Abhijit Banerjee, Rema Hanna, Benjamin Olken, Arianna Ornaghi, and Sudarno Sumarto).
Revise and Resubmit <u>American Economic Review</u>

*Market Design in Regulated Health Insurance Markets: Risk Adjustment vs. Subsidies*
February 2019 (with Liran Einav and Pietro Tebaldi).

*What Drives Prescription Opioid Abuse? Evidence from Migration*
August 2018 (with Matthew Gentzkow and Heidi Williams)

*Long Term Care Hospitals: A Case Study in Waste*
NBER Working Paper 24946, August 2018 (with Liran Einav and Neale Mahoney).


### REFEREED JOURNAL PUBLICATIONS

*Place-Based Drives of Mortality: Evidence from Migration*
<u>American Economic Review</u>, conditionally accepted (with Matthew Gentzkow and Heidi Williams).

*Selection and Screening: The Case of Mammograms*
<u>American Economic Review</u>, 2020 110(12): 3836-3870. (with Liran Einav, Tamar Oostrom, Abigail Ostriker and Heidi Williams).

*Initial economic damage from the COVID-19 pandemic in the United States is more widespread across ages and geographies than initial mortality impacts*
<u>Proceedings of the National Academy of Sciences</u>, 117 (45), November 10 2020, 117 (45): 27934-27939. (with Maria Polyakova, Geoffrey Kocks, and Victoria Udalova).

*Randomized Trial Shows Healthcare Payment Reform has Equal-Sized Spillover Effects on Patients not Targeted by Reform*
<u>Proceedings of the National Academy of Sciences</u>, 117(32), August 2020, 18939-18947. (with Liran Einav, Yunan Ji and Neale Mahoney).

*Health Care Hotspotting: A Randomized, Controlled Trial.*
<u>New England Journal of Medicine</u>, 2020 382(2): 152-162). (with Annetta Zhou, Sarah Taubman, and Joseph Doyle).

*The Value of Medicaid: Interpreting Results from the Oregon Health Insurance Experiment*
<u>Journal of Political Economy</u>, 2019 127(6): 2836-2874. (with Nathaniel Hendren and Erzo F.P. Luttmer).

*The Impact of Medicaid Expansion on Voter Participation: Evidence from the Oregon Health Insurance Experiment*
<u>Quarterly Journal of Political Science</u>, 2019 4(4): 383-400 (with Katherine Baicker).

*Take-up and Targeting: Experimental Evidence from SNAP*
<u>Quarterly Journal of Economics</u>, August 2019 134(3): 1505-1556 (with Matthew J. Notowidigdo).

*Subsidizing Health Insurance for Low Income Adults: Evidence from Masschusetts*
<u>American Economic Review</u>, April 2019 109(4): 1530-67  (with Nathanel Hendren and Mark Shepard).

*Healthcare Spending and Utilization in Public and Private Medicare*
<u>American Economic Journal: Applied Economics</u>, April 2019 11(2): 302-332 (with Vilsa Curto, Liran Einav, Jonathan Levin and Jay Bhattacharya).

*Clinical Decision Suport For High-Cost Imaging: A randomized clinical trial*
PLoS ONE, March 15 2019, 14(3): e0213373 (with Sarah Abraham, Joseph Doyle, Laura Feeney, and Sarah Reimer).

*Provider Incentives and Health Care Costs: Evidence from Long-Term Care Hospitals*
Econometrica, November 2018 86(6) (with Liran Einav and Neale Mahoney).

*Mandatory Medicare Bundled Payment Program for Lower Extremity Joint Replacement and Discharge to Institutional Postacute Care: Interim Analysis of the First Year of a 5-Year Randomized Trial*
Journal of the American Medical Association, September 4, 2018 (with Yunan Ji, Neale Mahoney and Jonathan Skinner).

*Private provision of social insurance: drug-specific price elasticities and cost sharing in Medicare Part D*
American Economic Journal: Economic Policy, August 2018 10(3) (with Liran Einav and Maria Polyakova).

*Predictive Modeling of U.S. Health Care Spending in Late Life*
Science 360, June 2018: 1462-1465 (with Liran Einav, Sendhil Mullainathan, and Ziad Obermeyer).

*Myth and Measurment – The Case of Medical Bankruptcies*
New England Journal of Medicine, March 2018 DOI: 10.1056/NEJMp1716604
(with Carlos Dobkin, Ray Kluender and Matthew Notowidigdo).

*The Economic Consequences of Hospital Admissions*
American Economic Review, February 2018 (with Carlos Dobkin, Ray Kluender and Matthew Notowidigdo).

*The Uninsured Do Not Use the Emergency Department More – They Use Other Care Less*
Health Affairs, December 2017 36 (12) (with Rouhua Annetta Zhou, Katherine Baicker, and Sarah Taubman)

*The Effect of Medicaid on Medication Use Among Poor Adults: Evidence from Oregon.*
Health Affairs, December 2017 36(12) (with Katherine Baicker, Heidi Allen, and Bill Wright).

*Outpatient Office Wait Times and Quality of Care for Medicaid Patients*
Health Affairs, 36(5), May 2017, 826-832 (with Tamar Oostrom and Liran Einav).

*Adjusting Risk Adjustment – Accounting for Variation in Diagnostic Intensity*
New England Journal of Medicine, February 2017 376: 608-610 DOI: 10.1056/NEJMp1613238
(with Matthew Gentzkow, Peter Hull, and Heidi Williams).

*Bunching at the Kink: Implications for Spending Responses to Health Insurance Contracts.*
Journal of Public Economics, February 2017, 146: 27-40 (with Liran Einav and Paul Schrimpf).

*Sources of Geographic Variation in Health Care: Evidence from Patient Migration*
Quarterly Journal of Economics, November 2016, 131(4): 1681-1726 (with Matthew Gentzkow and Heidi Williams).

*Effect of Medicaid Coverage on ED Use – Further Evidence from Oregon's Experiment*
New England Journal of Medicine, October 20 2016, 375: 1505-1507 DOI: 10.1056/NEJMp1609533.
(with Sarah Taubman, Heidi Allen, Bill Wright and Katherine Baicker).

*Healthcare Exceptionalism?Performance and Allocation in the US Healthcare Sector*
American Economic Review, August 2016, 106(8): 2110-2144 (with Amitabh Chandra, Adam Sacarny and Chad Syverson).

*Beyond Statistics: The Economic Content of Risk Scores*
American Economic Journal, Applied Economics, 8(2) April 2016 (with Liran Einav, Raymond Kluender, and Paul Schrimpf).

*Medicare Letters To Curb Overprescribing of Controlled Substances Had No Detectable Effects on Providers*
Health Affairs, 35 (3), March 2016, 471-479  (with Adam Sacarny, David Yokum, and Shantanu Agrawal).

*Paying on the Margin for Medical Care: Evidence from Breast Cancer Treatments*
American Economic Journal: Economic Policy,  8(1) February 2016. (with Liran Einav and Heidi Williams).

*Moral hazard in health insurance: do dynamic incentives matter?*
Review of Economics and Statistics, 97(4), October 2015, 725-741. (with Aviva Aron-Dine, Liran Einav and Mark Cullen).

*The Response of Drug Expenditure to Contract Design in Medicare Part D*
Quarterly Journal of Economics, 130(2) May 2015, 841-899. (with Liran Einav and Paul Schrimpf).

*Testing for Adverse Selection with 'Unused Observables'*
Journal of Risk and Insurance, December 2014, Vol 81 (4): 709-734  (with James Poterba)

*Medicaid Increases Emergency Department Use: Evidence from Oregon's Health Insurance Experiment*
Science, January 2014 (with Sarah Taubman, Heidi Allen, Bill Wright, and Katherine Baicker).

*Income and Health Spending: Evidence from Oil Price Shocks*
Review of Economics and Statistics, October 2013  95(4): 1079-1095  (with Daron Acemoglu and Mathew J. Notowidigdo).

*The Oregon Health Insurance Experiment – Medicaid's Effects on Clinical Outcomes.*
New England Journal of Medicine 368(18), May (2013). (with Katherine Baicker, Sarah Taubman, Heidi Allen, Mira Bernstein, Jonathan Gruber, Joseph Newhouse, Eric Schneider, Bill Wright, Alan Zaslavsky, and the Oregon Health Study Group).

*Selection on moral hazard in health insurance*
American Economic Review, 103(1), February 2013. (with Liran Einav, Paul Schrimpf, Stephen Ryan, and Mark Cullen).

*What Good Is Wealth Without Health? The Effect of Health on the Marginal Utility of Consumption*
Journal of the European Economic Association,  11(s1): 221-258 (January 2013). (with Erzo F.P. Luttmer and Matthew J. Notowidigdo).
   □ Awarded the 2014 Hicks Tinbergen Award "given every two years to the authors of an outstanding article published in the *Journal of the European Economic Association* during the preceding two years. "

*How General are Risk Preferences? Choices under uncertainty in different domains*
American Economic Review, 102(6), October 2012, 2606-2638. (with Liran Einav, Iuliana Pascu and Mark Cullen).

*The Oregon Health Insurance Experiment: Evidence from the First Year.*
Quarterly Journal of Economics, volume 127, no 3, August, pp 1057-1106 (2012). (with Sarah Taubman, Bill Wright, Mira Bernstein, Jonathan Gruber, Joseph P. Newhouse, Heidi Allen, Katherine Baicker, and the Oregon Health Study Group).
   □  Awarded the 2013 HSR Impact Award by AcademyHealth
   □  Awarded the 2013 Arrow Award for Best Paper in Health Economics by iHEA

*Estimating Welfare in Insurance Markets Using Variation in Prices.*
Quarterly Journal of Economics. vol. 123, no 3, August, pp: 877-921 (2010). (with Liran Einav and Mark Cullen)

*Optimal Mandates and The Welfare Cost of Asymmetric Information: Evidence from the U.K. Annuity Market.*
Econometrica, 78(3), 1031-1092, May (2010). (with Liran Einav and Paul Schrimpf)

*EZ-Tax: Tax Salience and Tax Rates*
Quarterly Journal of Economics, vol. 124, no.3, pp.969-1010 (2009).

*Redistribution by Insurance Market Regulation: Analyzing a Ban on Gender-Based Retirement Annuities*
Journal of Financial Economics, vol. 91, no 1, pp:35-58 (2009). (with James Poterba and Casey Rothschild)

*Input and Technology Choices in Regulated Industries: Evidence from the Health Care Sector*
Journal of Political Economy, vol. 116, no 5, pp. 837 – 880 (2008). (with Daron Acemoglu)

*The Interaction of Public and Private Insurance: Medicaid and the Long-Term Care Insurance Market*
American Economic Review, vol. 98, no. 3, pp. 1083 – 1102 (2008). (with Jeffrey R. Brown)
   □ Awarded the 2008 TIAA CREF Paul A. Samuelson Award for "outstanding scholarly writing on issues related to lifelong financial security".
   □ Awarded the 2006 CESifo Distinguished Research Affiliate award for "best paper in Public Economics by a young scholar"

*What Did Medicare Do? The Initial Impact of Medicare on Mortality and Out of Pocket Medical Spending*
Journal of Public Economics, vol. 92, pp. 1644-1669 (2008). (with Robin McKnight)

*Why is the Market for Long-Term Care Insurance So Small?*
Journal of Public Economics, vol. 91, no. 10, pp. 1967 – 1991 (2007). (with Jeffrey R. Brown)

*The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare*
Quarterly Journal of Economics, vol. 122, no. 3, pp. 1-37 (2007).

*Multiple Dimensions of Private Information: Evidence from the Long-Term Care Insurance Market*
American Economic Review September, vol. 96, no. 4, pp. 938–958 (2006). (with Kathleen McGarry)

*Minimum Standards, Insurance Regulation and Adverse Selection: Evidence from the Medigap Market*
Journal of Public Economics, vol. 88, no. 12, pp. 2515-2547 (2004).

*Static and Dynamic Effects of Health Policy: Evidence from the Vaccine Industry*
Quarterly Journal of Economics, vol. 19, no. 2, pp. 527-564 (2004).
   □ Awarded the 2006 Research!America Eugene Garfield Economic Impact of Medical and Health Research Award for "outstanding research on how medical or health research impacts the economy".

*Adverse Selection in Insurance Markets: Policyholder Evidence from the U.K. Annuity Market*
Journal of Political Economy, vol. 112, no. 1 Part 1, pp. 183-208 (2004). (with James M. Poterba)
   □ Awarded the 2004 TIAA CREF Paul A. Samuelson Certificate of Excellence for "outstanding scholarly writing on issues related to lifelong financial security".

*The Interaction of Partial Public Insurance Programs and Residual Private Insurance Markets: Evidence from the U.S. Medicare Program*
Journal of Health Economics, vol. 23, no. 1, pp. 1-24 (2004).

*Selection Effects in the Market for Individual Annuities: New Evidence from the United Kingdom*
The Economic Journal, vol. 112, no. 476, pp. 28-50 (2002). (with James M. Poterba)

*The Effect of Tax Subsidies to Employer-Provided Supplementary Health Insurance: Evidence from Canada*
Journal of Public Economics, vol. 84, no. 3, pp. 305-340 (2002).


## OVERVIEW ARTICLES

*Welfare Analysis Meets Causal Inference*
Journal of Economic Perspectives, Fall 2020 34 (4): 146-67 (with Nathan Hendren).

*In Praise of Moderation: Suggestions for the Scope and Use of Pre-Analysis Plans for RCTs in Economics*
NBER Working Paper 26993, April 2020. (with Esther Duflo, Abhijit Banerjee, Lawrence F. Katz, Benjamin A. Olken and Anja Sautmann.)

*Strategy for Improing U.S. Health Care Delivery – Conducting More Randomized, Controlled Trials*
New England Journal of Medicine, April 16 2020, DOI: 10.1056/nejmp1915762.

*What Does (Formal) Health Insurance Do, And For Whom?*
Annual Review of Economics 2018, 10:261-86 (with Neale Mahoney and Matthew J. Notowidigdo)

*Moral Hazard in Health Insurance: What We Know and How We Know It*
Journal of the European Economic Association 2018, 16(4): 957-982 (with Liran Einav)

*Randomize Evaluations to Improve Health Care Delivery*
Science, February 2015, Volume 347: 720-722. (with Sarah Taubman).
Longer version available at www.povertyactionlab.org/node/10558.

*Social Insurance: Connecting Theory To Data*
Handbook of Public Economics, 2013, Volume 5: 111-193 (with Raj Chetty)

*The RAND Health Insurance Experiment, Three Decades Later*
Journal of Economic Perspectives, Winter 2013 (with Aviva Aron-Dine and Liran Einav).

*Insuring Long-term care in the US.*
Journal of Economic Perspectives, vol 25, Number 4, 119-142, Fall 2011 (with Jeffrey R. Brown).

*The Effects of Medicaid Coverage – Learning from the Oregon Experiment*
New England Journal of Medicine, July 20 2011, DOI: 10.1056/nejmp1108222. (with Katherine Baicker)

*Selection in Insurance Markets: Theory and Empirics in Pictures*
Journal of Economic Perspectives, vol 25, Number 1, pp115-138, Winter 2011.(with Liran Einav)

*Beyond Testing: Empirical Models of Insurance Markets*
Annual Review of Economics, 2, 311-336, September 2010. (with Liran Einav and Jonathan Levin).

*The Private Market for Long-Term Care Insurance in the U.S: A Review of the Evidence*
Journal of Risk and Insurance, vol. 76, no 1, pp. 5-29 (2009). (with Jeffrey R. Brown)


## PUBLISHED CONFERENCE PROCEEDINGS
(Available at http://econ-www.mit.edu/faculty/afink/publications)

*Is American Pet Health Care (Also) Uniquely Inefficient?*
American Economic Review Papers and Proceedings, May 107(5) (2017). (with Liran Einav and Atul Gupta).

*Productivity Dispersion in Medicine and Manufacturing*
American Economic Review Papers and Proceedings, May 106(5): 99-103 (2016). (with Amitabh Chandra, Adam Sacarny and Chad Syverson).

*The Impact of Medicaid on Labor Force Activity and Program Participation: Evidence from the Oregon Health Insurance Experiment.*
American Economic Review, Papers and Proceedings, May 104(5): 322-328 (2014). (with Katherine Baicker, Jae Song and Sarah Taubman).

*Approaches to Estimating the Health State Dependence of the Utility Function*
American Economic Review Papers and Proceedings, May, 99(2): 116-121 (2009). (with Erzo F.P. Luttmer and Matthew J. Notowidigdo).

*Preference Heterogeneity and Insurance Markets: Explaining a Puzzle*
American Economic Review Papers and Proceedings, May, 98(2): 157-162 (2008). (with David Cutler and Kathleen McGarry)

*Medicaid Crowd-Out of Private Long-Term Care Insurance Demand: Evidence from the Health and Retirement Survey*
Tax Policy and the Economy, Volume 21: 1 – 34 (2007). (with Jeffrey R. Brown and Norma Coe)

*Did Medicare Induce Pharmaceutical Innovation?*
American Economic Review Papers and Proceedings, May, 96(2): 103-107 (2006). (with Daron Acemoglu, David Cutler, and Joshua Linn)

*Dynamic Inefficiencies in Insurance Markets: Evidence from long-term care insurance*
American Economic Review Papers and Proceedings, May, 95: 224-228 (2005). (with Kathleen McGarry and Amir Sufi.)

## PHD DISSERTATION COMMITTEES (BY YEAR OF PHD)

| | |
|---|---|
| 2007: | Erin Strumpf (Harvard) |
| 2008: | Amanda Kowalski, Maisy Wong |
| 2010: | David Brown, Sean Klein, Matthew Notowidigdo, Heidi Williams (Harvard) |
| 2011: | Leila Agha |
| 2012: | Aviva Aron-Dine, Tatyana Deryugina, David Molitor, Nathan Hendren |
| 2013: | Iuliana Pascu, Maksim Pinkoviskiy |
| 2014: | Conrad Miller, Adam Sacarny, Maria Polyakova |
| 2015: | Manasi Deshpande |
| 2016: | Angela Kilby, Richard McDowell, Yufei Wu |
| 2017: | Alex Bartik, Peter Hull, Elizabeth Setren |
| 2018: | Sarah Abraham, Ray Kluender, Daniel Waldinger, Annetta Zhou (Harvard) |
| 2019: | Michael Stepner |
| 2020: | Colin Gray, Ryan Hill, Alex Olssen, Tamar Oostrom, |

## NAMED LECTURES

| | |
|---|---|
| 2019 | Munich Lectures in Economics, Center for Economic Studies |
| 2017 | Marshall Lecture, European Economics Association |
| 2017 | Hicks Lecture, Oxford University |
| 2017 | Harris Lecture, Clemson University |
| 2016 | Merrick Lecture, University of Virigina |
| 2015 | Summerlin Lecture, Johns Hopkins University |
| 2015 | Paul Levinger Lecture, Brown University |

| | |
|---|---|
| 2015 | Aloysius Dunaway Memorial Lecture, Michigan State University |
| 2014 | American Enterprice Leture, Furman University |
| 2013 | Calderwood Lecture, Wellesley College |
| 2012 | Arrow Lecture in Economics, Columbia University |
| 2011 | Pashigian Memorial Lecture, Chicago University |
| 2007 | Sigma Xi Lecture, MIT |

## PAST PROFESSIONAL ACTIVITIES AND SERVICES

| | |
|---|---|
| 2008 – 2020 | co-Director, Public Economics Program, National Bureau of Economic Research |
| 2014 – 2019 | Associate Editor, *Journal of Economic Perspectives* |
| 2008 – 2014 | Co-editor, *Journal of Public Economics* |
| 2004 – 2007 | Associate Editor, *Journal of Public Economics* |
| 2010 – 2016 | NIH, Social Sciences and Population Studies (SSPS) Study Section Member |
| 2013 – 2016 | Executive Committee, American Economic Association |
| 2011 | External Visiting Committee, Yale Economics Department |
| 2010,2013 | Nominating Committee, American Economics Association |
| 2009 – 2014 | HRS Monitoring Committee (National Institute of Aging) |
| 2007 – 2011 | Member, Congressional Budget Office's (CBO's) Panel of Health Advisers |
| 2001 – 2007 | Faculty Research Fellow, National Bureau of Economic Research |
| 2008,2014, 2017 | Program Committee. American Economic Association Annual Meeting |
| 2006,2012 | Program Committee, Winter Meetings of Econometric Society |
| 2009, 2010 | Program Committee, National Tax Association Annual Meeting |

*Last Updated: December 2020*

# Nikhil Agarwal

MIT Department of Economics
The Morris and Sophie Chang Building
77 Massachusetts Ave, E52-406
Cambridge, MA 02139

economics.mit.edu/faculty/agarwaln

## Education

Harvard University, Ph.D., Economics, 2013.

  Advisors: Susan Athey, Ariel Pakes, Parag Pathak, Al Roth

Brandeis University, B.A., Economics and Mathematics, 2008.

## Academic Positions

Massachusetts Institute of Technology, Department of Economics

  Associate Professor of Economics (with tenure), 2019 – Present

  Castle Krob Career Development Assistant Professor of Economics, 2016 – 2019

  Assistant Professor of Economics, 2014 – 2016

National Bureau of Economic Research

  Research Associate, 2019 – Present

  Faculty Research Fellow, 2014 – 2019

Stanford Institute for Economic Policy Research, Visiting Assistant Professor, 2016 – 2017

Yale University, Cowles Foundation, Postdoctoral Associate, 2013 – 2014

## Working Papers

1. "Choices and Outcomes in Assignment Mechanisms: The Allocation of Deceased Donor
   Kidneys"
   (with Charles Hodgson and Paulo Somaini), August 2020.

## Publications

1. "Equilibrium Allocations Under Alternative Waitlist Designs: Evidence for Deceased
   Donor Kidneys" (with Itai Ashlagi, Michael Rees, Paulo Somaini and Daniel Waldinger)
   *Econometrica*, forthcoming
   (subsumes "An Empirical Framework for Sequential Assignment: The Allocation of De-
   ceased Donor Kidneys")

2. "Revealed Preference Analysis of School Choice Models" (with Paulo Somaini)
   *Annual Review of Economics*, vol 12, pp 471-501, August 2020.

3. "Market Failure in Kidney Exchange" (with Eduardo Azevedo, Itai Ashlagi, Clayton Featherstone and Omer Karaduman)
   *American Economic Review*, vol. 109 (11), pp 4026-4070, Nov 2019.

4. "Dynamic Incentives in Waitlist Mechanisms" (with Itai Ashlagi, Paulo Somaini and Daniel Waldinger)
   *American Economic Association, P&P*, vol. 108, pp 341-347, May 2018.

5. "What Matters for the Productivity of Kidney Exchange?" (with Itai Ashlagi, Eduardo Azevedo, Clayton Featherstone and Omer Karaduman)
   *American Economic Association, P&P*, vol. 108, pp 334-340, May 2018.

6. "Demand Analysis using Strategic Reports: An application to a school choice mechanism." (with Paulo Somaini)
   *Econometrica*, vol. 86 (2), pp 391-444, March 2018.

7. "The Welfare Effects of Coordinated School Assignment: Evidence from the NYC High School Match." (with Atila Abdulkadiroglu and Parag Pathak)
   *American Economic Review*, vol. 107 (12), pp 3635-89, Dec 2017.

8. "Latent Indices in Assortative Matching Models" (with William Diamond)
   *Quantitative Economics*, vol. 8(3), pp 685-728, Nov 2017.

9. "Policy Analysis in Matching Markets."
   *American Economic Review, P&P*, vol. 105(5), pp 246-50, May 2017.

10. "An Empirical Model of the Medical Match."
    *American Economic Review*, vol. 105 (7), pp 1939-78, July 2015.

11. "Toxic Exposure in America: Estimating Fetal and Infant Health Outcomes from 14 Years of TRI Reporting." (with Linda Bui and Chanont Banternghansa)
    *Journal of Health Economics*, vol. 29 (4), pp 557-574, July, 2010.

12. "Skewed Bidding in Pay Per Action Auctions for Online Advertising." (with Susan Athey and David Yang)
    *American Economic Review, P&P*, vol. 99(2), pp 441-447, May, 2009.

**Other Papers**

1. "Universal Stochastic Dominance and Equilibrium Selection in Imitation Dynamics." (with Zhenyu Lai). Dormant. 2012.

2. "Superbridge and Bridge Indices for Knots." (with Colin Adams, Rachel Allen, Tirasan Khandawit, Alex Simon, Rebecaa Winarski and Mary Wootters), August 2020.

**Grants and Honors**

National Science Foundation Research Grant, SES-1948714, 2020-2023
Sloan Research Fellowship, 2019
National Institutes of Health Development Research Grant, R21-DK113626, 2018-2020
MIT Graduate Economics Association Best Advisor Award, 2017-2018
MIT SHASS Research Fund, 2018
Best Paper Award, *Quantitative Economics*, 2017
National Science Foundation Research Grant, SES-1729090, 2017-2020
Excellence in Refereeing Award, *American Economic Review*, 2016, 2017
National Institutes of Health, Pilot Grant, P30AG012810, 2016-2017
MISTI Global Seed Fund – Chile, 2015-2017
National Science Foundation Research Grant, SES-1427231, 2014-2018
Review of Economic Studies Tour, 2013
National Bureau of Economic Research Nonprofit Fellowship, 2011-2012
Phi Beta Kappa, 2008
Wien International Scholarship, 2004-2008

**Invited Lectures**

15th European Matching-in-Practice Workshop, Keynote, 2018
29th Jerusalem Summer School, 2018
AEA Continuing Education Program, 2018
NBER Summer Institute Methods Lectures, 2016

**Teaching and Advising**

Massachusetts Institute of Technology
    Microeconomic Theory and Public Policy, Spring '15, '16, '18.
    Advanced Topics in Industrial Organization, Spring '15, '16, '18.
    Industrial Organization I, Fall '17, '19
    Reading Group, Structural Empirical Methods, 2014 – Present

Ph.D. student advising with initial placement (* indicates primary or secondary advisor):

1. Jie Bai ('16), Microsoft Post-doc, followed by Harvard Kennedy School
2. Yusuke Narita ('16), Cowles foundation post-doc, followed by Yale University
3. Vivek Bhattacharya* ('17), Northwestern University
4. Alonso Bucarey* ('18), Amazon
5. David Liu* ('18), Brattle Group
6. Daniel Waldinger* ('18), New York University
7. Alan Olivi ('19), University College London
8. Anca-Patrica Anghel*, Charles River Associates (exp '20)
9. Mert Demirer* ('20), MSR post-doc, followed by MIT Sloan
10. Sam Grondahl* ('20)
11. Omer Karaduman* ('20), Stanford post-doc
12. Alex Olssen* ('20), Wharton
13. Anton Popov* ('20), Cornerstone Research
14. Will Rafey* ('20), Berkeley post-doc, followed by UCLA Econ
15. Allan Hsiao* (exp '21)

Undergraduate student and pre-doc placement:

1. David Zhang, Harvard Economics
2. Abigail Ostriker, MIT Economics
3. Spencer Pantoja, Stanford Economics
4. Lingjun Xia, Harvard Statistics, Berkeley Economics (declined)

Yale University, Graduate Industrial Organizations, 2013.

**Professional Service**

Associate Editor: *AEJ: Microeconomics*

Referee: *American Economic Review, AEJ: Applied Economics, AEJ: Microeconomics, Econometrica, Journal of Economic Theory, Journal of Industrial Economics, International Economic Review, Journal of Political Economy, Journal of Public Economics, Quarterly Journal of Economics, Review of Economic Studies.*

Program Committee: EC'16, Econometric Society Meetings (2017, 2020), MATCH-UP (2017), NBER IO Summer Insitute Meetings (2019)

Reviewer: National Science Foundation