

# JOHANNES HIRVONEN

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## EDUCATION

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### Aalto University School of Business

Espoo, Finland

*M.Sc. in Economics (Grade: Distinction)*

2019 - 2021

Thesis: *"Measuring New Technologies: Evaluation of the Effects of Receiving a Technology Subsidy in Finnish Manufacturing"* (Grade: 5/5, Excellent)

### Aalto University School of Business

Espoo, Finland

*B.Sc. in Economics (Grade: Distinction)*

2015 - 2019

Thesis: *"Effects of Generic Substitution on Medicine Prices: Theoretical Analysis"* (Grade: 5/5, Excellent)

### University of Helsinki

Helsinki, Finland

*Non-degree studies in Mathematics*

2018 - 2021

- Took courses in e.g. real analysis, topology, and measure theory but did not pursue a degree

## WORKING PAPERS

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### New Evidence on the Effect of Technology on Employment and Skill Demand [\[link\]](#)

with Aapo Stenhammar (Aalto University) and Joonas Tuhkuri (MIT), April 2022.

*Abstract: We present novel evidence on the effects of advanced technologies on employment, skill demand, and firm performance. The main finding is that advanced technologies led to increases in employment and no change in skill composition. Our main research design focuses on a technology subsidy program in Finland that induced sharp increases in technology investment in manufacturing firms. Our data directly measure multiple technologies and skills and track firms and workers over time. We demonstrate novel text analysis and machine learning methods to perform matching and to measure specific technological changes. To explain our findings, we outline a theoretical framework that contrasts two types of technological change: process versus product. We document that firms used new technologies to produce new types of output rather than replace workers with technologies within the same type of production. The results contrast with the ideas that technologies necessarily replace workers or are skill biased.*

- Conference presentations (incl. scheduled): NBER Summer Institute 2022, IT and Digitization; Summer Seminar of Finnish Economists 2022; AI-Econ Lab, The Impact of AI on White Collar Work 2022; Nordic Summer Institute in Labor Economics 2022
- Featured in The Economist ([article](#), [leader](#)) and [Wired](#)
- Submitted

## POLICY REPORTS

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### Policy Brief: New Evidence on the Effect of Technology on Employment and Skill Demand (in Finnish) [\[link\]](#)

with Aapo Stenhammar (Aalto University) and Joonas Tuhkuri (MIT), April 2022.

- Policy brief of the paper with the same name for Finnish media and readers

### In Search of Upcoming Supply Chain Surprises: The World Export Market Shares of Belarus, Russia and Ukraine [\[link\]](#)

with Jyrki Ali-Yrkkö (Etla) and Petri Rouvinen (VTT), March 2022.

- Featured in 5+ Finnish newspapers and media outlets (e.g. [Kauppalehti](#), [Talouselämä](#))

### The Significance of Russia for Finnish Companies (in Finnish) [\[link\]](#)

with Jyrki Ali-Yrkkö (Etla) and Aki Kangasharju (Etla), March 2022.

- Featured in 40+ Finnish newspapers and media outlets (e.g. [YLE](#), [HS](#), [MTV](#), [KL](#), [Talouselämä](#))

## WORK IN PROGRESS

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### **Business Development Grants in Disruptive Times**

with Otto Kässi (Etlä) and Olli Ropponen (Etlä).

*We analyze the effect of business development subsidies granted by Business Finland during the covid-19 pandemic. Our main research design utilizes random assignment of cases to officials in constructing a judge leniency measure, which provides exogenous variation in the probability of receiving a subsidy. We focus on central firm-level outcomes, along with tracking the effects of the subsidies on incumbent workers.*

## EMPLOYMENT

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### **Etlä Economic Research**

Researcher

Helsinki, Finland

2022 -

- Research on topics around firm innovation and resilience

### **Etlä Economic Research**

Research Trainee

Helsinki, Finland

2019 - 2021

- Research on the effects of new technologies on skill demand and employment

### **Aalto University**

Research Assistant for Professor Otto Toivanen

Espoo, Finland

2019

- Research on pharmaceutical market competition in the Nordic countries

### **Aalto University**

Teaching Assistant

Espoo, Finland

2019, 2020

*Intermediate Microeconomics, Microeconomics: Pricing and Strategy, Money and Banking*

## CONFERENCES AND PRESENTATIONS

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Includes scheduled.

AI-Econ Lab, The Impact of AI on White Collar Work

2022

Ministry of Employment and the Economy of Finland

2022

EUROFRAME

2022

Etlä Economic Research Seminar Series

2021

## GRANT AND AWARDS

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### **ASLA-Fulbright Graduate Grant**

2021

For completing a doctoral degree in the U.S., \$25,000 (declined)

### **Foundation for Economic Education**

2021

Co-applicant for research funding, €18,000

## COMPUTER SKILLS

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Python (including multiple data science related libraries), Stata, MS Office,  $\LaTeX$

## LANGUAGES

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Finnish (native), English (fluent), German (basic), Swedish (basic)

## OTHER

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### **Aalto Economics**

Vice President

Espoo, Finland

2020 - 2021

- Daily operation of the student organization for economics students at Aalto University together with the President

### **The Finnish Defence Forces**

Conscript

Helsinki, Finland

2016 - 2017

- Compulsory one-year military service