

JOHANNES HIRVONEN

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EDUCATION

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

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

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.

- Featured in 20+ Finnish newspapers and media outlets (e.g. [Taloussanommat](#), [Tekniikka & Talous](#))

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 10+ 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

Business Development Grants in Disruptive Times

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

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.

- Conference presentations: EUROFRAME 2022

EMPLOYMENT

Etla Economic Research

Researcher

Helsinki, Finland

2022 -

- Research on topics around firm innovation and resilience

Etla 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

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

Etla Economic Research Seminar Series

2021

GRANT AND AWARDS

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

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

LANGUAGES

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

OTHER

Aalto Economics

Vice President

Espoo, Finland

2020 - 2021

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

The Finnish Defence Forces

Conscript

Helsinki, Finland

2016 - 2017

- Compulsory one-year military service