

Industrialization: A Micro-Level Perspective

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The Industrial Revolution marks the transition to sustained economic growth. To date, analyses of the industrialization process have relied mainly on aggregated country- or industry-level data. Absent from this literature, however, is the key building block of the industrial economy: the firm.

Modern firm-level studies have documented how heterogeneously economic development proceeds at the firm-level. Growth is driven by new firms entering and displacing less-productive incumbents, by learning within firms, and by a reallocation of factors of production from less towards more productive firms.

Until recently, micro-level datasets to study such questions for the period of industrialization have been scarce. In past years, there has been growing scholarly efforts to digitize primary or secondary materials to construct firm-level datasets for the 18th and 19th century. This session gathers scholars leveraging such newly collected micro-level data to further our understanding of firm dynamics during industrialization.

The papers in this session will address topics and questions such as: What was the role of new entrants vs. incumbents in driving job creation/destruction, innovation, and productivity growth? How did different organizational forms affect firm-level outcomes? How did external and/or internal factors shape firm growth and survival? What determined the adoption and diffusion of new technologies across firms?

Market Integration and Structural Transformation

Ingvild Almås, Stockholm University

Thor Berger, Lund University

Konrad Burchadi, Stockholm University

Timo Boppart, Stockholm University

Hannes Malmberg, University of Minnesota

We analyze the link between market access and structural transformation during Sweden's industrialization. To measure market access, we construct a historical multimodal transport network using GIS tools that enables us to measure changes in transport costs across land, rail, and water. We estimate the cheapest transport routes along this network between all districts (fögderi) for each year between 1863 and 1900, which allow us to produce estimates of how each districts' market access changes year to year. We pair these data with establishment-level data covering the near-universe of manufacturing industry. The analysis focuses on how changes in market access affects firm dynamics (entry, exit, and growth over the life cycle), technology adoption, and local structural change.

Returnees and entrepreneurship

Olof Ejermo, Lund University

Björn Eriksson, Lund University

Erik Prawitz, Research Institute of Industrial Economics

Linking Swedish population census, migration records and factory censuses on the individual level, we provide new evidence on the contribution of returnees from the age of mass migration to entrepreneurship. Preliminary evidence indicates that returnee owners emigrated earlier than other returnees, but owned factories later than stayer owners. Returnees were more likely to reside in urban regions than stayer owners. In general, returnees were also more likely to become factory owners than stayers.

This paper is part of a larger research program on Swedish returnees generously funded by the Ragnar Söderberg foundation 2017-2021. See <https://entrepreneurshipreturnees.wordpress.com/>, <http://ragnarsoderbergstiftelse.se/long-run-effects-returnees-emigration-america-swedish-entrepreneurship>, and <https://vimeo.com/220952736> for more information.

Institutional Change and the (Slow) Adoption of New Technologies: The Case of Steam

Thor Berger, Lund University

Vinzent Ostermeyer, Lund University

This paper studies the adoption and impact of steam engines using linked establishment-level data from 19th-century Sweden. Event study and difference-in-differences estimates show that establishments owned by incorporated companies were more likely to adopt steam technology. The adoption of steam led to large increases in employment and output, which are significantly larger among incorporated establishments and in modern sectors. Together, these results highlight that organizational innovations were required to reap the full benefits of steam technology.

The Effect of Freedom of Trade on Artisans in Sweden

Johanne Arnfred, Lund University

In this paper, I will analyze how the number and composition of artisan workshops in a selection of Swedish towns changed within different trades in the decenniums surrounding the acts connected to freedom of trade from 1846 and 1864. These laws removed all the rights of the handicrafts associations, removed the former restrictions related to artisans and made it possible for all citizens of legal majority to open a workshop. I will use annual data from the artisan censuses collected by the Board of Trade spanning the years 1840 to 1875. In addition to this, I will use qualitative sources to shed light on the background of the possibilities and limitations surrounding opening a workshop and how the change of legislation might have affected these factors. Preliminary analysis shows that there seem to be an overall drop in the beginning of the period, followed by some increase in the end of the period. Another theme in

this paper is the socioeconomic background of the owners of newly opened workshops. Through mapping their family connections or artisans residing in their neighborhood, their income and fortune before opening a workshop and the estimated costs connected to starting a business, we can get an insight into the significance of the different factors connected to entering the trade.

Steam Engines and Deskillling during Swedish Industrialization

Suvi Heikkuri, University of Gothenburg

Svante Prado, University of Gothenburg

Yoshihiro Sato, University of Gothenburg

An important consequence of the Industrial Revolution was the productivity boost attributable to the increasing use of mechanical power. The first macro-inventions, such as steam engines, were installed to help reduce the physical labor in mines and factories. In addition, they reduced the need for artisanal labor by producing intermediate and final consumption goods faster and more efficiently. As the heavy machinery could be operated by unskilled labor, such as women and children, the emergence of steam engines has been viewed as unskilled-biased technology, or in other words deskillling. In this paper, we explore technology adoption in Swedish industry in 1879, drawing on the primary returns of the Tariff Commission's report. More specifically, we study the effect of steam engines on skilled and unskilled employment at establishment-level. The data used in the paper provides detailed information on the establishment's capital structure, power usage, and labor force.