

FOREWORD

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ABSTRACT: This article uses the Sound Toll Registers Online database and the official foreign trade statistics of the Russian Empire to study the spread of the first industrialization by investigating the machinery imports into the Russian Empire between 1815 and 1853. Transferring technology from abroad has been regarded as the main driver for technological change in Russian industrial production in this period. This paper aims to utilize the potential of STRO and investigate the general development and structure of machinery imports to Russia by applying descriptive analysis and non-parametric statistical comparisons.

Keywords: Economic history, machinery imports, technology transfer, Sound Toll Registers Online, Russia, trade statistics.

JEL Codes: C14, C81, C82, N70, O14, Y10

1. Introduction

Historians working with sources of preindustrial economic history, such as customs registers, trade statistics, or a merchant's account books, are confronted with a wide variety of weights, measures and currencies that were used to establish the volumes and values of commodities carried on maritime, riverine and overland routes. Despite the availability of some useful overviews of historical measurement systems in distinct geographical areas (e.g. Italy) or for distinct uses (e.g. Amsterdam's grain measure), researchers often turn to eighteenth- and nineteenth-century dictionaries and manuals for merchants, traders and businessmen to provide metric equivalents of selected pre-metric weights and measures in their particular project. In most cases, the rich and varied knowledge base of historical metrology is used for referencing purposes only. Historians are well aware of the loss of context that comes with these pragmatic referencing practices. Uses that are more elaborate, e.g. distinguishing local and temporal variation or accounting for the social and political dimensions of measurement, often remain out of scope or are limited to specific research purposes.

The current situation is hardly surprising. Until the present day, no encompassing and reliable electronic datasets are available that account for local and regional differences in the practical uses of historical weights and measures, their development over time, their semantic equivalents in different languages, or their corresponding values in standardized systems of measurement. Moreover, many aspects of the packaging, weighing and measuring of commodities are still largely unknown. Quite a few commodities were measured as pieces, sacks, bales, or the like, which poses yet another set of problems to historians working with sources of pre-industrial international trade: what could have been their weight or volume? In order to find out more about historical metrological practices, one would have to dive

deeper into the rich contents of metrological reference works and address additional archival documents, accounts of eyewitnesses, encyclopaedic descriptions in contemporary sources, or – with some luck – drawings or paintings. Often, however, existing descriptions and images of measurement procedures are not marked as such in existing data repositories. Working with historical weights and measures thus remains a painstaking task.

This issue addresses historical measurement practices and the problems of their analysis from a variety of perspectives. Starting from case studies of machinery exports to Russia (Taipale) and timber exports from the Baltic (Karvonen), the issue continues with a detailed analysis of eighteenth-century invoices as sources for studying the mechanics of international trade (Land). Furthermore, the issue contains an exploratory analysis of the Görlitz customs registers (Ewert) and a methodological paper about capturing metrological data in nineteenth-century historical reference works (Scheltjens and Schlieder). As diverse as these topics may seem, they share a focus on very small, almost invisible data items that require considerable effort to handle them for the purpose of historical analysis. In showing how to develop narratives from these bits and pieces of information, the papers contribute to our understanding of metrological practices in pre-metric times and provide suggestions about the development of digital tools for historical metrology.

The papers in this issue were elaborated in the context of two conferences. In October 2016, an international conference on *Transport statistics in pre- and early industrial economic history* was organised at the Chair of Social and Economic History of the University of Leipzig.¹ Focussing on issues of measurement, the participants discussed the challenges and opportunities of Sound Toll Registers Online. Two spin-offs of this conference, written by Topi Taipale (Tampere) and Lauri Karvonen (Jyväskylä), both former students of conference participant Jari Ojala (University of Jyväskylä), are published in this issue. In the summer of 2022, the International Committee for Historical Metrology devoted a session at the XXIIIth International Congress of the Historical Sciences in Poznań to *the challenges of digital research in economic history*. Karvonen and Ojala also participated in this session, alongside Ulf-Christian Ewert (Munich), Jeremy Land (Gothenburg) and Christoph Schlieder and myself (Bamberg). These gatherings have identified a pressing need for continuing, updating and reconfiguring research on historical weights and measures. The papers in this issue contain the first results of this renewed attention and – hopefully – mark the beginnings of a ‘new’ historical metrology that moves beyond the conversion of units of weight and measure and includes measurement practices and their historical dimensions.

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