Enrico Wegner

e.wegner@maastrichtuniversity.nl

enweg.github.io

Last updated October 13, 2024

Research Interests

Time Series Econometrics, Macroeconometrics, Causality, Bayesian Econometrics

Current Employment

Feb. 2023. - Present

PhD in Econometrics
School of Business and Economics Maastricht University
Research topic: Causal inference in macroeconomics
Supervisors: Stephan Smeekes, Ines Wilms, Lenard Lieb

Professional Experience

Feb. 2022. - Aug. 2022

External Consultant to the Trade and Productivity Statistics Unit
Organisation for Economic Co-operation and Development (OECD)
Developed trade indicators based on AIS satellite data.

Feb. 2022 - Aug. 2022

Research Assistant
School of Business and Economics Maaastricht
Supervisor: Nalan Basturk
Topic: Bayesian Neural Networks for financial risk management.

Jul. 2021 - Jan. 2022

Intern in the Trade and Productivity Statistics Unit
Organisation for Economic Co-operation and Development (OECD)
Updated and evaluated the ITIC and Merchandise Trade Price Index databases.

Apr. 2021 - Jul. 2021

Student Assistant
School of Business and Economics Maastricht
Supervisor: Ines Wilms
Contributed to software and interactive learning material.

Oct. 2020 - Apr. 2021

Teaching Assistant
School of Business and Economics Maastricht

Jan. 2018 - Jan. 2024

Climbing Instructor
University Sports Centre Maastricht

Education

Sep. 2020 - Feb. 2023 **MSc. Economic and Financial Research - specialisation Econometrics**
School of Business and Economics Maastricht
Graduated Summa Cum Laude (GPA 9.43/10)

Sep. 2017 - Aug. 2020 **BSc. Econometrics and Operations Research**
School of Business and Economics Maastricht
Graduated Summa Cum Laude (GPA 9.49/10)

Working Papers

Transmission Channel Analysis in Dynamic Models

with Lenard Lieb, Stephan Smeekes, and Ines Wilms

Abstract: We propose a framework for the analysis of transmission channels in a large class of dynamic models. To this end, we formulate our approach both using graph theory and potential outcomes, which we show to be equivalent. Our method, labelled Transmission Channel Analysis (TCA), allows for the decomposition of total effects captured by impulse response functions into the effects flowing along transmission channels, thereby providing a quantitative assessment of the strength of various transmission channels. We establish that this requires no additional identification assumptions beyond the identification of the structural shock whose effects the researcher wants to decompose. Additionally, we prove that impulse response functions are sufficient statistics for the computation of transmission effects. We demonstrate the empirical relevance of TCA for policy evaluation by decomposing the effects of policy shocks arising from a variety of popular macroeconomic models.

Link: `https://arxiv.org/abs/2405.18987`

Recent Trends in Transport and Insurance Costs and Estimates at Disaggregated Product Level

with Guannan Miao
OECD Statistics Working Papers

Abstract: This paper updates the OECD International Transport and Insurance Cost (ITIC) of Merchandise Trade database, which covers more than 180 countries and partners, and over 1000 products from 1995 to 2020. Transport and insurance costs, also known as CIF-FOB margins, are estimated using a gravity model. A cross-validation procedure is used to evaluate model performance. In addition to describing the methodology, the paper highlights that transport and insurance costs are declining as a fraction of trade value, but this reduction has been flattening out in more recent years. However, an alternative measure, the explicit CIF-FOB margins per kilogramme imported, suggests that transport and insurance costs have been actually rising since 2002. Both CIF-FOB margins and cost per kilogramme imported show increases in 2020 when compared to 2019. This is robust to corrections for compositional changes. The methodology is used to produce the International Transport and Insurance Costs of Merchandise Trade data base and the data is made publically available on .Stat under the International Trade and Balance of Payments heading.

Link: `https://www.oecd-ilibrary.org/economics/recent-trends-in-transport-and-insurance-costs-and-estimates-at-disaggregated-product-level_b5dbab02-en`

Using Unit Value Indices as Proxies for International Merchandise Trade Prices
with Guannan Miao
OECD Statistics Working Papers

Abstract: In light of the need for detailed and timely internationally comparable trade price indices, this paper describes a multi-tiered methodology to mitigate many of the empirical challenges associated with using customs data, to provide more robust estimates of unit value indices (UVIs) by country and product. UVIs are available for both exports and imports, by reporting country and the CPA 2-digit level of classification. Although the approach cannot capture changes in the quality of products nor compositional changes happening at a lower than HS 6-digit classification, the results indicate that at higher levels of aggregation (SITC 1-digit level), estimated UVIs closely follow price changes obtained from other sources. This is observed both for products with significant and rapid quality changes, such as hi-tech products, and for products with a low rate of quality changes, such as commodities, other primary and low-tech goods. Furthermore, products where little quality change occurs over time show similarity between UVIs and price changes from other sources at lower levels of disaggregation. The methodology is used to produce the Merchandise Trade Price Index and the data is made publically available on .Stat under the International Trade and Balance of Payments heading.

Link: `https://www.oecd-ilibrary.org/economics/using-unit-value-indices-as-proxies-for-international-merchandise-trade-prices_27a5abd7-en`

Software

Creator and Maintainer	*TransmissionChannelAnalysis.jl* `https://github.com/enweg/TransmissionChannelAnalysis.jl`
	FredMDQD.jl `https://github.com/enweg/FredMDQD.jl`
	BayesFlux.jl `https://github.com/enweg/BayesFlux.jl`
	BayesFluxR `https://github.com/enweg/BayesFluxR`
Contributor	*bigtime* `https://github.com/ineswilms/bigtime`
Interactive Teaching Material	BigTime `https://github.com/enweg/SnT_BigTime`
	VARs `https://github.com/enweg/SnT_VARS`

Conference Participation and Refereeing

Presentations	Deutsche Bundesbank Vo-Seminar (2024), Cornell statistics seminar (2024), Macro, International and Labour Economics Seminar Maastricht University (2023), European Seminar on Bayesian Econometrics (2022), Econometrics Seminar Maastricht University (2022, 2024)
Posters	The Netherlands Econometric Study Group (2023), European Seminar on Bayesian Econometrics (2023)

Participation	NBER-NSF Time Series Conference (2024), POLICYMETRICS Summer School at Barcelona School of Economics (2024), The Netherlands Econometric Study Group (2023, 2024), European Seminar on Bayesian Econometrics (2022, 2023), Econometric Methods of Climate Change (2023)
Refereeing	Journal of Computational and Graphical Statistics, Empirical Economics, Theory and Decision

Teaching Experience

Tutoring 2023 / 2024	**Probability Theory for BSc. Econometrics and Operations Research** Average tutor grade across tutorials: 9.27/10 **Quantitative Methods 3 for BSc. International Business** Average tutor grade across tutorials: 8.35/10 **Macroeconomics for BSc. Econometrics and Operations Research** Average tutor grade across tutorials: 9.15/10
Tutoring 2022 / 2023	**Probability Theory for BSc. Econometrics and Operations Research** Average tutor grade across tutorials: 9.23/10 **Quantitative Business (Statistics) for BSc. Economics and Business Economics** Average tutor grade across tutorials: NaN (not evaluated due to course structure)
Tutoring 2020 / 2021	**Statistics for BSc. Business Analytics** Average tutor grade across tutorials: 9.73/10 **Statistics for BSc. Business Engineering** Average tutor grade across tutorials: 9.37/10
Bachelor and Master Thesis Supervision	Supervising of theses in BSc. and MSc. Econometrics and Operations Research. Topics included the use of Bayesian Neural Networks for financial risk forecasting, the use of econometric and machine learning techniques for Mixed Marketing Modelling, as well as macroeconometric analysis of monetary policy.

Skills

Software Engineering	• Developed in Python, R, and Julia. • Took projects from research to deployment.

Big Data and Data Bases

- Handled large trade data sets (millions of observations).
- Developed PySpark applications and pipelines.
- Proficient in SQL.