Andrea Titton

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Education

University of Amsterdam — Amsterdam, the Netherlands
PhD in Economics — *Sep 2021 - Expected Jun 2025*
Advisors: Prof. Dr. Cees Diks and Dr. Florian Wagener

Paris School of Economics — Paris, France
Research visit — *May 2023*
Host: Prof. Dr. Agnieszka Rusinowska and Prof. Dr. Mathieu Leduc

Tinbergen Institute — Amsterdam, the Netherlands
MPhil in Economics (Advanced Econometrics Track), Cum Laude — *Sep 2019 - Aug 2021*
Advisors: Prof. Dr. Cees Diks and Dr. Florian Wagener

University of Amsterdam — Amsterdam, the Netherlands
BSc. Economics, Cum Laude — *2016 - 2018*

References

Cees Diks
University of Amsterdam
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Florian Wagener
University of Amsterdam
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Rick van der Ploeg
University of Oxford
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Placement

Eric Bartelsman
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Christina Månsson
Placement Assistant
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Research

Primary fields: Environmental and Climate Economics

Secondary fields: Economic Theory, Industrial Organisation

Job Market Paper

"The Cost of Irreversible and Uncertain Climate Tipping Points", 2024. *Download paper*.

Abstract: Climate tipping points are abrupt, irreversible shifts in the climate system, potentially locking the world into a high-temperature regime that is difficult or impossible to reverse. This paper examines the economic consequences of such tipping points, focusing on the costs associated with their unpredictability. Using an integrated assessment model with a climate system exhibiting a tipping point, I compute optimal abatement policies, assuming the tipping point is imminent or remote. To place a bound on the economic cost of the uncertainty in the tipping point, I compare two scenarios: one where a *wishful thinker* planner erroneously assumes the tipping point is remote and delays abatement, and another where a *cautious* planner assumes incorrectly that the tipping point is imminent. I find that the uncertainty around irreversible tipping points can cost up to 2.36% of world output. Moreover, I show that proceeding with caution,

paying the certain, increasingly affordable costs of abatement today, is cheaper than gambling on the risk of crossing a tipping point.

Submitted Papers

"Endogenous Fragility of Supply Chains and Correlated Disruption Risk", 2023, Under Review. *Download paper*.

Abstract: I model the endogenous formation of supply chains in the presence of correlated disruptions. The incentives of firms to diversify the supply chain risk are concave in the correlation between the disruption events among producers of their input goods. This concavity has consequences for the endogenous formation of the supply chain. If upstream producers are highly diversified, their disruption risk might be correlated, reducing diversification incentives for downstream firms. Because of this mechanism, a small increase in the correlation of risk among upstream producers, due to, for example, offshoring or climate disruptions to economic activities, can generate under-diversification throughout the production network. This creates large welfare losses. Finally, I show that firms gaining more information on their supply chain risk exacerbates such losses.

Work in Progress

"Blurred Price Signals in EU Emissions Trading System" with Alessandro Zona Mattioli, 2024.

Summary: We model firm the link between firms' innovation decisions and the price of EU ETS. We then calibrate the model using French firm level data. We show that large volatility in the price of EU ETS can coordinate firms into postponing the green transition.

"An NLP Analysis Of Institutional Investor's Stance Towards Environmental Sustainability" with Davide Grossi, Alessio M. Pacces, Xinyi Wang, 2023.

Summary: We use natural language techniques to identify influence of institutional shareholders on corporate decision-making.

"Options can stabilise markets" with Donald Hagesteijn and Cars Hommes, 2024.

Summary: We show that trading binary at-the-money put option can stabilise markets and mitigate bubble formation, in asset pricing models with trend-following agents.

Teaching Experience

Lecturer, University of Amsterdam
Economic and Financial Network Analysis (Fall 2024)

Teaching Assistant, University of Amsterdam
Complex Economic Dynamics 2 (Spring, 2023, 2024, 2025)
Complex Economic Dynamics 1 (Fall, 2022, 2023, 2024)
Mathematics 3 - Advanced Linear Algebra (Fall, 2023, 2024)
Mathematics 2 - Real Analysis (Spring 2022, 2024) Economics of Environmental Tipping Points (Spring, 2022)

Teaching Assistant, Tinbergen Institute
Game Theory (Spring, 2021)
Advanced Mathematics (Fall, 2020)

Working Experience

Accurat — Milan, Italy and New York, US
Data Scientist and Engineer — *Jul 2017 – Jul 2018*

Conferences

2024: DEARE (scheduled, the Netherlands), EEA (EUR, the Netherlands, SING 19 (University of Franche-Comté, France), EGU2024 (Vienna, Austria), T2M (University of Amsterdam, The Netherlands), Search and Patrolling Games (Leiden, the Netherlands), Economics PhD Conference (University of Warwick, UK)

2023: EEA (Barcelona, Spain), EPOC conference (University Ca' Foscari, Italy), Dutch Network Science Society Symposium (Leiden, the Netherlands)

Scolarships and Grants

A Sustainable Future Grant (2021) - 10.000€

Tinbergen Institute Scholarship (2019-2022) - 36.000€

Skills

Languages: Italian (native), English (C2), Dutch (B1)

Scientific Programming: Expert in Julia, Python and proficient in Matlab.

Statistical Analysis: Proficient in R, Stata and experienced in EViews

Data Engineering: Proficient in Clojure, Haskell

Software Development: Proficient in Typescript, Haskell