Andrea Titton

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Current Position

University of Bologna — Bologna, Italy
Postdoctoral Researcher — *Nov. 2025*
Hired under the BELIEF project of Prof. Emanuele Campiglio

Education

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

Paris School of Economics — Paris, France
Research visit — *May 2024*
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 — *Sep. 2016 - Aug. 2018*

Research

Primary fields: Environmental and Climate Economics

Secondary fields: Economic Theory, Industrial Organisation

Submitted Papers

"The Uncertainty Premium of Climate Tipping Points", 2024. R&R at JEEM *Download paper*.

Abstract: Climate tipping points are shifts in the climate system that could lock the world into a higher-temperature regime. Many tipping points are characterised by Knightian uncertainty, that is, it is difficult to assign prior probabilities to their occurrence. This paper examines the economic costs of this Knightian uncertainty. To do so, I first derive optimal abatement policies for different tipping point scenarios using an integrated assessment model that includes temperature feedback effects. Then, I develop and compute a tipping point uncertainty premium on the social cost of carbon, as a function of different tipping point scenarios. I find that this premium on the social cost of carbon is between 12%-50% relative to complete-information scenarios. For tipping points triggered below 2.5° above pre-industrial levels, this uncertainty increases the social cost of carbon by between 20 and 40 US$ per tonne of carbon equivalent. Finally, I show that early discovery reduces the premium by 9%. This result illustrates that emission abatement policies in the coming decades are crucial in limiting tipping point risk, as early discovery might only offer moderate mitigation to the cost of uncertainty around tipping points.

"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

"Climate Policy Uncertainty and Delays in the Green Transition" with Sebastian Kreuzmair, 2024.

Summary: We study the role of climate policy setbacks in the incentives of firms to invest in green capital.

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

Summary: We use natural language techniques to identify the 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 options 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