

**Curriculum Vitae – Fall 2024**

Family name: Boldrini  
Given name: Simone  
Gender: male  
Date of birth: 11/11/1998  
Citizenship: Italian  
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**Qualifications**

*PhD in Economics and Finance (Finance track) – Bocconi University (2024 – Present)*  
*MSc in Economic and Social Sciences – Bocconi University (2020 – 2022)*  
*BSc in Finance - Bocconi University (2017-2020)*

**Awards and Scholarships**

*Bocconi PhD Fellowship (4-year).*  
*Bocconi Merit Award (Full tuition waiver for MSc)*

**Research Interests**

*Monetary intermediation*  
*Macro-finance*  
*Climate economics*

**Publications****Policy Papers**

*“Long-Run Sectoral Transition Risk using a Hybrid MRIO/IAM Approach”, joint with G. Krivorotov (2024)*

*Abstract: Increasingly, process-based Integrated Assessment Models (IAM) have been used to project the long-term dynamics of the energy transition. However, as they are focused on modeling energy and land/water use, they have a limited understanding of the full spectrum of economic sectors, including service sectors, which account for half or more of GDP in many advanced economies. This paper introduces a flexible hybrid-LCA-style methodology to downscale IAM sectoral time series to a finer industrial and geographic level using a Multi-Regional Input/Output Table (MRIO). This method produces final energy projections that leverage the time series dynamics arising from the IAM's bottom-up energy system modeling while providing sectoral granularity that accurately depicts indirect supply chain impacts captured by the MRIO. We then translate these measures to output with key elasticity parameters estimated using IEA and EU-KLEMS data. Using the example of the MESSAGEix-GLOBIOM, REMIND-MaGPIE, and GCAM IAMs and EXIOBASE, we generate projections under various transition scenarios across 50 countries and 40 sectors, and identify non-energy sectors with substantial transition downside risks along with sectors showcasing positive economic growth.*

*“The impact of the euro area economy and banks on biodiversity”, joint with A. Ceglar, C. Lelli, L. Parisi, I. Heemskerk, ECB OCCASIONAL PAPER SERIES - No. 335 (2023)*

**Abstract:** Biodiversity – the variety of life on Earth – is essential for sustaining the healthy ecosystems that our economy and banks depend on. Despite the clear benefits of a healthy natural world for people and the economy, humanity is putting immense pressure on nature and biodiversity. Economic activities that rely on healthy nature are often responsible for generating environmental pressures. It is important to assess the impact that firms and financial institutions have on nature degradation, in order to reveal their exposure to transition risk and highlight the need to move towards an economic system that values nature, rather than putting it at risk. This study analyses the contribution of euro area economic activities – and the bank loans provided to enable them – to biodiversity loss by estimating biodiversity footprints. The datasets we use account for approximately €4.3 trillion in corporate loans to around 4.2 million companies located in the euro area, issued by more than 2,500 unique consolidated euro area banks. Considering two primary drivers of biodiversity loss (land-use change and climate change), the results show that the economy has had a significant impact on biodiversity, equivalent to the loss of 582 million hectares of “pristine” natural areas worldwide.

“Living in a world of disappearing nature: physical risk and the implications for financial stability”, joint with A. Ceglar, C. Lelli, L. Parisi, I. Heemskerk, ECB OCCASIONAL PAPER SERIES - No. 333 (2023)

**Abstract:** The loss of biodiversity and the degradation of natural ecosystems pose a significant threat to the broader economy and financial stability that central banks and financial supervisors cannot ignore. To gain further insights into the implications of nature and ecosystem service degradation for financial stability, this study assesses the dependencies of euro area non-financial corporations and banks on different ecosystem services. The study then develops a method to capture banks’ credit portfolio sensitivity to possible future changes in the provision of ecosystem services. Our results show that 75% of all corporate loan exposures in the euro area have a strong dependency on at least one ecosystem service. We also find that loan portfolios may be significantly affected if nature degradation continues its current trend, with greater vulnerabilities concentrated in certain regions and economic sectors.

### Studies abroad

Exchange Program - The Wharton School, University of Pennsylvania (01.2020 – 05.2020)

### Work Experience

#### European Central Bank

Analyst – DG Macprudential policy and financial stability (DGMPF)

Frankfurt am Main, Germany

October 2023 – August 2024

- Contributing to the publication of the phase V NGFS climate scenarios by developing a methodology to enhance sectoral granularity of the current output and improve stress test models.
- Estimation of elasticities of substitution between capital, labor and energy using international multisector datasets and their incorporation with IAM model outputs used in the scenarios.
- Developing the Fit-for-55 scenarios to assess the resilience of the EU financial system during the implementation of the package and the transition to a lower carbon economy.
- Estimation of economic variables and commodity prices across scenarios.

#### European Central Bank

Trainee and Analyst - Counsel to the Executive Board (CCC)

Frankfurt am Main, Germany

September 2022 – October 2023

- Produced two ECB occasional papers that analyse the exposure of Euro Area banks to nature-related risks using financial regulatory data and additional datasets. [Excel, Python, SQL, Git]
- Developed a variety of new methodologies to assess the sensitivity of banks’ portfolios to the depletion of ecosystem services and to climate change.

- Briefed Executive Board members on policy implications of climate and nature-related risk to the economy and the financial sector.
- Produced reports and memos for policy-related work used both internally (non-monetary policy briefing book and documents for EB members) and externally.

**IGIER - Innocenzo Gasparini Institute for Economic Research, Bocconi University**

Milan, Italy

April 2021 - June 2022

Research Assistant to Prof. Mariano Massimiliano Croce, Dept. of Finance

- Contributed to the empirical analysis for a FED International Finance Discussion Paper by collecting, refining, and analyzing data originating from different international datasets.
- Performed econometric analysis (VARs) to understand how shocks to these variables can impact small open production economies using a sample of Western European countries. [Stata]
- Visualized the results using an interactive web dashboard where you can choose the sample, the variable, and the shocks to generate the impulse responses. [Python, Plotly and Dash]

**IGIER - Innocenzo Gasparini Institute for Economic Research, Bocconi University**

Milan, Italy

April 2022 - June 2022

Research Assistant to Prof. Dmitriy Sergeyev

- Assisted in the preparation of surveys aimed at understanding how announcements of fiscal policies are internalized by economic agents and how they impact their expectations. [Qualtrics]

**IGIER - Innocenzo Gasparini Institute for Economic Research, Bocconi University**

Milan, Italy

June 2020 - October 2020

Research Assistant to Prof. Barbara Rindi, Dept. of Finance

- Developed and maintained models which analyze the effects of the variation of the tick size and fees on the qualities of a market and on traders' welfare.
- Improved the previous modelling infrastructure with the implementation of Python which led to more efficient and faster code.

### Language Skills

Italian: Native.

English: C1 (IELTS 8.0)

### IT Skills

**Suite Office:** Professional proficiency - ECDL Full Standard and ECDL Advanced (modules PowerPoint e Excel).

**SQL/Python:** Advanced knowledge

**R/ Stata/MATLAB/Tableau/Latex:** Upper-intermediate knowledge

**Thomson Reuters Eikon - Version 4 & DataStream certifications:** Passed with distinction (November 2020)