

FRANCESCA CHIARADIA

Email – Website – LinkedIn – Bluesky

Office Contact Information

University of St Andrews,
St Leonard's College - The Old Burgh School,
Abbey Walk
St Andrews, KY16 9LB

EDUCATION

University of St Andrews, Ph.D. Economics	2022–2026 (Expected)
University of St Andrews, M.Sc. Economics	2020–2021
KU Leuven, M.Sc Statistics (EMOS), Non-Degree Seeking Student	2019–2020
University of Aberdeen, M.A. (Hons) Business Management & Economics	2015–2019
City University of Hong Kong, Exchange Programme	2016–2017

REFERENCES

Prof. David A. Jaeger

University of St Andrews
david.jaeger@st-andrews.ac.uk

Prof. Miguel Costa-Gomes

University of Edinburgh
miguel.costa-gomes@ed.ac.uk

Prof. Andriy Zapechelnuk

University of Edinburgh
Andy.Zapechelnuk@ed.ac.uk

Dr. Min Zhang

University of St Andrews
mz47@st-andrews.ac.uk

RESEARCH FIELDS

Primary: Innovation, Law & Economics

Secondary: Information Economics

JOB MARKET PAPER

Patent Fees and Legal Status among SMEs: Evidence from the America Invents Act

Awarded: RES Scholar '25; EPIP '25 Mention of Distinction.

Abstract: Patenting at the United States Patent and Trademark Office has traditionally been dominated by large entities. In an effort to mitigate this disparity, Congress recently introduced reforms aimed at lowering patenting costs for small businesses. Although these measures appear beneficial, they remain contested: existing studies indicate that fee reductions can raise filing volumes while diminishing patent quality. Importantly, this critique is derived almost exclusively from analyses of large firms, leaving evidence on the implications for smaller businesses scarce and qualitative in nature. This paper attempts to fill this gap by examining the impact of lower fees on smaller inventors. In March 2013, the America Invents Act introduced a new fee discount for micro entities. Using small firms as controls, I use a matched difference-in-difference design to verify whether lower fees affected the outcome and quality of applications filed by the treated group. The evidence shows that, post-reform, micro entities significantly reduced the quality of their applications and were 37.36-percentage-point less likely to be granted a patent. While effects are stable across individual characteristics, large universities and private firms were worst affected

by the provision. The impact is persistent and spills over to patent continuation, pointing to important consequences for strategic patenting. By retrospectively examining the effects of lower fees on micro entities, this research aims to draw practical implications for the design of future statutory fees.

PUBLICATIONS

Measuring Technological Similarity in the Wine Industry, *Journal of Wine Economics* (accepted).

Abstract: Technological similarity enables wine operators to share best practices, benchmark against industry standards, and identify new areas of innovation. Despite this, measuring similarity is notoriously challenging. In this paper, I use sentence embeddings on wine patent data to show how similarity compares across different models. I validate the results both internally and externally, showing large discrepancies in annual trends. The results underscore the importance of selecting suitable models for market assessment, providing a valuable primer for both wine operators and technologists.

WORK IN PROGRESS

How Did Marriage Shape Invention? Evidence from the Victorian Era

Status: *Analysis in progress.*

Abstract: I combine hand-coded data from patent applications with the English Parish records to study how invention by women patentees changed as a result of their marital status. This question holds significance for two key reasons. First, as reflected in their patenting activity, women made a small but meaningful contribution to the innovation ecosystem. Second, examining the determinants and consequences of women's inventive activity sheds light on the social and institutional constraints shaping innovation outcomes. While preliminary, the evidence suggests that marriage enhanced women's innovative capacity, particularly in the domain of domestic economy. Yet, there is little evidence that these technologies were subsequently commercialised, casting doubts about their ability to secure patent proceeds and translate this activity into major financial gains.

How Does Trademark Law Affect Opposability? Evidence from Europe

Status: *Analysis in progress.*

Abstract: I study the effects of trademark law on opposability proceedings within the European Union. Using a difference-in-differences design, I exploit the exogenous variation generated by Regulation (EU) 2017/1001 (EUTMR), which introduced a new framework for the protection of non-conventional trademarks. In particular, Article 4 abolished the graphical representation requirement that had governed trademark registration since the first directive in 1988. Prior to the reform, non-conventional marks could acquire protection only if they were visually perceptible. Comparing opposability outcomes for conventional marks (*control group*) and non-conventional marks (*treatment group*), I find that the reform had no significant effect on the likelihood of refusal. The results are robust across applicant and examiner characteristics, suggesting that the legal change may nonetheless open opportunities for new forms of intellectual property.

Persuasion and Norm Persistence

Status: *Draft available upon request.*

Abstract: I study a dynamic information design problem à la Albano and Lizzeri (2001) in which a regulator can disclose unobserved quality information as the norms of a population evolve. Under

moral hazard, the regulator sets a pass-fail standard ex-ante. Firms choose whether to produce and sell an asset to a population of consumers. Over time, consumers' purchase decision depends on the signal, others' buying behaviour, and norm evolution. In this paper, I use evolutionary game theory to describe the tension between quality certification and norm persistence, showing that targeted certification can eliminate bad norms and raise consumer welfare.

Evolution in the Wine Industry: A Patent Mining Approach

Status: *Draft available upon request.*

Abstract: Using public data on patents published between 1893 and 2023, I study how the wine industry has evolved over time. Throughout, I leverage textual analysis to build an index of patent quality and use it to evaluate breakthrough innovations. The findings speak to the validity of the current patent system, highlighting some of its shortcomings. Looking at wine through the lenses of patent data may provide a richer sense of context and an improved understanding of current industry trends.

AWARDS, SCHOLARSHIPS, AND GRANTS

Laura Bassi Scholarship (40% waiver)	December 2025
Young Scholar Award Runner-Up, EPIP 2025, Antwerp, BE	September 2025
RES Scholar 2025, Birmingham, UK	July 2025
Shortlisted for <i>AsLEA</i> Best Paper Award for Junior Scholars, Hong Kong, CN	May 2025
RES PhD Conference Travel Grant, Portsmouth, UK	December 2024
Top Three Presentations AAWE 2024, Lausanne, CH	July 2024
SGSSS-ESRC Funded Studentship Award, University of St Andrews, UK	June 2022
Dean's List Award, University of St Andrews, UK	September 2021

PRESENTATIONS

2025	European Winter Meeting of the Econometric Society, University of Cyprus, CY; Brown Bag Seminar, St Andrews, UK; EPIP 2025, University of Antwerp, BE; <i>AsLEA</i> Annual Conference 2025, Hong Kong, CN; RES Annual Conference 2025, Birmingham, UK; AAWE Annual Conference 2025, San Luis Obispo, US; Fife Applied Microeconomics and Golf Conference 2025, Crail, UK; Applied Microeconomics Meeting, University of St Andrews, UK; Annual Conference of the Scottish Economic Society, Glasgow, UK; 3rd Essex PhD Economics Conference, Colchester, UK; RGS Doctoral Conference in Economics, Dortmund, DE; 2025 SGPE Conference, Crieff, UK
2024	Rethinking Economic Theory International Workshop, Athens, GR; RES PhD Conference, Portsmouth, UK; Brown Bag Seminar, St Andrews, UK; GAMES 2024, Beijing, CN; AAWE Annual Conference 2024, Lausanne, CH; RES Annual Conference 2024, Belfast, UK; PhD Presentation and Networking, The Alan Turing Institute, London, UK; 2024 SGPE Conference, Crieff, UK
2023	First-Year Mini Conference, University of Edinburgh, Edinburgh, UK

REFEREING ACTIVITY

63rd Annual Meeting of the Association for Computational Linguistics (ACL 2025)
Scottish Journal of Political Economy

TEACHING

Topics in Microeconomics	September 2023 - Present
<i>Private Tutor</i>	
Essentials of Econometrics	September 2023 - Present
<i>Private Tutor</i>	
Applications of Econometrics	September 2023 - Present
<i>Private Tutor</i>	
Economics 1	September - December 2023
<i>TA for Dr Sean Brocklebank</i>	
<i>Average teaching evaluation of 4.5 on a 5 point scale</i>	

ADDITIONAL INFORMATION

Citizenship: Italy, UK Settled Status

Programming: C++, Git/GitHub, MATLAB, Python, R, Stata, SAS, SQL

Languages: Italian (L1), English (C2), German (B2), Mandarin Chinese (A1)