Cover Letter

Name: Gustaf Dillner
Address: 1001 Iona Tower, E14 7GG London
Phone: +44 7729 518578
Email: gustaf.dillner.22@ucl.ac.uk
Recommendation letter writer: Kalina Manova
Email of writer: k.manova@ucl.ac.uk

Selection Committee
NBER Innovation Research Boot Camp 2025
National Bureau of Economic Research

Dear Sir/Madam,

My name is Gustaf Dillner and I am a third-year PhD student in Economics at University College London (UCL) working under the supervision of Professors Kalina Manova and Thomas Sampson (LSE). I am writing to express my strong interest in the NBER Innovation Research Boot Camp 2025.

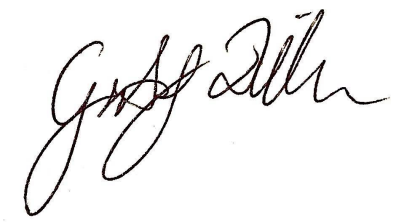
I believe the Boot Camp offers an excellent opportunity to immerse myself in an intellectually stimulating environment, learn from experts in the field, and connect with other ambitious PhD students who share my passion for innovation, knowledge diffusion and growth. As a trade economist, I am particularly interested in how knowledge is diffused and transferred across borders and how globalization affects the innovation choices of the firm. My research essay below explains my research in this area in more detail.

I hope to contribute to the Boot Camp by bringing a global perspective to the discussion. I am particularly interested in the lectures by John van Reenen and Chad Jones. van Reenen's work on trade induced technical change as well as the organization and ownership of firms across countries and what it means for innovation is of particular interest to me. I am also intrigued by Jones's work on idea generation and global long run growth.

My main supervisor and recommendation letter writer is Kalina Manova (UCL, CEP). Her research explores three themes in international economics: global value chains and firm production networks; firm productivity, innovation, and management practices; and financial frictions in international trade and investment. Currently, together with Thomas Sampson, my second supervisor, we have joint preliminary work on global knowledge diffusion at the firm-level.

Thank you for considering my application.

Sincerely yours,



GUSTAF DILLNER

+44 7729 518578 ◇ London, United Kingdom
gustaf.dillner.22@ucl.ac.uk ◇ LinkedIn

Citizenship: Swedish, UK Settled Status

RESEARCH INTERESTS

International economics (trade and macro), innovation, growth

EDUCATION

PhD in Economics, University College London (UCL) September, 2022 -
Supervisors: Kalina Manova (UCL) and Thomas Sampson (LSE)

MSc in Economics for Development, University of Oxford July, 2022

BSc in Economics, Politics and International Studies, University of Warwick July, 2021

WORK IN PROGRESS

Innovation, Market Protection and Export Demand Shocks

Brownfield FDI and Firm-to-Firm Knowledge Flows

Downstreamness and Output Volatility

PRE-DOCTORAL WORK

Exchange Rate Misalignment and Growth in Exports: Lessons from the 1994 CFA Franc Devaluation - **CSAE Working Paper Series**, October 2022. [Link]

PRESENTATIONS AND SEMINARS

Central European University August, 2023
British Conference of Undergraduate Research Apr, 2021
International Conference of Undergraduate Research Sep, 2020

WORK EXPERIENCE

Occasional Research Assistant Centre for Economic Performance (LSE), London October, 2023 -
Line manager: Thomas Sampson

Summer Research Intern Institute of Economic Affairs, London Aug, 2021

Client Solutions Intern FactSet, London Jun - Aug, 2020

Undergraduate Research Support Scheme Researcher University of Warwick Jun - Aug, 2019
Project title: Determinants of Business Cycle Synchronisation in the Common Monetary Area in Southern Africa
Supervisor: Professor Natalie Chen

Volunteer Mathematics Teacher Warwick in Africa, Johannesburg Jul - Aug, 2018

TEACHING

ECON0016 Macroeconomic theory and policy, Undergraduate - UCL 2024-

ECON0002 Economics, Undergradute - UCL 2023-2024

AWARDS AND GRANTS

Full Departmental Stipend, UCL Department of Economics: £ 21,000 (2023)
Winner of Institute of Economic Affairs Monetary Policy Essay Competition: £500 (Title: Will the pandemic be inflationary or disinflationary?) (2021)
Franska Skolans vänners stipendium (Friends of École Française Stipend): 50,000 SEK (2020)
Svensk-Franska stiftelsen (Swedish-Franco Foundation): 24,000 SEK (2020)
Undergraduate Reserach Support Scheme. University of Warwick: £900 (2019)
Bourse Jenny Müller: 3,000 SEK (2017)

SKILLS

Software Stata, Matlab, R, LaTeX, Office
Languages Swedish (native), English (fluent), French (professional), Mandarin (basic)

REFERENCES

Professor Kalina Manova
University College London
k.manova@ucl.ac.uk

Professor Thomas Sampson
London School of Economics
t.a.sampson@lse.ac.uk

Professor Douglas Gollin
Tufts University
douglas.gollin@tufts.edu

Professor Natalie Chen
University of Warwick
n.a.chen@warwick.ac.uk

List of completed and current PhD courses

Completed, 1st year:

- (UCL) ECON0118 Real Analysis and Probability with Economic Applications
- (UCL) ECON0108: Econometrics
- (UCL) ECON0106: Microeconomics
- (UCL) ECON0107: Macroeconomics

Completed, 2nd year:

- (LSE) EC532 International Economics for Research Students
- (UCL) Firm Dynamics
- (UCL) Topics in Applied economics

Completed, 3rd year:

- (LSE) EC551 Economics of Industry for Research Students I

Current, 3rd year:

- (LSE) EC552 Economics of Industry for Research Students II

Research Essay

I am a trade economist with interests in innovation, knowledge diffusion, growth, and global value chains. I use IO and (quantitative) trade tools to investigate how innovation emerges in global markets, how it diffuses between firms and countries along the value chain and how it affects productivity and growth.

In my current working paper *Innovation, Market Protection and Export Demand Shocks*, I investigate whether a demand shock to a firm's exports increases the rate of innovation and if so where this innovation response is concentrated across space, products and time. To do this I use highly detailed global firm-level patent data along with quasi-exogenous export demand arising from spillover effects from the US-China trade war. I draw on new developments in the differences-in-differences literature and find that affected firms increase their rate of innovation proxied by applications in new unique patent families in the product categories affected.

These findings are explained with a basic theoretical framework whereby a larger effective market size both at the firm and product-level implies that a marginal improvement in product expertise yields a higher return and thus the firm has an incentive to increase the knowledge stock to boost product expertise.

I also have preliminary work on brownfield FDI and firm-level knowledge flows. In this work, I explore whether when a firm takes a significant stake in another firm, the knowledge flows between these two firms increase or not. I use patent citations to proxy for these knowledge flows and preliminary results suggest that bi-directional citations do indeed increase following the FDI event. Next, I aim to explore how strong this mechanism is for productivity growth at the firm-level and quantify aggregate productivity gains. Given the movements in FDI in recent years (e.g. collapse in inward Chinese FDI) and policy interventions (e.g. US restrictions on inward FDI), I am also working on structurally estimating counterfactuals from these recent trends.

In light of my work on innovation and knowledge diffusion, I regard the NBER Innovation Boot Camp as the ultimate opportunity for me to immerse myself in an intellectually stimulating environment and learn from experts in the field. The Boot Camp would provide an invaluable opportunity to refine my research and expand my understanding of the broader innovation literature. Engaging with leading scholars in the field would deepen my grasp of theoretical frameworks and empirical methodologies, while discussions with peers would allow me to test my ideas in a rigorous research environment. Additionally, attending the NBER Summer Institute Innovation Policy meeting would expose me to policy debates and empirical findings that could further shape my research agenda.

Lastly, I cannot stress enough how much I value the opportunity to build connections within the innovation research community. I see this as instrumental for future collaborations and professional growth. I am eager to discuss my research with like-minded students and hopefully identify future co-authors.

Dear Brett,

I am writing to wholeheartedly recommend my PhD student, Gustaf Dillner, for the NBER Innovation Research Boot Camp 2025. He is a very promising PhD student with defined interests in policy relevant questions at the intersection of innovation and international trade. This would be a fantastic opportunity for him to deepen and broaden his knowledge of the innovation literature and frontier, and I have no doubt that he would pay that forward by producing high-quality research.

I have been supervising Gustaf for about 2.5 years, first his MRes dissertation and now his PhD dissertation. Gustaf is a very talented, ambitious and hard-working student, and I have every expectation that he will have a successful PhD journey. In fact, I have been so impressed by his clear economic thinking, technical and empirical skills, and independence and work ethic, that I have worked with him as my RA for a year and a half.

Gustaf is driven by interesting questions, and is great at catching up with the literature and researching data sources to generate feasible projects with upside potential. He works well independently, is competent with both empirical analysis and applied theory, and responds to feedback very effectively.

Gustaf's MRes dissertation examined the impact of global value chains on output volatility at the sector level and in the aggregate. His ongoing projects explore the effects of globalization on innovation, a topical question that bridges several literatures at the frontier. In one project for example, he uses the China-US trade war to construct exogenous shocks to US demand for exports from other countries, based on pre-war trade activity. He then evaluates how these export demand shocks affect innovation activity across countries, measured with detailed data on global patent applications. He plans to enrich the analysis in several directions, for example by tracing patent citations to understand knowledge spillovers induced or mediated by international trade.

Please do not hesitate to reach out if I can provide any additional information. Kind regards,

Kalina

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Kalina Manova

Professor of Economics

University College London

www.kalinamanova.com