ISABEL FIGUEIRAS

Cover Letter

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Universitat Pompeu Fabra
C/ Ramon Trias Fargas 25-27, 08005
Barcelona, Spain

February 6, 2025

Dear Admissions Committee,

I am writing to apply to the 2025 edition of the NBER Innovation Research Boot Camp.

I am a PhD candidate in Economics at Universitat Pompeu Fabra (UPF, Barcelona). My research interests lie in macroeconomics, with a focus on international macroeconomics and endogenous economic growth. Being from Southern Europe, I have long been interested in the factors driving labour productivity. Hence, I find this initiative a unique and exciting opportunity to engage with other researchers interested in the economics of innovation.

A letter of recommendation will be sent by Luca Fornaro, Senior Researcher at the Center for Research in International Economics (CREi), Adjunct Professor at Universitat Pompeu Fabra (UPF), and Research Professor at the Barcelona School of Economics.

I appreciate your time and consideration for this opportunity, and I look forward to becoming more involved in the innovation research community.

Sincerely,

Isabel Figueiras

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Curriculum Vitae

Universitat Pompeu Fabra
C/ Ramon Trias Fargas 25-27, 08005
Barcelona, Spain

Email: isabel.figueiras@upf.edu
Phone: (+351) 915 011 748
Nationality: Portuguese

Education

PhD in Economics, Universitat Pompeu Fabra, Barcelona, Spain — 2023 - present
Advisor: Prof. Luca Fornaro

MRes in Economics, Universitat Pompeu Fabra, Barcelona, Spain — 2022 - 2023

MSc in Economics, Barcelona School of Economics, Barcelona, Spain — 2021 - 2022

MSc in Economics, Nova School of Business and Economics, Lisbon, Portugal — 2018 - 2020
Exchange Program, University of Copenhagen, Copenhagen, Denmark

BSc in Economics, University of Porto, Porto, Portugal — 2015 - 2018
Exchange Program, University of Amsterdam, Amsterdam, Netherlands

Research Interests

Primary Fields: Macroeconomics and Economic Growth
Secondary Fields: International Macroeconomics, Innovation

Teaching Experience

Universitat Pompeu Fabra
Teaching Assistant (undergraduate level)

International Macroeconomics II - Prof. Rasim Ahmedov Hyuseinov	Spring 2024
Macroeconomics I - Profs. Isaac Baley and Davide Debortoli	Fall 2023
Microeconomics II - Profs. Miguel de Quinto, Daniel Sanchez and David Puig	Spring 2023
Introduction to Macroeconomics - Prof. Alberto Martin	Winter 2023

Nova School of Business and Economics
Teaching Assistant (undergraduate level)

Calculus II - Profs. Maria Helena Almeida, Patrícia Xufre and Pedro Chaves	Spring 2020

Employment

European Central Bank, Frankfurt, Germany — 2020 - 2021
Trainee - Directorate General Macroprudential Policy & Financial Stability, Systemic Risk & Financial Institutions Division

Fellowships and Grants

Predoctoral Grant (FPI), Spanish Ministry of Science and Innovation	2024 - present
Teaching Assistant Fellowship, Universitat Pompeu Fabra	2022 - 2024
Full tuition waiver and stipend, Barcelona School of Economics	2021 - 2022
Merit Scholarship (DGES), Portuguese Ministry of Education	2020
Nova Fellowship for Excellence, Nova School of Business and Economics	2018 - 2020

Workshops

ISEG Winter School "Firm heterogeneity and production networks", by Glenn Magermann 2025
2nd Summer School of the Journal of International Economics 2024

Policy Work

"Bank mergers and acquisitions in the euro area: drivers and implications for bank performance", with S. Gardó, M. Grodzicki, B. Klaus, L. Lebastard, B. Meller and W. Wakker, *Financial Stability Review*, ECB, November 2021.

Languages and Technical Skills

Languages: Portuguese (native), English (fluent), Spanish (intermediate), French (beginner)
Software & Programming: Matlab, Dynare, RStudio, LaTeX, Stata, SQL

PhD Courses

Universitat Pompeu Fabra, MRes in Economics, 2022 - 2023
(Second year of the PhD program at Universitat Pompeu Fabra)

- Topics in Economic Growth and Development
- Topics in Macroeconomics I
- Topics in Macroeconomics II - Macroeconomic Policy
- Topics in Macroeconomics III - International Trade and Economic Growth
- Topics in Macroeconomics IV - International Finance
- Topics in Macroeconomics VI - Expectations, Asset Pricing and Macro Policy
- The Macroeconomics of Market Power
- Advanced Techniques in Macroeconomics I
- Advanced Techniques in Macroeconomics II
- Advanced Techniques in Macroeconomics III
- Topics in Macrofinance

Barcelona School of Economics, MSc in Economics, 2021 - 2022
(First year of the PhD program at Universitat Pompeu Fabra)

- Advanced Econometric Methods I, II and III
- Advanced Macroeconomics I, II and III
- Advanced Microeconomics I, II and III

Certificates can be found at the end of this document.

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Essay

The productivity gap between the United States and the European Union has been increasing since the 1990s, and European inventions continue to lag behind the frontier (Bergeaud and Verluise, 2022). In addition, convergence between the 12 original countries of the Euro Area (EA) remains incomplete. With this in mind, my research focuses on understanding the effect of economic and financial integration on economic growth and productivity convergence, by studying their impact on firm-level investment and innovation decisions. I am currently working on two projects related to this topic. In future research, I intend to explore how production and innovation networks interact.

In a first project, I ask whether economic integration can foster knowledge diffusion, and how R&D resources should be allocated across sectors, regions, and countries within an economic union. Sector-level growth depends on the research activity of each sector and on the flow of ideas that come from other domestic and foreign sectors (Liu and Ma, 2021). In the case of the EU, decisions regarding R&D could then consider whether it is more welfare increasing to i) increase the innovation activity of individual countries, or ii) allocate funds to the most central countries in the innovation network while improving the ability of other countries to adopt these ideas. I start by constructing the network of patent citations between inventors from different EU regions at the NACE2 level as a proxy for the innovation network. So far, the results show a very limited degree of knowledge spillovers, consistent with the regional and national trade biases found by Santamaría et al. (2023).

In a second project, I study whether financial integration can foster economic growth by focusing on the role of cross-border venture capital flows. Venture capital is crucial to finance innovation and can lead to higher growth compared to traditional sources of financing (Kortum and Lerner, 2000; Bernstein et al., 2016). Moreover, the knowledge generated might flow from domestic start-ups to foreign investors (Akcigit et al., 2024). However, financial integration and the size of the venture capital sector in the EA are still very limited (Beck et al., 2024). I study empirically whether financial integration has fostered venture capital integration and growth in the EA. Then, I build a quantitative endogenous growth model to study the effect of removing some of the frictions that hinder venture capital flows.

Having outlined my research interests and current projects, I believe that the boot camp would provide me with important tools to continue to develop them. For example, it would give me the opportunity to discuss some of the empirical challenges I have been facing. Patent citations continue to be an imperfect measure of knowledge spillovers. Hence, I have been looking for other ways to measure knowledge diffusion and innovation networks, either from research institutions to firms or between firms. Bergeaud et al. (2022) use French data sources to study the transmission of knowledge created in research centres to private firms, but what other datasets could be used to study technology diffusion between firms or across countries? On the theoretical side, most of the models I have covered in PhD courses did not incorporate endogenous productivity growth or innovation. Getting an overview of the theoretical literature could also be useful to spot any contribution that I might have missed.

In sum, I believe the purpose of this boot camp aligns closely with my goals and is very oriented towards tackling some of my knowledge gaps. Participating in this program will also be an exciting opportunity to engage with the innovation research community and connect with experts in the field.

References

Akcigit, U., Ates, S. T., Lerner, J., Townsend, R. R., and Zhestkova, Y. (2024). Fencing off silicon valley: Cross-border venture capital and technology spillovers. *Journal of Monetary Economics*, 141:14–39.

Beck, R., Coppola, A., Lewis, A. J., Maggiori, M., Schmitz, M., and Schreger, J. (2024). The geography of capital allocation in the euro area. Technical report, National Bureau of Economic Research.

Bergeaud, A., Guillouzouic, A., Henry, E., and Malgouyres, C. (2022). From public labs to private firms: magnitude and channels of r&d spillovers.

Bergeaud, A. and Verluise, C. (2022). The rise of china's technological power: the perspective from frontier technologies.

Bernstein, S., Giroud, X., and Townsend, R. R. (2016). The impact of venture capital monitoring. *The Journal of Finance*, 71(4):1591–1622.

Kortum, S. and Lerner, J. (2000). Assessing the contribution of venture capital to innovation. *The RAND Journal of Economics*, 31(4):674–692.

Liu, E. and Ma, S. (2021). Innovation networks and r&d allocation. Working Paper 29607, National Bureau of Economic Research.

Santamaría, M., Ventura, J., and Yeşilbayraktar, U. (2023). Exploring european regional trade. *Journal of International Economics*, 146:103747.

Barcelona School of Economics

E-Transcript

The Barcelona School of Economics, adscribed to Universitat Pompeu Fabra and to Universitat Autònoma de Barcelona, officially recognized by Order IUE/533/2008, of December 5, and published in the Official Gazette (DOGC) number 5278, according to Spanish Organic Law on Universities 6/2001, of December 21, on Universities CERTIFIES that the student with ID or Passport number: **14132311**

Isabel Da Silva Figueiras

officially enrolled during Academic Year **20212022** in the one-year, full-time, entirely taught in English, **Program in PhD Track** at the Barcelona School of Economics, leading to the following qualification awarded by **Universitat Pompeu Fabra**:

Master Degree in Economics and Finance

has obtained the following results:

Academic Term	Code	Subject	ECTS	Mark	Grade
20212022T1	21PD01	Advanced Econometric Methods I	6.0	5.5	C
	21PD02	Advanced Macroeconomics I	6.0	6.0	B-
	21PD03	Advanced Microeconomics I	6.0	7.9	B+
20212022T2	21PD04	Advanced Econometric Methods II	6.0	9.7	A+
	21PD05	Advanced Macroeconomics II	6.0	7.9	B+
	21PD06	Advanced Microeconomics II	6.0	5.8	C
20212022T3	21PD07	Advanced Econometric Methods III	6.0	7.0	B
	21PD08	Advanced Macroeconomics III	6.0	7.8	B+
	21PD09	Advanced Microeconomics III	6.0	7.7	B+
	21PD00	Master Project	6.0	9.4	A

Status: Complete GPA : 7.47 ECTS Earned: 60.0

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14132311 Isabel Da Silva Figueiras

This is an automated e-transcript generated by the student. Oficial Transcripts are printed on special transcript paper and bear the Registrar's signature, the Barcelona GSE seal and the date of issue.

upf. Universitat Pompeu Fabra Barcelona

UAB Universitat Autònoma de Barcelona

Universitat Pompeu Fabra Barcelona

CERTIFICADO PROVISIONAL

PERSONAL ACADEMIC CERTIFICATE

ISABEL DA SILVA FIGUEIRAS

Maria Pilar Carrasco Delgado Aguilera, Head of Academic Management Service,

I HEREBY CERTIFY THAT:

Student's details

According to the documents in the possession of this University, ISABEL DA SILVA FIGUEIRAS, holder of identity document/passport no.14132311, has taken the subjects in the Master of Research in Economics, Finance and Business curriculum listed here below:

Subject (credits / type)	Academic year	Sitting	Mark
31587 **Research Seminar** 10,0 credits (Compulsory); taken in English.	2022/23	January	8,9 Notable
31618 **Seminars I** 4,0 credits (Optional)	2022/23	July	8,0 Notable
31620 **Master Thesis** 10,0 credits (Master Final Project); taken in English.	2022/23	July	8,0 Notable
32029 **Topics in Economic Growth and Development** 3,0 credits (Optional)	2022/23	July	8,1 Notable
32080 **Topics in Macroeconomics I** 3,0 credits (Optional); taken in English.	2022/23	January	8,8 Notable
32081 **Topics in Macroeconomics II** 3,0 credits (Optional); taken in English.	2022/23	April	8,5 Notable
32082 **Topics in Macroeconomics III** 3,0 credits (Optional); taken in English.	2022/23	April	8,0 Notable
32083 **Topics in Macroeconomics IV** 3,0 credits (Optional); taken in English.	2022/23	April	8,3 Notable
32085 **Topics in Macroeconomics VI** 3,0 credits (Optional); taken in English.	2022/23	July	8,8 Notable
32701 **The Macroeconomics of Market Power** 3,0 credits (Optional); taken in English.	2022/23	April	9,5 Sobresaliente



Subject (credits / type)	Academic year	Sitting	Mark
32706 Advanced Techniques in Macroeconomics I 3,0 credits (Optional); taken in English.	2022/23	January	9,3 Sobresaliente
32707 Advanced Techniques in Macroeconomics II 3,0 credits (Optional); taken in English.	2022/23	January	8,8 Notable
32708 Advanced Techniques in Macroeconomics III 3,0 credits (Optional); taken in English.	2022/23	January	8,0 Notable
32712 Topics in Macrofinance 6,0 credits (Optional); taken in English.	2022/23	July	6,8 Aprobado

The grades obtained correspond to the provisions of Royal Decree 1125/2003, of 5 September, using a numerical scale from 0 to 10.

The grading system of Pompeu Fabra University is as follows:
- "Suspenso" (0-4.9), equivalent to 'Fail' or 'D'-'E', indicates an insufficient level of knowledge and competences of the subject.
- "Aprobado" (5-6.9), equivalent to 'Pass' or 'C', indicates a sufficient level of knowledge and competences of the subject.
- "Notable" (7-8.9), equivalent to 'Good' or 'B', indicates a good level of knowledge and competences of the subject.
- "Sobresaliente" (9-10), equivalent to 'Excellent' or 'A', indicates a higher level of knowledge and competences of the subject.
- "Matrícula de Honor" (9-10), equivalent to 'Excellent with honours', granted as a special mention.

This Master of Research in Economics, Finance and Business consists of 60 ECTS.

Summary table of credits:

Type of subject	Credits obtained
Compulsory	10,0
Optional	40,0
Master Final Project	10,0
Total	60

Transcript average

The transcript average is 2,00, on a scale of 1 to 4, calculated in accordance with Royal Decree 1497/1987, of 27 November, as amended by Royal Decree 1267/1994, of 10 June, as amended in turn by Royal Decree 1044/2003, of 1 August.

The transcript average is 8,34, on a scale of 0 to 10, calculated in accordance with Royal Decree 1125/2003, of 5 September.

OBSERVATIONS



Qualification details

The cabinet, at its meeting on 23 November 2012, passed a resolution establishing the official character of the Master's degree of Research in Economics, Finance and Management qualification and its entry in the Registry of Universities, Centres and Qualifications (BOE/ Official State Gazette of 8 February 2013).

University details

Pompeu Fabra University is a state-run university providing higher education by means of study, research and teaching. It acts autonomously.

It is governed by the Organic Law on Universities, the Universities Law of Catalonia and such regulations implementing these laws as may be introduced by central government and the Generalitat de Catalunya, in the use of their respective powers, the law regulating the establishment of the University (Law 11/1990, of 18 June - DOGC/Official Gazette of the Generalitat de Catalunya no. 1008, of 22 June) and its Statutes. It is registered in the Registry of Universities, Centres and Qualifications (RUCT).

And for the record, at the behest of the interested party, I hereby issue this certificate in Barcelona, January 5th, 2025.