Massachusetts Institute of Technology
Sloan School of Management
Jean-Noël Barrot
Assistant Professor of Finance

E62-627
Phone: 617-715-4820
Fax: 617-258-6855
E-mail: jnbarrot@mit.edu
sloan.mit.edu/finance
Administrative Assistant: Ariel Leitao
Tel: 617-715-4178/email: aleitao@mit.edu

March 30, 2015
Letter of recommendation for David COLINO

Dear Thomas,

As you know, I have greatly benefitted from attending the NBER Entrepreneurship Research Bootcamp a few years ago. Since then, I have been actively promoting this program among students with an interest in entrepreneurship. This year, I'm delighted to write a letter for David COLINO to strongly support his application to the Bootcamp. David is now a fourth year PhD Student at the Economics department at MIT, with a strong interest in finance and entrepreneurship. He has an impressive academic track record. Prior to joining the MIT PhD program, he graduated from Ecole Polytechnique, the best engineering school in France. He is therefore a pure product of the French elite "Grande Ecole" system, which has produced a long list of impactful researchers in the field of entrepreneurship including David Thesmar, Augustin Landier, or David Sraer. He also graduated from CEMFI where he was awarded a Prize for the best student in his program. There is thus no need for me to emphasize that David has outstanding quantitative skills. He can understand and handle both empirics and theory with great ease.

I have known David for two years and have had many occasions to interact with him. First, he has been attending and presenting in the corporate finance reading group that we have every week. I have seen him present and discuss both empirical and theoretical papers in a very clear and thoughtful way. I was impressed by his ability to apprehend questions and think on his feet. Second, David and I have been working on a research project which intends to analyze the consequences of an exogenous change in the duration of patent protection. David is both creative and rigorous. He works hard and progresses quickly. While I was initially thinking of hiring him as a research assistant, I quickly decided to promote him as a coauthor, and it has been a real pleasure to work with him. I know that David has also been working as a research assistant for other professors, including Antoinette Schoar, with whom he regularly talks. He has also produced some very promising pieces of research on his own. Let me spend a few minutes describing these projects.

Together with two co-authors from the MIT economics PhD program, David studies how final-good inventories held by firms amplify job destruction during crisis and slow down job recovery. In their model, firms with larger inventory stocks facing unanticipated negative demand shocks exhibit large employment responses and hire less labor during the subsequent recovery, substituting current production for accumulated inventories. They then explore the aggregate consequences of their model in the context of the Great Recession. In particular, they show that counties with a higher share of durable manufacturing (i) suffer larger employment declines during the crisis, (ii) exhibit slower employment recovery profiles, (iii) are less responsive to exogenous positive demand shocks induced by the American Recovery and Reinvestment Act, (iv) and face negative local aggregate-demand spillovers on non-tradables.

These patterns are consistent with the conclusions of their model coupled with imperfect labor reallocation within counties.

In another project closer to the topics of the Bootcamp, David studies how increasing the pledgeability of patents as collateral affects entrepreneurship decisions. Inspired by Mann (2014) he uses a natural experiment that exogenously increased the collateral value of patents in some US states. In some States, court rulings affected the interpretation of patent laws made it easier for creditors to seize collateralized patents from debtors in case of bankruptcy. This shock only affected the seizability of collateralized patents by creditors, and not the enforceability or the intrinsic value of the patent. The treatment should ease credit constraints on entrepreneurs and start-ups that rely heavily on intellectual property (IP) protection, and should also make patenting a more interesting option for entrepreneurs relative to other forms of IP. Therefore, one would expect an increase in first-time inventors filing patents, increases in the use of these patents as collateral, increased mobility of inventors to the treated states, and increased rates of start-up creations and growths. Although his project is still at a very early stage, preliminary results look promising: David finds an increase in the number of establishments in high-tech sectors as a result of the treatment, and the effect is indeed concentrated among smaller-sized establishments.

Finally, I have also interacted with David on a soccer field, as he used to organize weekly games involving graduate students and junior faculty. I can tell you that he is a great team player, and that we had a lot of fun. His drive and enthusiasm will add much value to the next cohort of the NBER Bootcamp. I'm sure that professors and students participating in the program will very much enjoy his company, and that he will make many friends, just like I did.

Overall, I'm confident that David has the potential to be a top researcher in finance and entrepreneurship, and to have impact throughout his academic career. I believe that he will greatly benefit from attending the Entrepreneurship Bootcamp, and I urge you to seriously consider his application, you will not regret it!

Should you need any further information, please do not hesitate to contact me.

Kind regards,

Jean-Noel Barrot



David Colino
897, Main Street #8
02139 Cambridge, MA
Tel: (857)-600-7857
dcolino@mit.edu

March 30, 2015

Dear Sir or Madam,

I am writing to you to apply for the 8th NBER Entrepreneurship Research Boot Camp (ERBC). I join to this cover letter my entire application package, including my personal statement, my CV, and a list of completed PhD courses. Professor Jean-Noël Barrot (MIT-Sloan) will be sending a letter of recommendation directly to Brett Maranjian on my behalf.

I believe the ERBC would provide a great opportunity to further my interests in the entrepreneurship field, by providing a setup in which to brainstorm about new developments in the area and in which to get feedback on my research ideas.

My background as a PhD candidate in the department of economics at MIT qualifies me as a suitable candidate for this workshop. I hold a strong research record, and I am now focusing my efforts on entrepreneurship-related areas.

It is therefore with great enthusiasm that I apply to the ERBC, as it is a remarkable opportunity for someone with my educational background and career goals. I thank you for your attentive consideration and eagerly await your decision.

Yours sincerely,

David Colino

I am a fourth-year PhD student in economics at MIT. I am particularly interested in research in entrepreneurship, and I am confident that my background and research interests qualify me as a suitable candidate for the NBER Entrepreneurship Research Boot Camp (ERBC).

The graduate program at MIT's Economic Department is one of the leading and most highly regarded doctoral programs in economics. As a student here, I took all required courses in microeconomics, macroeconomics and econometrics, as well as field courses in advanced macroeconomics, public finance, organizational economics, industrial organization and finance, the two latter ones being the fields I passed my general examinations in.

On top of my thorough foundational coursework at MIT, I have also gained extensive research experience by working under the supervision of both Xavier Giroud (MIT-Sloan) and Antoinette Schoar (MIT-Sloan). I worked with Prof. Giroud on a study of how taxes affect business location decisions. For this, I hand-compiled a comprehensive panel dataset of tax schedules for fifty US states going back to the 1970s including corporate income tax, apportionment factors, sales taxes, and unemployment insurance rates. This data is to be used together with micro-data from the Census' Longitudinal Business Database to analyze relocations of establishments resulting from tax changes.

As an RA for Prof. Schoar, I worked on a project documenting growth dynamics of small businesses in Latin America using panel data. In particular, we studied the determinants of the striking differentiation between businesses as "gazelles" (fast-growing firms) or "subsistence" firms. I also participated in a joint project with her and David Thesmar (HEC) using the Current Population Survey (CPS) to analyze the evolution of industry-specific wage inequality since the 1960s.

This formative research experience served as a stepping stone to develop my independent research. Building on my work with Giroud and the comprehensive panel data I compiled, I studied business location decisions using the heterogeneity in how various types of taxes differentially affect industries. In another project, I also found evidence of selection biases affecting results in the internal capital market literature. Using extended datasets, I corroborated Judith Chevalier's 2004 result on the existence of interaction terms between the financial covariates of merging firms before the merger actually occurs.

Currently, I am studying how final-good inventories held by firms can amplify job destruction during crises and slow down the subsequent recoveries. Together with two of my colleagues in the PhD program, we model employment decisions by

inventory-keeping firms and show that firms holding larger inventory stocks can exhibit large employment responses after an unanticipated negative demand shock and slower employment recovery profiles, as they substitute current production for accumulated inventories. Exploring the aggregate consequences of our model in the context of the last recession, we find that US counties with a larger share of durable manufacturing (a sector with larger relative inventory stocks) suffer larger total employment drops during the crisis; experience slower employment recovery; are less responsive to exogenous positive demand shocks induced by the American Recovery and Reinvestment Act; and face negative local aggregate-demand spillovers on non-tradable employment. We argue that these patterns are consistent with the conclusions of our model together with imperfect labor reallocation within counties.

On top of the afore-mentioned projects, I have been working on a regular basis with Jean-Noël Barrot (MIT-Sloan) on a range of projects related to patents and IP. As a result, I have gained proficiency in the use of patent data, stemming from various sources (NBER, google patents bulk downloads, etc.) and encompassing various dimensions, such as patent reallocation data, collateralization, renovation, etc. Building on this extensive work, my next research project is to study how patent collateralization affects entrepreneurship. In particular, I plan to investigate how exogenous shocks increasing the seizability of patents by creditors in case of debtor's bankruptcy affect entrepreneurship and innovation. Following Mann (2014), I use court rulings that changed the interpretation of laws regulating the collateral use of patents, and affected states differentially, depending on the creditor-friendliness of their previously defined laws.

I expect such laws to reduce credit constraints on entrepreneurs and start-ups, especially those in technology-intensive sectors relying heavily on intellectual property. I also expect they would make patenting more valuable relative to other forms of IP such as trade secrets. Preliminary results are promising: using data from the County Business Patterns I find increases in the number of establishments in high-tech sectors, an effect concentrated in particular among small establishments, as a result of the treatment. Further outcomes I plan to study include first-time patenting (by both individuals and firms); increases in pledges of patents as collateral by these patent filers; mobility of inventors across state lines; increases in rates of start-up creation and growth; and increased VC funding.

It is therefore with great enthusiasm that I apply to the NBER's ERBC, as I believe it is a clear opportunity for someone with my educational background and research interests. I thank you for your attentive consideration and eagerly await your decision.

David COLINO
897 Main st. Apt#8 (857) 600-7857
02139 Cambridge, MA dcolino@mit.edu
Spaniard, age 28

Educational background

2011 – **MIT**, Cambridge (MA). Currently in 4th year of a **PhD in Economics**. Awarded MIT fellowship.

2009 – 2011 **CEMFI**, Madrid. **Master in Economics and Finance**. Awarded CEMFI Scholarship. Luis Angel Rojo Prize for the **best student**, with an average of 90%.

2006 – 2009 **Ecole Polytechnique**, Paris. France's top-level applied sciences and engineering university. Graduated in Mechanical Engineering.

2004 – 2006 Lycée Kléber, Strasbourg, France. ***Classes préparatoires*** *aux Grandes Ecoles, filière MP*. Intensive post-secondary program specialized in Mathematics and Physics to prepare for the competitive entrance exams to the *Grandes Ecoles* (France's leading schools of science and engineering).

1992 – 2004 **European School Luxembourg**. European Baccalaureate awarded with a grade of 95%. Prize in Mathematics.

Research experience

2015 "A Durable Crisis: The amplification role of durable-good manufacturing on employment losses."

2014 "Cross-industry effects of taxes on business location decisions."

2014 "Evidence of selection bias in internal capital market analysis."

2011 "Optimal risk-sharing in networks", Master thesis.

2011 "Auctions: How to allocate spectrum rights efficiently", ICE nº 81.

Teaching and work experience

2013-2015 TA for 15.024 (Applied Economics for Managers, Sloan Fellows), three years.

2014 Instructor for 14.30 (Introduction to Statistical Methods in Economics, undergraduate level).

2013 TA for 14.01 (Principles of Microeconomics, undergraduate level), 14.271 (Industrial Organization I, graduate level).

2010 **LECG**, Madrid. Internship, 2 months. Work on competition, regulation and merger issues.

2009 "Unemployment volatility, a comparative study of the French and Spanish labor market", under supervision of J.J. Dolado and P. Cahuc.

Other skills

- **French** (native), **Spanish** (native), **German** (fluent, C2 level, ZOP: 233/310 befriedigend), **English** (fluent, TOEFL: 119/120), **Luxembourgish** (medium level).
- Computer skills: Java, Stata and Matlab programming.
- **Honourable mention** awarded at the 2004 International Mathematics Olympiad (**IMO**) in Athens while competing for team Luxembourg.
- Sports: skydiving (over 100 jumps), football and rugby.

David Colino

List of completed PhD courses at MIT:

- 14.121 Microeconomic Theory I
- 14.122 Microeconomic Theory II
- 14.123 Microeconomic Theory III
- 14.124 Microeconomic Theory IV

- 14.451 Dynamic Optimization Methods
- 14.452 Economic Growth
- 14.453 Economic Fluctuations
- 14.454 Economic Crises

- 14.382 Econometrics
- 14.385 Nonlinear Econometric Analysis

- 14.462 Advanced Macroeconomics II
- 14.472 Public Economics

- 14.281 Contract Economics
- 14.282 Organizational Economics

- 14.271 Industrial Organization I
- 14.272 Industrial Organization II
- 14.273 Advanced Topics in Industrial Organization

- 14.416 Introduction to Financial Economics
- 14.441 Advance Financial Economics II (Corporate Finance)