Dear Evaluation committee,

It is with great pleasure that I write this recommendation letter for Luana Zaccaria, a Finance Ph.D. student at the London School of Economics (LSE). Before doing so, I must first apologize for the informality of the letter (email). The LSE has been without electrical power and shut down for 48 hours due to a fire, which means I've had to begin the letter again from scratch on my iPad.

I met Luana when she took my empirical corporate finance Ph.D. course. Since she obtained the highest grade in the course that year, I offered a job as a TA for a paper that involved handling very large volumes of data and she did spectacularly. Not only because she was technically proficient, but also because her questions, comments and suggestions were those of a much more experienced researcher.

At the time, she was working on an applied theory project of her own. I subtly tried to convince her to do empirical work because I thought she had a natural talent for it. I thought I had failed because she continued to present theory papers in the student seminar. But I was mistaken. She was quietly putting together an impressive new dataset, based in the online filings for private security offerings exempt from the securities laws in the US. Even the simple descriptive statistics that she has presented internally suggest that there is a wealth of potential projects that can be done with this data.

With this account of the events I want to emphasize two of Luana's attributes that back my recommendation for boot camp. First, she is a very skilled and entrepreneurial independent thinker. This combination of traits enhances greatly the chances that she becomes a great empirical researcher, and also guarantee that she will make the most out of the boot camp experience. And second, she has invested in producing data that will be useful in providing new insights into the financing activity of entrepreneurial firms in the US. The boot camp environment is the ideal complement for generating ideas for new research projects and partnerships to pursue them using this new data.

The bottom line is that I strongly recommend you consider Luana for a spot in the boot camp, both because of how much she will gain from the experience and how much she can bring to the table and enhance the learning experience of her colleagues. Please do not hesitate to contact me if you have any questions about Luana.

Best regards,
Daniel Paravisini
London School of Economics
<D.Paravisini@lse.ac.uk>

Sent from my iPad

Luana Zaccaria
London School of Economics
Houghton Street, London WC2A 2AE
E: l.zaccaria@lse.ac.uk
T: +447402129330

Dear Madam/Sir,

I am writing to submit my application for the 2015 NBER Entrepreneurship Research Boot Camp. I am a PhD candidate in Finance at the London School of Economics, under the supervision of Dr Daniel Paravisini (whose reference letter has been sent separately) and Dr Amil Dasgupta. I was notified of the opportunity of this workshop by a former participant, Dr Juanita Gonzalez-Uribe (LSE), who advised me to apply on the basis of my strong academic interest for entrepreneurial finance.

My research agenda pursues three main objectives: improving data availability on entrepreneurial finance, exploring dynamics and consequences of early stage financing choices on businesses development and, more generally, investigating the effects of capital availability to new entrepreneurs on broad economic and social indicators, such us employment, education and wealth distribution. While working towards these goals, I recently concentrated my efforts in constructing a novel database for entrepreneurial finance in the USA (as explained in the essay below) which I am eager to share and discuss with other interested researchers. New evidence based on this data will help improve current knowledge of private capital markets for small and recently established firms. The results of my empirical analysis can contribute to the existing literature on dynamics and implications of staged financing and on the effects of angel and VC financing on firm value.

Participating in the NBER Entrepreneurship Research Boot Camp will benefit my understanding of entrepreneurial finance by gaining perspective from experienced academics. It is my hope that the questions and the evidence provided by my preliminary work will effectively contribute to the workshop discussion and possibly stimulate future research collaborations with other participants.

If you have any further questions or require additional documentation, please feel free to contact me. Thank you very much for your time and consideration

Yours sincerely

Luana Zaccaria

LUANA ZACCARIA
London School of Economics and Political Science
Houghton Street, London WC2A 2AE
l.zaccaria@lse.ac.uk
+447402129330

Education

2011- PhD Candidate in Finance
London School of Economics and Political Science, UK

2011 MSc in Finance
London Business School, UK

2005 BSc in Finance and Economics
Bocconi University, Italy

Research Interests

- Corporate Finance, Entrepreneurship, Corporate Governance

Working Papers

- **The Effects of "Love Money": Evidence From Unregistered Offerings (2015).** Using data from unregistered offerings, this paper investigates the effects of capital provision by unsophisticated investors (founder's family and friends) to small, recently established firms. In particular, my analysis focuses on the relationship between early investors and the probability of successfully raising capital in later financing stages. The evidence suggests that, for firms that have unsophisticated investors among their initial capital providers, the probability of securing further financing in private markets decreases dramatically from 20% to 10% on average. This result is robust to model specifications that include a wide range of explanatory variables such as industry, revenue range, year of incorporation, type of security issued as well as time and state fixed effects.
- **Discipline in the Securitization Market (2014)** This paper examines how investor sophistication affects efficiency of credit generation and loan performance. A definition of market discipline is provided: investor sophistication implements market discipline by inducing a subset of participants in the banking sector to adopt safe origination practices. I find that it is never optimal to have a perfectly informed Buy Side participation in a securitization market, as it would constrain high quality credit generation. Furthermore, market discipline is facilitated by high risk free rates and diminished volatility in loan payoffs

Professional Experience and Education

2005-2011 Portfolio Manager in asset management firms (Credite Agricole and Eurizon Capital, Milan) and hedge fund (CR Global, London)

2009 CFA Charterholder

Teaching and RA Experience

FM404 Forecasting Fiancial Time Series (graduate), Class Teacher, 2012-2014
FM422 Corporate Finance (graduate), Class Teacher, 2013-2015
FM436 Financial Economics (graduate), Lecturer (Introduction to Fiancial Statement Analysis) and Class Teacher
AF250 Finance (undergraduate, Summer School), Class Teacher
RA to Dr Daniel Paravisini, 2013-2014

List of completed PhD courses

Microeconomics,Financial Econometrics, Theories of Finance, Empirical Finance, Forecasting Financial Time Series, Contracts and Organizations. (No further course work required)

NBER Entrepreneurship Research Boot Camp 2015. Essay, Luana Zaccaria

Small and young firms have typically been the most financially constrained among producers[1]. In order to raise capital, new entrepreneurs often resort to their personal network or professional investors such as Angels or VC firms, as bank lending is most of the times precluded because of perceived riskiness and lack of collateral. Search costs, information asymmetry and negotiation frictions associated with this form of financing are hardly comparable to issues faced by large, public firms when accessing capital markets. Thus, the study of firm value in relation to financing choices applied to new ventures (entrepreneurial finance) presents specific objectives and challenges. For instance, there is growing evidence on the effects of VC financing on firms performance, as measured by profitability, R&D investments and innovation ability[2]. However, additional mechanisms through which entrepreneurial finance can affect the real sector are difficult to analyse empirically, due, in large part, to lack of extensive datasets, especially on early stage and seed investments.

In order to close this gap, my research agenda pursues three main objectives: improving data availability on entrepreneurial finance, exploring dynamics and consequences of early stage financing choices on businesses development and, more generally, investigating the effects of capital availability to new entrepreneurs on broad economic and social indicators, such us employment, education and wealth distribution. Participating in the NBER Entrepreneurship Research Boot Camp will benefit my understanding of entrepreneurial finance by gaining perspective from experienced academics. It is my hope that the questions and the evidence provided by my preliminary work (briefly summarized below) will effectively contribute to the workshop discussion and possibly stimulate future research collaborations with other participants.

The main issue in approaching entrepreneurial finance from an empirical perspective is that, at the very early stage of investment (Family and Friend and Angel stage), currently available data relies primarily on surveys that only cover a small portion of the total deals and is naturally prone to sampling bias. In order to circumvent this problem, I construct a dataset based on online filings for private offerings conducted in exemption to US securities laws. Securities laws ("Securities Act" 1933, "Exchange Act" 1934) apply to all companies that issue securities. The main purpose of these laws is to protect investors as they enforce transparency and disclosure of companies' business and risk profile. The most common exemption for start-up companies is the so called "private placement" exemption under SEC Regulation D. Angels and VC make their investments by purchasing in these private "unregistered" offerings. Online filing for these offerings (via the so called Form D) has been made mandatory in March 2009. Any Form D filed with the SEC is downloadable from the SEC website and contains information on (among other): issuer's identity (year and state of incorporation, address, industry group, revenue range), related persons (executive officers, directors, promoters), type of securities issued (equity, debt, warrants etc..), offering and sales amount, total number of investors who participated to the offering. By means of an automated routine, I downloaded all forms D that were filed with SEC since March 2009. After cleaning the data in order to account for private placements of listed or well established companies and limited partnership offerings of investment funds, my dataset covers all private capital raising activity (other than bank loans) by non-listed, medium to small size firms. It currently consists of approximately 37 thousands observations for rounds closed between April 2009 and November 2014, and can be easily extended in order to include more recent deals. In order to track early stage investing activity, I constructed a restricted sample that only includes rounds smaller than $6M, as VC firms usually participate in larger, late stage deals[3]. The descriptive statistics on total investments, geographical distribution, deal size and industry breakdown for this subsample match evidence and trends on angel investing highlighted by the Halo Reports (provided by ARI, SVB and CB Insights) for the corresponding years. Using data from unregistered offerings, I am currently investigating the effects of capital provision by unsophisticated investors (founder's family and friends) to small, recently established firms. This work is closely related to existing entrepreneurial finance

[1] Kerr and Nanda [2009] reviews the extensive existing literature that supports this view, as well as recent emipirical evidence that challenges the relevance of financing constraints for entrepreneurship.

[2] For recent evidence on innovation see Gonzalez-Uribe [2014]

[3] Average Series A VC deal size was 6.2$mn, 6.5$mn and 8.6$mn in years 2012, 2013 and in the first three quarters of 2014 respectively, according to Prequin Venture Capital Deals report October 2014.

literature on the effects of angel and VC financing and on dynamics and implications of staged financing[4]. In particular, my analysis focuses on the relationship between early investors and both the probability of successfully raising capital in later financing stages and firm performances.

Firms in their early stage often rely on equity capital raised within the founders' social network (typically family and friends). Since most of the times these individuals don't possess specific finance skills and business management experience, this form of financing does not provide entrepreneurs with the same level of guidance and monitoring offered by professional investors such as angel investors or VC firms. Moreover, having relatives or friends as initial shareholders may affect the management style, for example by inducing too much risk aversion and forgoing profitable growth opportunities. On the other hand, professional investors may have return objectives and investment horizons that differ from the entrepreneur's and that can possibly disrupt business operations by chasing growth too aggressively. Finally, frictions in the negotiation process between entrepreneurs, family and friends and outside investors can hamper expansion projects. The evidence collected so far suggests that, for firms that have unsophisticated investors among their initial capital providers, the probability of securing further financing in private markets decreases dramatically from 20% to 10% on average. This result is robust to model specifications that include a wide range of explanatory variables such as industry, revenue range, year of incorporation, type of security issued as well as time and state fixed effects. Potential drivers for the observed evidence are the presence of unobservable variables (related to selection issues: the "best" companies fulfil their financing needs only with professional investors) or, according to a causal interpretation of the result, the lack of business experience of the shareholders or suboptimal managerial decisions. In order to establish causality, I plan to employ an instrumental variable approach, based on the founders extended family network size. The idea is that the extent to which an entrepreneur can rely on family members for funding is exogenously affected by the number of relatives. I am also collecting data on internet traffic for firms in my sample (following Kerr et al. [2014]). The next steps involve analysing survival rates of firms financed by unsophisticated/professional investors, conditional on subsequent financing events. Interestingly, one further mechanism underlying my preliminary results is related to valuation issues rather than to the intrinsic quality of the issuer. It is a widespread belief in the VC industry that firms with founders' friends and family among their first investors face a tougher capital markets in later rounds because initial valuations are relatively higher[5]. Angels and VC tend to shy away from these companies as "down-rounds" involve more negotiation and legal risks. The existence of such channel is supported by the fact that the "unsophisticated investor effect" vanishes when the sample is restricted to debt security issuances (no valuation has to be produced), to firms that are incorporated in Delaware (lower legal risks) and to firms that operates in states where angel capital supply is higher (more competition). Based on this interpretation, access to late stage financing can be precluded by factors that are unrelated to profitability. Since it is easier to extract surplus from low-valuation firms and capital supply is limited, successful entrepreneurs may be the ones with the least bargaining power (all else equal), rather than simply the "best" ones. One potential implication is that wealth produced by funded firms will mostly accrue to capital providers rather than to the founders, possibly distorting incentives to entrepreneurship.

This last consideration urges some investigation on the link between entrepreneurial finance and welfare distribution. Existing literature provides theoretical and empirical support for the positive role played by financial development in promoting economic growth. Economic intuition and factual evidence indeed suggest that capital mobility allows growth opportunities to be fully exploited by relaxing firms financing constraints. Thus, the benefits of financial development seem to be particularly valuable for firms that have limited financing options. However, theoretical predictions and empirical evidence are ambiguous on how the extra welfare generated by capital availability is more likely to be split among individuals. Entrepreneurial finance can affect income of individuals and wealth distribution through various channels, like effects on wages from changes

[4]See for example Kerr et al. [2014]and Hellmann et al. [2013]

[5]From AngelBlog: "One of the most common ways Friends and Family financings are not fair to the investors is over-valuation."."Over-valuation is one of the most common structural problems angel investors encounter. Angels often have to spend tens, or even hundreds, of hours to rectify the problem before they can invest. Many angels who have done this once swear they will never do it again, so they just walk away."

in labour market competition[6], substitution of human for fixed capital or differences in bargaining power between new entrepreneurs and capital providers, as suggested above. The next project in my research agenda aims at analysing the effects of changes in capital availability for small firms on economic and social indicators such as unemployment and income distribution, by exploiting natural-policy experiments like regulatory changes in accredited investor definition and crowdfunding deregulation. The relevance of this issue is twofold. There is growing evidence that income inequality negatively affects economic growth. If financial development exacerbates inequality, its direct positive effect on growth can be dampened by an indirect impact through inequality, rising questions on sustainability of financial intermediation induced growth. The outcomes of this research exercise might also help inform the definition of financial regulation objectives and reveal possible complementarities between redistribution and financial regulation policies.

References

Thorsten Beck, Ross Levine, and Alexey Levkov. Big bad banks? the impact of us branch deregulation on income distribution. *Journal of Finance*, 65(1637-1667), 2010.

Juanita Gonzalez-Uribe. Venture capital and the diffusion of knowledge. *Working Paper*, 2014.

Thomas Hellmann, Paul Schure, and Dan Vo. Angels and venture capitalists: Complements or substitutes? *Unpublished working paper, Oxford University and University of Victoria*, 2013.

William Kerr and Ramana Nanda. Financing constraints and entrepreneurship. *NBER Working Paper*, November 2009.

William R. Kerr, Josh Lerner, and Antoinette Schoar. The consequences of entrepreneurial finance: A regression discontinuity analysis. *Review of Financial Studies*, 27(20-55), January 2014.

[6]Beck et al. [2010] provides evidence on the effects of bank deregulation in the United States on incomes of lower incomes workers