Vittorio Bassi

http://www.vittoriobassi.com
vittorio.bassi.09@ucl.ac.uk

UNIVERSITY COLLEGE LONDON

Placement Director: Vasiliki Skreta — v.skreta@ucl.ac.uk
Graduate Coordinator: Daniella Harper — daniella.harper@ucl.ac.uk

Contact

Institute for Fiscal Studies
7 Ridgmount Street, London
WC1E 7AE, UK
Tel: +44 (0)77 9420 8393

Personal

Born on February 13, 1987, in Florence (Italy)
Italian and US citizen

Education

PhD Economics, University College London (2011-present)
Expected completion: June 2017
Supervisors: Imran Rasul, Richard Blundell and Costas Meghir
Visiting Assistant in Research, Yale University (2016, spring)

MSc Economics (with *Distinction*), University College London (2010)

BSc International Economics and Management (*Cum Laude*), Bocconi University (2009)
Visiting Undergraduate Exchange Student, Harvard University (2008, fall)

Research Interests

Development Economics, Labor Economics

Teaching Experience

2016, spring: Yale, Econometrics & Data Analysis I, Teaching Assistant for Nicholas Ryan
2011, spring: UCL, Introduction to Mathematics for Economics II, Teaching Assistant for Malcolm Pemberton

Research Assistantships

2010-2011: UCL, Research Assistant (full-time) for Imran Rasul
2009, summer: Bocconi, Research Assistant at Fondazione Rodolfo Debenedetti
2008, summer: Bocconi, Research Assistant at Dondena Centre for Research on Social Dynamics

Honors, Grants and Scholarships

2014: GLM Grant: Asymmetric Information on the Skills of Workers and Matching in the Labor Market: Evidence from Uganda [£157,000; Co-Investigator, PI: Imran Rasul]
2012: PEDL-IZA-DFID Grant: Easing Constraints for Small Firm Expansion in Uganda [£348,600; Co-Investigator, PI: Imran Rasul]
2012: BRAC, Mastercard Foundation and anonymous donors: Expansion of Small Firms and Job Creation for the Youth in Uganda [$1mn, Co-Investigator, PI: Imran Rasul]
2011: PhD Scholarship, Institute for Fiscal Studies (4 years)
2009: Gorman MSc Scholarship, Economics Department, UCL (1 year)

Seminar and Conference Presentations

2016: Yale (Labor/Public Economics Workshop Prospectus & Development Lunch); CEPR European Workshop on Entrepreneurship Economics, Stockholm; Workshop of fRDB Fellows and Affiliates, Siracusa; GLM research network conference, Oxford; IZA/IFAU Conference on Labor Market Policy Evaluation, Bonn; NEUDC, Boston; Simposio de la Asociacion Espanola de Economia (SAEe), Bilbao; Econometric Society Winter Meeting, Edinburgh
2014: GLM Program meeting, Lima
2013: ZEW Family Economics Workshop, Mannheim; Stockholm School of Economics (ENTER seminar)
2012: Queen Mary University of London

Refereeing Activities

European Economic Review

Job Market Paper

Information Frictions in the Labor Market: Evidence from a Field Experiment in Uganda, with Aisha Nansamba (BRAC)

We study how lack of information on the skills of workers affects both employers and job seekers. To do so, we design and implement a field experiment in the Ugandan labor market: through the provision of certifications, we vary whether new information on the *soft skills* of workers is disclosed to both managers and workers during job interviews. We show that both sides of the market react to the information: managers of higher ability update their beliefs on worker's skills, while workers with higher skills revise their outside options upwards. Guided by these facts, we develop a screening model with two-sided updating. The model predicts *non-linear* impacts of the certifications on job offers and hires along the skill distribution, due to differential effects on worker's outside options. In line with these predictions, we find the largest employment gains for workers in the *middle* of the skill distribution. Our estimates of the Internal Rate of Return (IRR) of the intervention range between 9-29%, implying positive welfare gains for the average participant. Motivated by the heterogeneous impacts, we use the model to determine the welfare effects of introducing a mandatory certification policy on soft skills across the entire skill distribution.

Work in Progress

The Returns to Training in a Low Income Country: Evidence from a Field Experiment and Structural Model, with Livia Alfonsi (BRAC), Oriana Bandiera (LSE), Robin Burgess (LSE), Imran Rasul (UCL), Munshi Sulaiman (BRAC) and Anna Vitali (IFS and BRAC)

We evaluate three labor market policies for disadvantaged youth: vocational training, on the job training and firm-worker matching. We do so by implementing a large-scale randomized control trial in urban labor markets in Uganda. Our core contribution is to separate out the returns to each element of training, and to isolate these from the impact of workers being matched to firms. Preliminary reduced form results show that both vocational and on the job training have significant positive impacts on the labor market outcomes of workers. On the other hand, we find no impacts from matching workers to firms. The final part of the analysis develops and estimates a job ladder model of worker search. This sheds light on how training impacts: (i) the arrival of job offers and (ii) the distribution of offered and accepted wages. We use these structural estimates to estimate the internal rate of return (IRR) to each treatment.

The Missing Middle? Experimental Evidence on Constraints to Small Firm Expansion in Uganda, with Oriana Bandiera (LSE), Robin Burgess (LSE), Imran Rasul (UCL), Munshi Sulaiman (BRAC) and Anna Vitali (IFS and BRAC)

It is an established empirical fact that the share of small firms is larger in developing countries [Hsieh and Olken 2014]. This has raised the question of whether small firms face constraints that medium and (especially) large firms are not subject to. We enter this debate by providing experimental evidence on the presence of both credit and labor constraints among a representative sample of SMEs operating in urban Uganda. Our intervention is designed to relax specific constraints related to: (i) access to skilled and unskilled workers – through matching workers and firms; (ii) access to working capital – through wage subsidies; (iii) access to formal credit – through promotion of existing credit programs. By creating experimental variation in constraints related to labor hires we are able to separate out the impact of reducing search frictions from the impact of providing working capital/cash transfers to hire new workers.

Publications

Persuasion: A Case Study of Papal Influences on Fertility-Related Beliefs and Behavior, with Imran Rasul (UCL), forthcoming, ***American Economic Journal: Applied Economics***

We study the persuasive impacts of non-informative communication on the short-run beliefs *and* long-run behavior of individuals. We do so in the context of the Papal visit to Brazil in October 1991, in which persuasive messages related to fertility were salient in Papal speeches during the visit. We use individual's exposure to such messages to measure how persuasion shifts: (i) short-run beliefs such as intentions to contracept; (ii) long-term fertility outcomes, such as the timing and total number of births. To measure the short-run causal impact of persuasion, we exploit the fact the Brazil 1991 DHS was fielded in the weeks before, during and after the Papal visit. We use this fortuitous timing to identify that persuasion significantly reduced individual intentions to contracept by 40% relative to pre-visit levels, and increased the frequency of unprotected sex by 26%. We measure the long-run causal impacts of persuasion on fertility outcomes using later DHS surveys to conduct an event study analysis on births in a five year window either side of the 1991 Papal visit. Estimating a hazard model of fertility, we find a significant change in births nine months post-visit, corresponding to a 1.6% increase in the aggregate birth cohort. Our final set of results measure the *very long run* impact of persuasion on total fertility and document the impacts to be on the timing of births rather than on total fertility.

A Note on Charitable Giving by Corporates and Aristocrats: Evidence from a Field Experiment, with Steffen Huck (WZB and UCL) and Imran Rasul (UCL), forthcoming, ***Journal of Behavioral and Experimental Economics***

Multiple sources of funding are becoming increasingly important for charitable organizations. Donations from corporate donors for example account for 25-35% of charitable income for the largest US charities, across charitable sectors. This note presents some tentative first evidence from a natural field experiment to shed light on how different types of potential donors: individuals, corporates and aristocratically titled individuals, respond to the same fundraising drive. Each donor type was randomly assigned to treatments varying in two dimensions: (i) whether information was conveyed about the existence of an anonymous lead donor; (ii) how individual donations would be matched by the anonymous lead donor. We find that aristocrats are significantly more likely to respond and that corporates give significantly more than individuals. Treatment effects moreover suggest that (proportional) matching is to be avoided for corporate donors.

Explaining Attitudes Towards Demographic Behaviour, with Arnstein Aassve (Bocconi) and Maria Sironi (UPenn), ***European Sociological Review***, (2013) 29 (2): 316-333

In recent decades, Europe has witnessed dramatic changes in demographic behavior manifested by postponement of childbearing, cohabitation replacing marriage together with increased divorce rates. It is often argued, especially in the demography literature, that these new behaviours are driven by fundamental changes in attitudes and value orientations. This article uses data from the third round of the European Social Survey to assess the drivers behind attitudes to demographic behaviour. There are large differences across countries, and we find that economic development is indeed a strong predictor for modern attitudes. However, attitudes towards demographic behaviour correlate with many other country-specific characteristics, some challenging popular wisdom in the demography literature.

References

Professor Imran Rasul
Department of Economics
University College London
30 Gordon Street, London
WC1H OAX, UK
i.rasul@ucl.ac.uk

Professor Richard Blundell
Department of Economics
University College London
30 Gordon Street, London
WC1H OAX, UK
r.blundell@ucl.ac.uk

Professor Costas Meghir
Department of Economics
Yale University
37 Hillhouse Ave, New Haven
06511, CT, USA
c.meghir@yale.edu

Vittorio Bassi
Ph.D. Candidate in Economics
University College London and
Institute for Fiscal Studies

7 Ridgmount Street, London WC1E 7AE, UK
Phone: +44 (0)7794208393
vittorio.bassi.09@ucl.ac.uk
http://www.vittoriobassi.com

NBER Post-Doctoral Fellowship in Entrepreneurship

Research Proposal: "*Labor Market Frictions, Returns to Training and Constraints to Small Firm Expansion in Low-Income Countries*"

I am an applied microeconomist, with primary research interests in Development Economics and Labor Economics. In my current work, I study the role of information and training in labor markets in low income countries.

In my job market paper (with Aisha Nansamba), we fill an existing gap in the literature on labor market imperfections, by studying how lack of information on the skills of workers at recruitment affects *both* job seekers and firms. To do so, we design and implement a field experiment in the Ugandan labor market: through the provision of certifications, we vary whether new information on the *soft skills* of workers is disclosed to both managers and workers during job interviews.

We collect novel data on the outcomes of over 500 face-to-face job interviews, and use this to study how firms and workers respond to the information disclosure. We show that both sides of the market react to the information: managers of higher ability update their beliefs on worker's skills, while workers with higher skills revise their perceived outside options upwards. Guided by these facts, we develop a screening model to link the updating of firms and workers to labor market outcomes, focusing on job offers and hires. The model predicts *non-linear* impacts of the certifications on job offers and hires along the skill distribution, due to differential effects on worker's outside options. In line with the predictions of the model, we find the largest employment gains from the intervention for workers in the *middle* of the skill distribution.

We use evidence on any long-lasting impacts of the intervention to conduct a cost-benefit analysis. We find that even under conservative assumptions the lower bound of the welfare gains for program participants is positive: our estimates of the Internal Rate of Return (IRR) to the certification intervention range between 9% and 29% for the average worker. Motivated by the heterogeneous impacts of the intervention, we use the model to determine the welfare effects of introducing a mandatory certification policy on soft skills across the entire skill distribution.

In addition to my job market paper, I have also devoted time to a number of other projects while in graduate school. In a paper with Imran Rasul (which has just been accepted for publication at the *American Economic Journal: Applied Economics*), we study the persuasive impacts of non-informative communication on the short-run beliefs *and* long-run behavior of individuals. We do so in the context of the Papal visit to Brazil in October 1991, in which persuasive messages related to fertility were salient in Papal speeches. We find that exposure to the Papal messages significantly reduces individual intentions to use contraceptives, and increases the reported frequency of unprotected sex. We further show that this is reflected in a significant increase in births nine months post-visit. Our final set of results document the fertility impacts to be on the timing of births rather than on the total fertility of the women affected by the visit.

In current work (with Livia Alfonsi, Oriana Bandiera, Robin Burgess, Imran Rasul, Munshi Sulaiman and Anna Vitali) we evaluate three labor market policies for disadvantaged youth: vocational training, on the job training and firm-worker matching. We do so by combining a large-scale randomized control trial in urban labor markets in Uganda, together with a structural model of worker search. Our core contribution is to separate out the returns to each element of training, and to isolate these from the impact of workers being matched to firms. We use the structural estimates to estimate the Internal Rate of Return (IRR) to each treatment.

In related work in progress (with Oriana Bandiera, Robin Burgess, Imran Rasul, Munshi Sulaiman and Anna Vitali) we provide experimental evidence on the presence of *both* credit and labor constraints among a representative sample of small and medium enterprises operating in urban Uganda. The intervention we evaluate is designed to relax specific constraints related to (i) access to skilled and unskilled workers, (ii) access to working capital and (iii) access to formal credit. Given our experimental design, we are able to separate out the impact of reducing search frictions from the impact of providing working capital/cash transfers to hire new workers.

In order to answer the different questions posed in these papers, I have embraced a variety of empirical tools. In particular, I have combined the use of reduced form and structural estimation to conduct policy evaluation. In addition, I have gained important experience in designing, organizing and running field experiments in developing countries, and I have established strong links with NGOs in Uganda and Liberia that are eager to implement new research projects.

I plan to draw from all these experiences in my future research: I look forward to using different empirical methods to answer new questions around the functioning of labor markets and firm behaviour in developing countries. In particular, the findings from my job market paper raise a few interesting questions that I plan to pursue around the selection of students into training institutions in developing countries, and the role of such training institutions in the labor market more broadly. In addition, there are a number of extensions to my job market paper and new projects that I am currently developing, which I look forward to discussing with you in more detail.

Yale University

Costas Meghir
Douglas A. Warner III
Professor of Economics
Campus Address:
37 Hillhouse Avenue
New Haven, CT 06511
Telephone: +1 203 432-3558
Fax: +1 203-432-6323
Email: c.meghir@yale.edu

19 November 2016

To whom it may concern

RE: Vittorio Bassi

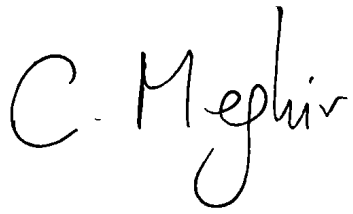
I am delighted to write in support of Vittorio's application. I have known Vittorio for three years now. Having been impressed by him and his work, I recently arranged for him to spend a semester at Yale where he worked on his research, interacted with faculty and taught.

Vittorio is a first rate development economist full of ideas and energy and an ability to get things done. I was particularly impressed by his experiment on the role of revealing certification information relating to the soft skills of the individual to the employer. The issue is relevant because this lack of information can lead to mismatch, high worker turnover and losses both on the firm and the worker side. So the research question is whether an external (and credible) certification agency can improve the quality of matches and ultimately labor market attachment and firm performance. In the context of labor markets in developing countries such as in Uganda, where this is applied, it can be particularly important because information about workers is very noisy. In his experiment there, treatment relates to offering a certificate on social skills following a specially designed test. The question then is how such information, when shown to the firm, affects matching between workers and firms. Vittorio set up the randomized experiment, managed it and analyzed it a skillful and creative way, using the data to answer the research question directly and to draw broader theoretical conclusions. The work demonstrates excellent research skills, from defining the question to executing and analyzing the experiment.

He is highly productive and extremely motivated. Vittorio has been extremely productive. He has a publication under second review at the *American Economic Journal* (with Imran Rasul), as well as joint publications in the Journal of Behavioral and experimental Economics and the European Sociological review. In addition he has a further very promising paper "The Returns to Training in a Low Income Country" (joint authored). He will thus be starting his career as an assistant professor with a substantial research portfolio and a well-defined research direction. Indeed he is a person with an extremely strong will to succeed and the intellect and ability to match. He clearly has a talent for investigating important and interesting questions using field experiments. He also places his results in the context of a theoretical model providing insightful interpretations.

I have talked extensively with him about his work. He has impressed me with his thoughtfulness and his willingness to follow advice. He turns criticism to creative thinking and comes up with an even better model or empirical analysis. His interactions with people around him are excellent and he can work well on his own and in teams. Vittorio will be an excellent appointment and will certainly provide new strengths both from the perspective of empirical microeconomics and Development. I recommend him in the strongest possible terms to all departments, with the possible exception of the top 5.

Yours Sincerely



Costas Meghir

UCL DEPARTMENT OF ECONOMICS

PROFESSOR SIR RICHARD BLUNDELL CBE FBA
RICARDO CHAIR OF POLITICAL ECONOMY

10 October 2016

Dear Chair of Recruiting,

Re: Vittorio Bassi

I am writing in strong support for Vittorio Bassi who has applied for a junior position in your department.

Vittorio is one of the top two or three applied students on the market this year and it is a strong group. He is a highly talented young empirical economist with a strong interest and ability in the study of developing economies. I have known Vittorio for the past five years as his professor in microeconometrics and as his second supervisor for his PhD at UCL. Vittorio completed his PhD course work with distinction passes in all core courses. He has been an outstanding and innovative empirical economist. He has shown himself to be an insightful and reliable colleague. I expect him to complete his PhD very successfully by early summer 2017.

In his second year of PhD studies Vittorio was awarded an IFS PhD Scholarship to finance his studies at UCL. These are highly competitive awards and Vittorio has been leading field experiment research in mechanisms that improve matching between workers and firms in developing countries. This past year he was invited to spend some time as a visiting doctoral at Yale University. He has also taught widely and successfully across the graduate and undergraduate program at UCL.

Vittorio's key interest in his research has been in human capital investment decisions in developing countries and particularly in mechanisms that improve matching between workers and firms. He has been involved in some novel and creative field experiments in Uganda that provide randomised incentives to both sides of the market. This is important work from both an academic and a policy point of view.

In his job market paper Vittorio considers the design and implementation of specific field experiments designed to study information frictions on the skills of workers during recruitment in firms. He focuses on the Ugandan labor market, where he argues such frictions are particularly important, given the lack of credible institutions certifying the skills of workers. The field experiment is very cleverly designed and has two components. The first is a matching component, whereby firms and workers are randomly matched for job interviews. The second is a signaling component, whereby experimental variation is introduced in whether information on the soft skills of workers is disclosed to both the firm and the worker during the job interview process. One of his main substantive findings is that the signaling intervention increases job offers and hires among the sample of firm owners with higher initial cognitive

UCL Department of Economics
University College London Gower Street London WC1E 6BT
Tel: +44 (0)20 7679 5863 Fax : +44 (0)20 7916 2773
r.blundell@ucl.ac.uk

ability. These positive effects are shown to be driven by matches involving workers with a lower level of the skills being signaled. He then develops a screening model with symmetric information, in which workers update their perceived outside option once new information is revealed about their abilities. He shows this accords with the data from the field experiment where high soft skills workers who receive more information about their skills report higher reservation wages and are more likely to be back in training one year after the intervention. The interpretation is that these workers are trying to transition to other jobs where their skills may have higher returns. These results have important specific and general policy implications. Improving the labour market in terms of matching skills enhances productivity as well as improving incentives for human capital. These are key policy objectives for the developing world.

Vittorio has also a number of other research papers, including a brilliant paper with Imran Rasul, which is under revision at a top journal. This work looks at the persuasive impacts of non-informative communication on the short-run beliefs and long run behavior of individuals. They use the context of the Papal visit to Brazil in October 1991 in which persuasive messages related to fertility were salient. Using a clever research design they show that persuasion significantly reduced individual intentions to use contraception by 40% relative to pre-visit levels, and increased the frequency of unprotected sex by 26%. They also derive longer-run implications.

Vittorio's overall research work is mainly in the area of training and human capital in developing countries. In all of this work Vittorio has been an innovator taking a leading role in the whole agenda, from the intervention design, to collecting the data and estimating the model. A remarkable achievement at his point in his research career.

In sum, I enthusiastically recommend Vittorio Bassi for your junior position in any top economics department. I would be happy to provide more detail on any aspect of his research and teaching should that be useful.

Yours sincerely,



Professor Sir Richard Blundell CBE FBA

UCL DEPARTMENT OF ECONOMICS
IMRAN RASUL
PROFESSOR OF ECONOMICS

16 November 2016

Letter of Recommendation for Vittorio Bassi

I am delighted to write this letter of recommendation for Vittorio Bassi, who has applied for a tenure track position at your institution. I am Vittorio's principal advisor on his PhD thesis. The other members of his thesis committee are Richard Blundell and Costas Meghir (Yale). Vittorio is an accomplished applied micro-economist specializing in development and labor economics. He is in the top-tier of UCL students on the academic job market this year (and we have an especially strong group of empirical micro students) and is in the same ability-bracket as the very best placements from UCL in recent years, who have gone into the highest tier of US economics departments.

Vittorio has three complete research papers that I will comment on. The first is his job market paper, "*Information Frictions in the Labor Market: Evidence from a Field Experiment in Uganda*". This studies the adverse selection problem firms face when recruiting workers. While much of the literature has examined the dynamic on-the-job responses as employers learn about worker ability, a smaller literature has studied informational frictions at the point of hiring or screening workers. Vittorio's job market paper adds to this latter stream of literature.

He does so by designing and implementing the following randomized control trial. The intervention randomly assigns small and medium size enterprises (SMEs) that are seeking to fill vacancies, to workers who are seeking employment and have the relevant general skills for the sector of the firm they are matched with. The second layer of randomization occurs at the point of screening/recruitment, so that when workers and firms meet, a random set of these matches have the non-cognitive skills of the worker credibly revealed to both parties. Vittorio shows how this information release causes firms to update their beliefs on the workers match quality, and also for workers to update their beliefs over their reservation wage (as they learn the true returns to non-cognitive skills in the labor market). He shows how the pattern of findings varies heterogeneously both by the non-cognitive ability of workers, and the ability of firm owners.

He then builds on this basic evidence to develop a model of the hiring process that allows for two-sided learning. He shows how revealing information on worker's soft skills impacts equilibrium job offers and job acceptances. He takes the predictions of the model to the data to show information revelation has non-linear impacts across the distribution of non-cognitive skills among workers: very low skilled workers are revealed to be so and do not receive job offers. Very high skilled workers are recognized to be so but then do not receive job offers as they would reject such job offers from the kinds of SME involved in the experiment (as they raise their reservation wage as information is

revealed). Workers in the middle of the distribution of non-cognitive skills are those who receive and accept significantly more job offers as a result of the information friction being relaxed.

In an important robustness check he extends the Heckman selection model to allow for two-sided selection, that occurs in many two-sided matching markets. He shows the core results to be robust to allowing for such two-sided selection.

At the final stage, he conducts a cost-benefit analysis of the intervention: this shows the internal rate of return to vary between 9% and 29% depending on alternative modelling assumptions. He then extends the analysis to conduct a cost-benefit analysis of a counterfactual mandatory policy, and so addresses the issue of the most low-ability workers (in terms of non-cognitive skills) self-selecting out of any accreditation intervention.

This is shaping up to be an important paper in the labor and development literatures, that one that will stand up nicely to comparison with Amanda Pallais' (2014) influential *AER* paper. I also expect it has a good shot at being published in one of the top-5 economics journals. Much of the future work on information frictions in labor markets in low-income settings will cite Vittorio's job market paper. It also shows off many of his skills in blending theory, measurement, econometrics and empirical analysis. I should also emphasize that Vittorio has raised all the funds for the project himself, and coordinated a complex set of relationships between the implementing NGO, other stakeholders and a local research/enumeration team he has built.

Vittorio has a joint paper with me and co-authors on worker training in Uganda, "*The Returns to Training….*", (his job market paper essentially developed out of his work on this joint project). He has played a pivotal role in all aspects on this work. In this paper, we evaluate three labor market policies (vocational training, on-the-job (OTJ) training and firm-worker matching) in a representative sample of urban labor markets in Uganda. The experimental design assigns workers to four treatment groups: (T1) those offered placement of OTJ training with interested firms; (T2) those offered the provision of six months of sector-specific vocational skills training; (T3) as in T2 but workers are then also matched to meet firms who are looking to fill vacancies; (T4) the matching of unskilled workers to firms who have vacancies to fill. Comparing T1 and T2 reveals the differential returns of the two most common forms of training programme utilized in developed and developing countries (OTJ training vs vocational training). T3 and T4 additionally reveal whether information frictions, related to finding workers that are willing to work, or finding workers that are both willing to work and trained, prevent the efficient set of worker-firm matches taking place. The evaluation tracks over 1700 workers from baseline through follow-up surveys after 24 and 36 months.

The reduced form impacts comparing OTJ and vocational training show that: (i) both forms of training have significant impacts on the extensive margin of finding wage employment (by around 25% relative to the C-group); (ii) both treatments have significant impacts on hours workers, hourly wages and total earnings (by at least 30%). These results are robust to allowing for selective attrition using Lee bound estimates. Following Attanasio et al. [2011], we also split the total earnings impacts into those arising from a change in composition of employed workers (extensive margin impacts), and those arising from pure productivity impacts. Our bounds estimates of the productivity impacts

suggest both forms of training have positive productivity impacts, with vocational training having the larger impact on worker productivity. We verify the impacts on hourly earnings and productivity bounds by implementing a practical skills test to workers in all treatment groups. In line with the earlier evidence, this shows vocational training to significantly raise practical skills, both relative to the control group and relative to the workers that were assigned to OTJ training (T1). We find little evidence that there are informational frictions in these urban labor markets relating to firms not having information on workers willing to work (T3), or on workers willing to work and being trained (T4).

Vittorio's contribution was essential in conducting the analysis, running the field experiment and he was the driving force behind the novel practical skills test aspect of the project.

The final part of analysis develops and estimates a structural model of worker job search, where workers make two endogenous choices: (i) how much search effort to exert; (ii) their reservation wage. Using monthly data on labor market histories for workers, we use the experiment to identify the structural model and shed light on how training impacts these two endogenous outcomes through two mechanisms: (i) worker beliefs over the arrival of job offers; (ii) the distribution of offered wages. We use these structural estimates to conduct counterfactual policy analysis, and to estimate the lifetime benefits of training and matching routes into the labor market, and so calculate the IRR of each treatment. Vittorio has played a central role in developing and estimating the structural model.

The project again shows his ability to combine theory and evidence, as well as to be able to usefully combine experimental and structural analysis.

His third main research paper is also joint with me. We study the persuasive impacts of non-informative communication on the short-run beliefs and long-run behavior of individuals. We do so in the context of the Papal visit to Brazil in October 1991, in which persuasive messages related to fertility were salient in Papal speeches during the visit. We use individual's exposure to such messages to measure how persuasion shifts: (i) short-run beliefs such as intentions to contracept; (ii) long-term fertility outcomes, such as the timing and total number of births. To measure the short run causal impact of persuasion, we exploit the fact the Brazil 1991 DHS was fielded in the weeks before, during and after the Papal visit. We use this fortuitous timing to identify that persuasion significantly reduced individual intentions to contracept by 40% relative to pre-visit levels, and increased the frequency of unprotected sex by 26%. We measure the long-run causal impacts of persuasion on fertility outcomes using later DHS surveys to conduct an event study analysis on births in a five-year window either side of the 1991 Papal visit. Estimating a hazard model of fertility, we find a significant change in births nine months post-visit, corresponding to a 1.6% increase in the aggregate birth cohort. Our final set of results measure the very long run impact of persuasion on total fertility. We interpret all these findings through a dynamic model of household behavior that makes precise how unanticipated exposure to persuasive messages impacts contraceptive use, sexual intercourse and the timing of births. Again, Vittorio's contribution and skills have been absolutely central to this research paper (that is now under revision for the *AEJ: AE* journal.).

Vittorio has a very solid understanding of the related literature and specific context in which his research applies to. He shows a tremendous amount of research potential as an applied labor and development economist. He is one of the brightest young prospects in applied microeconomics that UCL has produced in the ten years I have been here. I have co-authored with Andrew Shephard, a UCL graduate who placed at Princeton. I think of Vittorio as being in the same ability-tier as Andrew (as well as other top-10 UCL placements in recent years): like Andrew, Vittorio has a strong combination of reduced form and structural modelling skills, combined with the ability to design, implement and analyse large scale field experiments.

He has already been invited for seminar presentations around Europe, visited Yale Economics in two separate stints, and presented at leading conferences on labor/development economics in Europe and the US. I don't have direct experience of his teaching (he has taught at UCL and Yale), but I expect that Vittorio would be a very good teacher: his seminar presentations are always very clear and logically structured, and he is popular among his peers.

The bottom line with Vittorio is simple: he is an extremely productive, technically sound and creative young researcher. Although it is still early days in his research career, I could easily envisage him becoming a star in applied microeconomics. I recommend him very strongly to all economics departments including the top 5.

Please do not hesitate to contact me should you require any further information.

Yours sincerely,



Imran Rasul.

Professor of Economics, University College London
ESRC Centre for the Microeconomic Analysis of Public Policy (CPP), Institute for Fiscal Studies
http://www.homepages.ucl.ac.uk/~uctpimr/