EARLY CAREER ARTICLE

Attracting international research professionals: evidence from Tuscany

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Economic and social transformations have accelerated global competition for international research professionals (IRPs). Yet, the number of IRPs in the Italian region of Tuscany remains low. What are the causes? This article discusses factors and barriers to sustainable attraction of IRPs in Tuscany. Particular attention is paid to organizational, policy-related, economic and human factors. The article concludes by considering regional-level policies to improve attraction and recruitment potential, and to achieve the ultimate goal of sustainable management of regional research capacities.

Keywords: international migration; international research professionals; location choice; region; Tuscany

Introduction

The development and accumulation of human resources is one of the prerequisites to keep regional research and innovation (R&I) industries highly performing and internationally competitive, and many regions have implemented policies to improve local human capital formation. Yet, policy measures aiming at the attraction and retention of international highly skilled migrants, especially international research professionals (IRPs), remain inadequately developed. The reasons are manifold: regions lack policy powers over international migration, fear global competition for international talent or consider local knowledge institutions responsible for attracting IRPs. Yet, the factors influencing regional IRP numbers, composition and distribution are place-based, both structural (organizational, policy related and economic) and non-pecuniary (professional, personal, cultural, lifestyle preferences).

This study focuses on factors and local incentives influencing IRPs’ migration destination choices, asking how institutional setting and goals, policies, economic conditions and territorial attributes affect IRPs’ destination choice. This is conceptualized in terms of international migration theories and creative class theory; this framework is interrogated via a case study of Tuscany, Italy. Using this case study the paper recommends adopting a detailed analytical framework including elements such as regional research and development (R&D) capacities, reputation and quality of knowledge institutions, career opportunities, as well as remuneration and reward.

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Location choice of migrants

The study combines different theoretical approaches to migrant location choice. In particular, it is grounded in three strands of migration studies: neoclassical theory, migration network theory, and the theory of location decision and lifestyle preferences advanced by Richard Florida.

Neoclassical macro-economic theory argues the most significant factors driving international economic migration are sources: destination salary/employment rate differentials (Borjas, 1989; Todaro, 1976), typically from areas of low salary and high unemployment levels to areas offering high remuneration levels, job opportunities and growth.

Migration network theory argues individuals’ choices are influenced by IRPs’ wider social/professional networks (Vertovec, 2002, 2009), with IRP migration driven and sustained by IRPs’ transnational professional contact networks and their personal ties related to professional career advancement. Vertovec (2002) argues that research professionals ‘enter the migration stream through their own ad hoc networks of colleagues and project collaborators’ (p. 6).

Florida (2008) argues that highly skilled migrants move to innovative, dynamic and cosmopolitan locations to realize their full economic, human and social potential. Cultural amenities, entertainment and recreational opportunities make destination areas attractive for highly skilled people, along with a diverse community, the proximity of talent, good infrastructure and services, and community openness of the community towards new business.

Mahroum (2000) suggests that IRPs ‘are attracted to the nature of the work they are required to do, and the conditions under which they have to conduct their work’ (p. 174). IRPs are attracted by educational opportunities, transparent systems of recruitment and reward, work autonomy, higher living standards, safety, access to infrastructure, openness in communication, and freedom to debate (Organisation for Economic Cooperation and Development (OECD), 2008).

However, none of these theories helps answer the question of how the interplay of different factors and local incentives impact on IRPs’ destination choices. It is contended here that IRPs are affected by a combination of:

- factors at the destination place;
- intervening factors; and
- personal factors.

Destination factors are place-based attributes that make it attractive and desirable for IRPs, and may be institution based or territory based. Institution-based factors include prestige, quality and reputation of the knowledge institution; conditions of employment; working/studying environment; and integration/inclusion. Territory-based factors include economic setting; socio-cultural setting; lifestyle; safety, climate/environment; and infrastructure.

Intervening factors are obstacles or positive forces that stand between sending and receiving places, may be physical, legislative or bureaucratic, and have either positive or negative impacts upon IRPs. There may be an informational asymmetry here, with an IRP tending to know less about negative intervening factors such as physical obstacles, restrictive national legislation or technical barriers, and regarding positive forces such as pro-immigration policies, recruitment programmes, cultural ties, geographical vicinity and language similarity. Finally, personal factors include advancing ones’ professional career, a new lifestyle, experiencing life abroad or change of social position.
Individuals perceive destination locational factors associated in different ways, notably significant differences between male and female research professionals during the course of their career as their professional, personal and family priorities evolve over time. Within Europe IRPs who are European Union citizens can relocate freely from one to other European Union country, whilst non-European Union citizens often require specific visas and formal leave to remain (Figures 1–3).
Investigation in the region of Tuscany

The models identified those most significant elements via a case study of the Tuscany region of Italy. Tuscany represents a good case hosting eight Italian public universities and schools for advanced studies, 17 institutes and 20 territorial sections of the National Research Council (CNR) as well as the European University Institute (EUI), an inter-governmental university established by the decision of European countries in 1976. Tuscany is also famous internationally for its romantic countryside, cultural and historical heritage, seaside resorts, good lifestyle, and delicious food and wine.

The analysis of factors that influence IRPs’ location choice in Tuscany, including destination and intervening factors, drew upon a small-scale survey conducted between June and September 2010. The questionnaire was distributed among 323 IRPs at four schools for advanced studies and research institutes: Scuola Normale Superiore in Pisa (100% received it; 30% response rate), Sant’Anna School of Advanced Studies in Pisa (90% received it; 43% response rate), IMT Institute for Advanced Studies in Lucca (100% received it; 41% response rate), and EUI in Florence (120 individuals received it; 15% response rate). The total response rate was 30%, with 98 people answering the questionnaire.

It should be noted that this method necessarily excludes those IRPs who did not succeed in reaching an academic institution in Tuscany due to institutional, bureaucratic or geographic barriers. This represents a limitation of the study in terms of possible undervaluation of the barriers facing migrant IRPs.

The survey addressed why IRPs choose an academic institution in Tuscany, and how they felt about their decision. Questions focused on their perception of conditions for studying, working and living in Tuscany, alongside their future professional and migration plans. The question ‘Why did you choose this academic institution?’ was a closed question and provided respondents with 14 different options. Reasons were previously established through the literature review, discussed with experts and validated through a number of pilot interviews. Specifically, respondents were asked to rank the reasons that influenced their location decision on a scale of 1 to 5. Table 1 presents the results by question in descending order according to their importance.

To understand the factors better it was necessary to complement the survey with 20 in-depth IRP interviews, and 12 with institutional representatives. Qualitative material
on institutions’ policies, objectives, mission, working and economic conditions was also gathered from official documents. The various forms of data from the web survey, interviews and literature were correspondingly triangulated to identify which migration factors were most significant for IRPs.

Discussion

Quality and prestige of the receiving institution is the most important factor for IRPs, with the presence of renowned professors/academic community and quality of courses/mobility programmes coming second and third respectively. The fourth most important factor is ‘working conditions’, whilst other reasons appear to be less relevant. It was revealing that respondents to the survey considered that whilst economic reasons were important, they were not a crucial reason. Respondents strongly disagreed that ‘family’, ‘friends’ and ‘integration policies’ were reasons for coming to Tuscany. Finally, ‘invitation from a professor’ generated a broad spectrum of answers from strongly agree to strongly disagree.

European Union citizens agreed the relative ease of obtaining immigration documents was one reason for choosing an academic institution in Tuscany. Conversely, non-European Union citizens noted the stressful, time-consuming nature of immigration processes (visa and leave to remain) due to their complicated and bureaucratic nature. However, these complicated immigration policies did not discourage non-European Union citizens from choosing academic institutions in Tuscany (Figure 4).

IRPs’ location choice is influenced by friends, colleagues and other professional experts. Personal and professional experience with studies, work and life in Tuscany is transmitted through informal communication channels (‘word of mouth’) providing information regarding the destination area. Informal information primarily comes from migration networks, with the internet second: friends and colleagues frame IRPs’ opinion on studying and working opportunities, institutional quality, alongside quality of life and cost of living information.

Negative information about the destination area is also transmitted via informal communication channels alongside media, internet or social media, and can discourage IRPs from choosing a specific destination. In the case of Tuscany, analysis of survey, interviews with IRPs and institutional representatives in parallel with the literature revealed a number of local cultural/structural factors negatively influencing IRPs; yet these

| Table 1. Reasons for choosing an academic/research institution in Tuscany. |
|--------------------------------------|---------------------------------------------------------------|
| Quality and prestige of the institution |
| Renowned professors/academic community |
| Quality of doctoral courses/mobility programmes |
| Working conditions |
| Economic reasons |
| Attractive place to live |
| Diversity |
| Invitation from a professor/researcher |
| Security |
| Relative ease of getting a study/work permission and visa |
| Friends |
| Integration policies |
| Family policies |
| Partner/family/relatives who live in Italy |
impact on IRPs only upon their arrival in the region and influence their decision to stay or leave the region. Whereas destination factors are mostly place based, negative intervening factors (obstacles) identified in the case of Tuscany are predominantly national. The issue of a closed scientific/academic labour market is one of these factors. Strong national protectionism in the academic labour market and inadequate immigration policy on highly skilled migration makes it challenging for Tuscan institutions to recruit IRPs. Allesina (2011) highlighted nepotistic practices and the phenomenon of ‘academic barons’ in Italian academia, with Italian immigration law and procedure proving restrictive, inflexible and costly for IRPs. Also, a poor retribution and reward system jeopardizes immigration of IRPs into the region. Severe reductions in public national and regional resources oblige Tuscan institutions to limit teaching and research activities as well as reduce recruitment opportunities. Existing salaries and job security of temporary staff have been diminished. Poor career development opportunities for young IRPs are also salient here: the local and national pool of domestic researchers is large whilst IRPs can barely advance their careers towards tenure, which both exacerbate Tuscany’s closed academic labour market (Allesina, 2011). Neither can the regional production system absorb such a highly skilled workforce in business or government, being based on family-owned or small and medium-sized enterprises and characterized by low demand for workers with a tertiary level of university education (Regione Toscana, Consiglio Regionale, 2008). Poor research infrastructure also negatively impacts on IRPs with insufficient financial resources, restricting access to research resources including laboratories and libraries as well as research funds and international collaborative activities. A final factor may be described as lack of international openness. Italian is the principal language of instruction and research at Tuscan public academic institutes: candidates for permanent academic positions must pass a national public Italian language competition to be eligible for tenure, whilst being required to teach and mentor students in Italian.

Conclusions
Migration theories do not offer convincing explanations of why and how IRPs choose specific destinations. Neoclassical theorists fail to consider differences between various
categories of economic migrants, and the variety of non-pecuniary local factors important to IRPs. Network theory explains how international migration is sustained over time towards specific destinations, but does not take into consideration local factors present at a destination. Finally, Florida’s argument of lifestyle preferences help to overcome some of these shortcomings, but is analytically insufficient to address variations in IRPs’ migration patterns following nationality, life stage or gender.

It is argued here that IRPs migrate internationally because it is intrinsic to their intellectual and scientific work, and their decisions depend on different factors. They head towards those places offering good research and educational opportunities, high-quality research facilities, and human and intellectual capital as well as a supportive working environment. Conversely, territorial settings such as local amenities, climate, lifestyle and an inclusive local community are only of secondary importance. Yet, policies that support and enhance these assets are required at national, local and institutional levels.

To attract IRPs, the regions should understand how organizational, policy-related and economic factors influence IRPs in their territorial immigration decisions. Regions must assess their strengths and opportunities in terms of their knowledge production assets, research potential and working/living conditions whilst also addressing weaknesses impeding inflows of IRPs.

In the short-term, developing and implementing a coherent policy to encourage an inflow of IRPs and ensure their permanence in Tuscany is essential. In the long term, it is critical to encourage private and public investments in research, improve the quality of local research infrastructure, implement international recruitment and improve working standards. It is likewise vital to improve information communication and flow between immigrants, academic institutions and local authorities, provide better access to services for foreigners and rectify Italy’s malfunctioning academic labour market. Alongside are reforms at the national level effectively aligned with regional strategies. It is specifically necessary:

- to ease immigration rules and entitle doctoral students to long-term leave to stay, and non-European research professionals with work authorization to search for a qualified job in Italy;
- to define general guidelines for recruitment procedures and offer competitive economic conditions including fiscal advantages;
- to develop performance appraisals, compensation incentives and other evaluation measures; and
- to address the precarious situation of young researchers.

Lowell (2008) contends that today’s challenge is not implementing policies leading to an overall increase in the size and diversity of research professionals, rather to design well-balanced selection and recruitment policies, alongside mobilization and attraction strategies that can target, attract, and select the most talented and skilled experts.

This article provides a baseline for future research exploring IRPs’ migration tendencies and migration management. Further analysis is necessary to understand which factors influence individuals from different countries, scientific fields, occupational categories and gender. The proposed model would be further enriched by elements of a multi-stage migration choice model to understand better the step-wise process of migration decision, consequently framing effective policy recommendations for local authorities. For example, a more detailed model could help in understanding whether IRPs choose first a region and an institution and only then consider possible
immigration barriers, or if they choose destination country considering possible immigration barriers at national and supranational levels, and only at the later stage do they choose a destination region and institution.

A final topic for future research might be the impact of the global recession on the location choice of IRPs or management of regional research capacities, especially human capital. With fewer resources available for research, knowledge institutions have become more selective towards future grant-holders and researchers, thus making international competition among IRPs for grants fiercer than ever before.

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Notes
1. ‘International research professionals’ in this paper refers to those who hold a master’s or doctoral degree and pursue research activities (and possibly including academic teaching) at academic institutions in a country outside their country of origin. The category includes postgraduate fellows, doctoral students, postdoctoral fellows and tenured academics (researchers/professors).
2. The questionnaire was distributed only among third-year doctoral students, not all doctoral students/research professionals at the EUI.

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