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# Strategies and policy effects in the global talent race: foreign academics in Singapore

Lucie Cerna and Meng-Hsuan Chou

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**Abstract**

This paper addresses the gap between government strategies and policy effects by answering the question: Which factors (e.g. social, economic, academic networks and/or migration policy) are crucial for attracting and retaining international academic talents? Taking the case of Singapore, a country whose universities have consistently risen in global university rankings in recent years, we present the results from a survey of tenured and tenure-track faculty members at the National University of Singapore, Nanyang Technological University, and Singapore Management University. Singapore is certainly not alone in its efforts to attract the 'best-and-brightest' from abroad. The underlying assumption and belief among most governments engaged in the 'war for talent' is that, if the 'right' package can be designed and offered, the 'right' talents will come and stay. Our findings show that for those foreign academics based in Singapore the factors 'able to communicate in English' (both inside and outside of the work environment), 'remuneration package', 'better access to research funding', and 'moving closer to parents' are most crucial in their decision to relocate to Singapore. While the majority of our respondents intend to remain in Singapore, their satisfaction concerning 'cost of living' and 'work-life balance' are significant in their decision to leave Singapore.

**Key words:**
Academia, attractiveness, policy development, retention, Singapore, talent, university

Lucie Cerna
COMPAS, University of Oxford
Email: lucie.cerna@jesus.oxon.org

Meng-Hsuan Chou (corresponding author)
Public Policy and Global Affairs Programme, NTU Singapore
Email: Hsuan@cantab.net or Hsuan@ntu.edu.sg

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## 1. Introduction: talent mobility

Many countries have developed a variety of policies to attract and retain global talents who can bring multiple benefits to the host country, such as greater economic growth, productivity, competitiveness and innovation (cf. Cerna 2014; 2016). Highly-skilled and highly-educated individuals are comparatively very mobile in a globalised world where professional opportunities are less geographically bound (Cerna & Chou 2014). Their mobility, however, has been studied from diverse perspectives due to the overall ambiguity surrounding who is a 'highly-skilled' migrant, or the 'best-and-brightest', or 'talent'. There is no universally agreed definition or measure of skill, and, therefore, *highly*-skilled is a relative concept (MAC 2009: 2014). For instance, 'highly-skilled' migrants are often well-educated, but education levels can range from Bachelors to PhD. They work in 'highly-skilled' occupations, but they may be engineers, information technology specialists, health professionals, or even social science researchers. The salary of 'highly-skilled' workers is generally high, but there are considerable variations across countries, even for the same profession. In our research (see Cerna & Chou 2017), we identified that the term 'talent' has been widely used to describe the top 10% in an organisation (Michaels et al. 2001), as well as refer to different categories including directly productive talents (entrepreneurs, engineers, and other technical talents), academic talents (mobile scientists, scholars, and international students), and talents in social and cultural sectors (mobile doctors and nurses, writers, painters, athletes, and musicians) (cf. Solimano 2008).

In this working paper, we focus on 'academic talents', which we define as referring to those foreign scientists and scholars working in the university sector outside their country of origin, and, increasingly, outside the country of their PhD. Academic mobility allows researchers to gain international experience in order to advance and exchange scientific knowledge, which ultimately promotes their scientific careers (Ackers 2005; Bauder 2012; Morano-Foadi 2005; Katz & Martin 1997). While academic mobility has become an important component of university life, data remains generally sparse concerning how and why academics from across diverse disciplines and nationalities decide to move across borders and take up positions outside their countries of origin and PhD. This challenge associated with migration data is well established, but we argue that, given the centrality of

academic mobility today, greater attention should be directed towards gathering data that would provide a better view of how and why academics move; for instance, the relationship between the frequency of mobility and scientific productivity is rarely tested. In the broader context of the contemporary shift towards knowledge economy and society (Chou et al. 2017a), academic mobility affects the internationalisation of higher education and thus has an important impact on universities and nations. Similar to other sectors competing for talent, universities around the world, often with strong support and steering from governments, are competing for academic talents. This is because academic talents contribute to increasing the reputation of academics institutions and nations, greater productivity and research outputs, and the establishment of certain countries as 'academic centres' in the international higher education landscape (Ortiga et al. 2017).

Since the late 1990s, many governments in Asia have implemented comprehensive reforms in their higher education systems to improve their global competitiveness (Mok 2015). With increasing pressure for global university rankings, governments and universities have adopted different strategies to shape teaching, learning, and research activities, including strategies to attract international faculty (Paul & Long 2016; Mok 2015). From the extant literature, we know that talents are attracted to destinations by economic, social and culture factors, especially higher salaries, but also professional and social networks, language abilities, cultural affinities, and migration policies (McHale & Roger 2008). Nations can influence the admission and attraction of talents through migration policies, but growing literature suggests that migration policies actually play a limited role in practice in attracting talents. We are informed that talents make decisions concerning relocating to a country of destination based on a number of professional and personal factors, including the prestige and quality of an institution, salary, research opportunities, professional and research networks, opportunities for family, language, costs of living and environment (Bauder 2012; Korys 2003; Williams et al. 2004; Stephan 2010; Oliver & Ackers 2005; Toma & Villares-Valera 2015). Self-selection, in short, appears to have a significant impact on guiding decisions of mobility than governments' migration policies (Borjas 1991; Jasso & Rosenzweig 1995; 2009). The effectiveness of skilled migration measures in attracting talents may thus be mostly determined by unobserved factors (cf. MAC 2009: 83). This working paper addresses this gap between government strategies and policy effects by answering the question: Which factors (e.g. social, economic, academic networks,

industry collaboration, and/or migration policy) are crucial for attracting and retaining international academic talents to Singapore?

By addressing the research question, our paper makes two interlinking contributions. First, we contribute to the growing literature on motivations for foreign academic talent mobility (Ackers 2005; Bauder 2012; Franzoni et al. 2012; Guth 2007; Morano-Foadi 2005), in particular on Indian academics abroad (e.g. Toma et al. 2015; Toma & Villeras-Varela 2015) and Chinese academic returnees (Chen 2017; Leung 2013). Second, we contribute methodologically by drawing on a new survey of foreign academics in Singapore, their motivations to come and their aspirations to stay. Increasingly, Singapore is a magnet for foreign academics and students, yet less is known about their motivations to come and stay there based on a comprehensive set of data. In this paper, we shed some light on which factors are important for talent attraction and retention by surveying foreign talents in the academic sector in Singapore across all disciplinary divides. In so doing, we seek to identify whether there are universal factors—such as professional necessity—that attracted them to come to Singapore, and which other factors (related to family and personal fulfilment) are significant. We organised the paper as follows. In the next section, we introduce Singapore's talent migration policies and its higher education sector. In the third section, we describe the research design and methodology. In the fourth section, we present our findings from the survey on talent attraction and talent retention in Singapore. In the concluding section, we discuss the implications of our findings and reflect on the lessons that the case of Singapore offers to identifying and explaining the drivers and dynamics of academic talent migration.

## 2. Academic mobility to Singapore in context

The case of Singapore is interesting in several ways for studies of talent migration policy effectiveness. For instance, foreign talents have been essential to the economic development of the country, which is supported by the overall liberal policy towards highly-skilled migrants until more recently. Singapore is regularly described as 'punching above its weight' in a variety of fields, including the performance of its two comprehensive universities—National University of Singapore (NUS) and

Nanyang Technological University (NTU)—in the international university rankings; it is seen as an academic centre on the rise (Ortiga et al. 2017; Paul & Long 2016). Singapore is also distinctive in terms of the diversity of nationalities in the City State given its cosmopolitan and English-speaking environment.[1] To understand the impressive rise of Singapore's higher education sector, it is important to set these developments within the broader context of Singapore's approach towards talent migration policy.

### *2.1 Singapore's talent migration policy*

Migration has always had a strong role in the social and economic development of Singapore (Hui 1997). Indeed, it is at the heart of the modernisation agenda, launched more than fifty years ago, that contributed to its rapid industrialisation. The late Mr Lee Kuan Yew, the long-serving political leader of Singapore who passed away in March 2015, called the race to attract talent the 'final contest' (quoted in Yeoh & Eng 2008: 238). The government has consistently framed its migration policy as prioritising the recruitment of foreign talents (highly-skilled) rather than foreign labour (low-skilled) (see Yeoh & Lin 2012 for further distinction between these categories). This framing has resulted in migration being less politicised in Singapore in comparison to other countries of migration such as the United States, United Kingdom, and Germany. This has, however, changed dramatically after 2010 when public disapproval of migration in general affected the outcomes of the May 2011 General Election. These pressures continued to intensify due to the difficult economic situation following the 2009 financial crisis (Yeoh & Lam 2016).

While Singapore is clearly interested in nurturing local talents[2] and has successfully attracted foreign ones, skill shortages remain alongside rising domestic discontent and unease with foreign

[1] In 2016, it was estimated that the Chinese remain the dominant ethnicity in Singapore, with 74.3% of the total resident population; the Malays at 13.4%; the Indians at 9.1%; and 3.2% 'Others' (Department of Statistics 2016: 5).

[2] For instance, the government launched the SkillsFuture Initiative in 2015 to encourage lifelong learning among Singaporeans. The programme seeks to 'enable all Singaporeans to develop their fullest potential throughout life'. The idea is to provide subsidies (in special accounts) to all Singaporeans to undertake cours-

manpower. These sentiments have manifested in open opposition to the government's welcoming migration regime and heated reactions to the 2013 White Paper on Population, which set out the argument for substantively increasing inward migration to the already crowded City State. The 2014 enforced Fair Consideration Framework embodies the government's initial response to some of the expressed concerns among Singaporeans. This Framework required that all employers doing business in Singapore advertise positions on the national Job Bank, to which only Singaporeans and permanent residents have access, at least two weeks before wider circulation. In the event that a non-Singaporean is offered the position, companies are asked to justify why a Singaporean was not hired. Companies are exempt from this requirement if they have fewer than 25 employees, if the advertised position is paying at least a fixed monthly salary of SGD 12,000[3] and above, if the job is to be filled by an intra-corporate transferee, or if the position is necessary for short-term contingencies (Ministry of Manpower 2017a). To situate the unease among Singaporeans towards foreign workers, we need to examine the overall composition of Singapore's population and the different migration channels that bring in its foreign manpower, especially the highly-skilled migrants in the academic sector.

### *2.2 Singapore's migrant population and migration channel for foreign academics*

In 2016, non-residents in Singapore made up 29.8% of its total population, an increase from 18.7% in 2000 (Yeoh & Lin 2012; Ministry of Manpower 2017b). These foreign nationals entered Singapore through different migration channels, including 'foreign talent' (those on Employment Passes), 'foreign workers' (those holding work permits), 'foreign domestic workers', and family members of Singaporeans, permanent residents, or 'foreign talents' (Yeoh & Lam 2016). According to the latest available statistics, Employment Pass holders constituted 11% of the total population of foreign nationals (see Figure 1). Employment Pass is for professionals, managers, and executives with rele-

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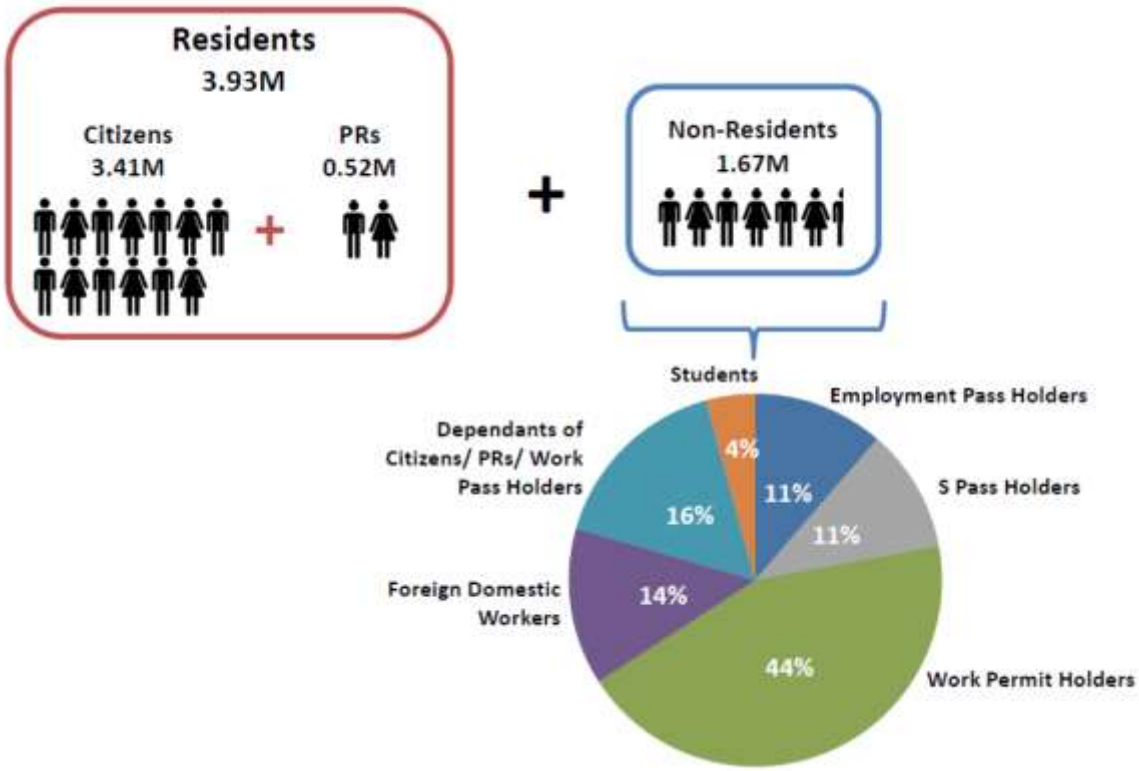
es and studies that would go towards improving their overall professional and life development. For more information, see permanent page here: http://www.skillsfuture.sg/ (accessed 8 August 2017).

[3] This is about €8,820/month (August 2017 conversion).

vant qualifications who have a salary of at least SGD 3,600[4] a month. The minimum salary benchmark increases with age—older workers are expected to meet a higher amount that reasonably matches their experience. Academic talents in Singapore generally possess Employment Passes and usually at the highest category, which has further salary thresholds that must be met (for a thorough discussion of the various Employment Pass categories, see Cerna & Chou 2014).

**Figure 1: Total population and non-residents by permit type in Singapore (as of 2016)**




*Source: National Population and Talent Division, Singapore Department of Statistics, Ministry of Home Affairs, Immigration & Checkpoints Authority (2016: 6). The following note accompanied this figure: 'Numbers may not sum due to rounding'.*

[4] This is about €2,250/month (August 2017 conversion).

Official statistics show that the total number of Employment Passes issued has been increasing since 2012 (see Table 1). The increase in numbers applies to most of the other passes as well, except for work permits, which have been generally stable throughout the last few years. The growing number of passes is particularly interesting because it tells us that in practice the need for foreign manpower—at nearly all skill levels—remains despite the introduction of the 2014 Fair Consideration Framework, which seeks to strengthen the 'Singaporean core' in the workforce. This observation points to broader issues—identity formation among locals and the social integration of non-resident populations—that have long challenged countries of immigration (such as Germany and the United Kingdom) and are now prominent features of Singapore's society.

**Table 1: Size of foreign workforce in Singapore, by category (2012-2016)**

| Pass Type | Dec 2012 | Dec 2013 | Dec 2014 | Dec 2015 | Dec 2016 |
|---|---|---|---|---|---|
| **Employment Pass (EP)** | 173,800 | 175,100 | 178,900 | 187,900 | 192,300 |
| **S Pass** | 142,400 | 160,900 | 170,100 | 178,600 | 179,700 |
| **Work Permit (Total)** | 942,800 | 974,400 | 991,300 | 997,100 | 992,700 |
| **- Work Permit (Foreign Domestic Worker)** | 209,600 | 214,500 | 222,500 | 231,500 | 239,700 |
| **- Work Permit (Construction)** | 293,300 | 318,900 | 322,700 | 326,000 | 315,500 |
| **Other Work Passes**[2] | 9,300 | 11,300 | 15,400 | 23,600 | 28,300 |
| **Total Foreign Workforce** | **1,268,300** | **1,321,600** | **1,355,700** | **1,387,300** | **1,393,000** |
| **Total Foreign Workforce (excluding Foreign Domestic Workers)** | **1,058,700** | **1,107,100** | **1,133,200** | **1,155,800** | **1,153,200** |
| **Total Foreign Workforce (excluding Foreign Domestic Workers & Construction)** | **731,300** | **748,100** | **764,500** | **780,300** | **787,800** |

*Source: Ministry of Manpower (2017b). Note: 'Data may not add up to the total due to rounding. 'Other Work Passes' includes Letter of Consent (LOC) and Training Work Permit (TWP). Training Employment Pass (TEP) was included in the 'Other Work Passes' from March 2014 onwards'.*

### *2.3 Singapore's academic sector*

Singapore's drive to recruit the 'best-and-brightest' from around the world can be situated in the broader context of how Asian governments have sought to transform their universities in the last few decades (Ortiga et al. 2017). Government leaders understand that higher education is an important ingredient in the economic and social development of their country because globalisation forces, technology, and high-speed communications have created a need for highly-skilled leaders (Mok 2015). 'Singapore's universities, in particular, have emerged as major players within international knowledge networks, cementing the country's status as an "aspiring centre" in the global hierarchy of universities' (Ortiga et al. 2017: 2).

Singapore has been a popular model for academic centres in countries seeking to climb the international hierarchy of universities, given the rapid development of its local universities into key sites for knowledge production and innovation (Sidhu, Ho & Yeoh 2011). Part of this development has been the persistent recruitment of faculty from the top universities around the world, making Singapore a major player in the competition for academic talent (Ng 2013). In the latest *Times Higher Education* World and Asia editions of university rankings, Singapore's flagship universities are ranked highly: NUS stands as the world's 22$^{nd}$ and Asia's first, and NTU is ranked 52$^{nd}$ in the world and fourth in Asia (Times Higher Education 2017a; 2017b). Through its approach of 'centralised-decentralisation' (Ng 2017), the government has tasked key institutions with attracting global talents to Singapore while cultivating domestic talents. Singapore's position in the global higher education landscape has drawn considerable attention from policymakers and university administrators around the world interested in unleashing their very own sectoral transformation.

Singapore's universities are very diverse in terms of the ethnicities of their student and faculty composition. It is estimated that over 60% of academics in universities across Singapore are foreign born (Chia & Kang 2014; Paul & Long 2016; Gopinathan & Lee 2011). In the 2017 Times Higher Education International Ranking, Singapore was ranked first in terms of reputation and international approach. Considering individual universities, NUS was ranked the 4$^{th}$ most international university in the same ranking (Times Higher Education 2017c). These assessments reflect Singapore's and its

universities' global approach to education and research. In the next section, we turn to the research design and methodology before examining the survey data to see what they tell us about the overall effectiveness of the Singaporean talent migration approach.

## 3. Research design and methodology

Our study focuses on the academic sector to reflect the global competition for talent for analytical and practical reasons. Analytically, we observe that most universities around the world have increasingly been playing an important role in the domestic and regional economy's transition towards knowledge economy. In the case of Singapore, universities are tasked to build and enhance national research and innovation capacities—key ingredients in the global knowledge competition. What we are seeing is a manifestation of one role that universities, as knowledge institutions, must fulfil: as a tool for enhancing the competitiveness of Singaporean science and higher education (cf. Chou & Gornitzka 2014 for the same approach in Europe). Indeed, Singaporean universities must now meet several sets of demands that may have difficult-to-reconcile objectives: as a foundation for knowledge economy, as an embodiment of a knowledge society, and as an instrument for 'smart' policies. By concentrating on the academic sector, our study will link migration studies with the established body of academic research about the changing roles of universities, higher education, mobile scientists and research administrators in contemporary politics (cf. Chou 2016; Maassen & Olsen 2007; Ng 2013). Practically, our approach allows us to access and use publicly available data; this is very important as it enables the replication and follow-up of our research.

The empirical component of this study is focused on identifying the factors—social considerations, economic attractions, academic networks, industry collaboration, migration policy—crucial for attracting foreign academic talents to come to Singapore and for them to maintain a link with local knowledge producers and users. Singapore has made strong efforts to attract the 'best-and-brightest' from abroad by liberalising its migration policy, offering attractive salaries and benefit packages, as well as providing professional opportunities in a diverse and multilingual society. At the same time, while there has been scholarly interest on issues concerning foreign talents in Sin-

gapore (Beaverstock 2011; Gomes 2014; Koh 2003; Ng 2010; 2013; Yeoh & Huang 2011; Yeoh 2013), the lack of systematic data (either publicly available[5] official data or from academic research) prevents us from having a more comprehensive description and explanation of how and why foreign academics decide to move to work and reside in Singapore. For instance, we lack data that might tell us whether mobility decisions are consistent across nationality groups, age groups, gender, and career stages.

As a first step[6], a database of tenured and tenured-track faculty employed between July and November 2015 at three autonomous universities in Singapore— NUS, NTU, and Singapore Management University (SMU)—was created. Specifically, the following details were collected: (a) basic profile (name, title, gender), (b) education background, (c) industry experience (for Science, Technology, Engineering, and Maths—STEM—fields), (d) community and international organisation engagement (for non-STEM fields), (e) grants received (the quantum, if available), and (f) employment history (if possible, 4-6 employment histories). After cleaning the data, the database contained 2,691 unique individual records of tenured-track faculty in Singapore.

Next, we created a survey consisting of several sets of questions, ranging from the survey participants' mobility and work experience, migration and family statuses, personal and professional reasons for relocating to Singapore, personal and professional satisfaction with their experience in Singapore, collaboration with industry or non-university collaboration, and mobility aspirations for the future. The questions represented the themes of interest for our project and were informed by an exploratory study conducted earlier through in-depth interviews with 20 respondents across the three universities. A further pilot survey with 29 respondents was carried out before the survey was officially launched in November 2015. We implemented the survey using *Qualtrics*. All the respondents received the same set of questions, posed in the same order.

[5] Government data on foreign talent exists, but the disclosure of such information is under strict scrutiny, as set by the Singapore Statistics Act.
[6] For more details of our methodology, please refer to Chou et al. (2017b).

In total, 707 faculty members (26%) responded to our survey, with 616 completing the survey, and 91 partially completing the survey. Among our 707 faculty respondents, close to 40% received their PhD degrees prior to 2000, with the majority of the remaining 60% receiving their doctoral degrees between 2004 and 2013. The most common PhD granting institutions were based in the United States, the United Kingdom, Singapore, Australia, and Canada. The vast majority of the respondents held academic positions in higher education institutions or research centres and laboratories before coming to Singapore. In terms of the numbers of years our respondents had worked in Singapore, we found similar distribution between those who had worked in Singapore for more than nine years (up to 2015), and those who had worked less than or equal to nine years. We received the most responses from faculty members in engineering, followed by those based in the social and behavioural sciences, physical sciences and mathematics, arts and humanities, and business. In the next section, we turn to the main findings from our survey to examine the factors that motivated academics to relocate to Singapore and, more importantly, whether they want to remain in the City State.

## 4. Singapore: what attracts and retains academic talents?[7]

Two of the key challenges facing nations, organisations, and companies in the international competition for talent are: how to attract foreign talents and how to retain them once successfully recruited? To address these questions in our case, it is essential to first identify the factors most relevant in a foreign academic's decision to come and work actively in Singapore, and to consider whether these factors remain generally consistent across nationality groups, age groups, and gender. Next, we need to identify the main professional and personal reasons behind future mobility decisions for academic talents in Singapore. This is because a robust retention strategy is equally significant to an effective recruitment strategy, and can be seen as the other side of the coin of an overall successful approach to talent management.

[7] The findings discussed in this section have been reported elsewhere; see Chou et al. (2017c; 2017d), which also offer policy recommendations.

### *4.1 Factors for attracting academic talent to Singapore*

The survey participants revealed that they did not come to Singapore primarily to settle down or join partners already here; nor did they relocate to Singapore because the City State and/or the region (Asia or Southeast Asia) were their areas of research. They also did not decide to move to Singapore because it was easier to obtain work permission. Rather, the following were the top motivating personal and professional factors the respondents cited for their move to Singapore: 'able to communicate in English' (both inside and outside of the work environment), 'remuneration package', 'better access to research funding', and 'moving closer to parents' (see Tables 2 and 3).

**Table 2: Importance of Personal Motivations to Work in Singapore**

| Factor | Mean | Median | Mode (Count) | Obs. |
|---|---|---|---|---|
| I am a Singaporean | 3.44 | 4 | 5 (81) | 199 |
| Joining partners working in Singapore or region | 2.79 | 3 | 1 (81) | 205 |
| Joining Singaporean partner | 2.69 | 3 | 1 (80) | 186 |
| Raising children | 3.31 | 4 | 5 (109) | 391 |
| Settling in Singapore (PR/naturalization) | 2.50 | 2 | 1 (147) | 375 |
| Traveling and experiencing new cultures | 3.10 | 3 | 4 (133) | 499 |
| Moving closer to parents | 3.46 | 4 | 5 (118) | 366 |
| Able to communicate in English | 3.40 | 4 | 4 (150) | 527 |

*Coding Scheme:*
*1: Not important*
*2: Slightly important*
*3: Moderately important*
*4: Important*
*5: Very important*

**Table 3: Importance of Professional Motivations to Work in Singapore**

| Factors | Mean | Median | Mode (Count) | Obs. |
|---|---|---|---|---|
| Thriving academic job market | 3.59 | 4 | 4 (190) | 560 |
| Prestigious universities | 3.45 | 4 | 4 (172) | 549 |
| International experience | 3.28 | 3 | 4 (162) | 539 |
| Proximity to region of study | 3.00 | 3 | 1 (125) | 458 |
| Remuneration package | 3.82 | 4 | 4 (230) | 570 |
| Better access to research funding | 3.84 | 4 | 4 (207) | 559 |
| Easier to receive work permission (visa) | 2.72 | 3 | 1 (132) | 448 |
| Scholarship bond obligation | 2.71 | 3 | 1 (75) | 186 |
| Area of research is reputable | 3.44 | 4 | 4 (172) | 524 |
| Proximity to research network | 2.99 | 3 | 4 (122) | 499 |
| English is used in work environment. | 4.07 | 4 | 5 (246) | 576 |

*Coding Scheme:*
*1: Not important*
*2: Slightly important*
*3: Moderately important*
*4: Important*
*5: Very important*

*A good remuneration package and easier access to research funding*

A compelling remuneration package[8] and better access to research funding have been two of several human capital strategies that many Asian governments have applied in recent decades to strengthen their research capacities in the higher education sector (Paul & Long 2016). Our findings confirmed the continual and strong receptiveness of these two approaches among the survey respondents. We found very little variation in the responses concerning remuneration package even when we looked at when our respondents obtained their PhDs (before or after the year 2000, and between 2013 and 2015) and how long they have been in the country (from less than a year to

[8] A remuneration package in Singapore generally includes some variations of the following components: a relocation package to and from Singapore, a highly competitive monthly salary, possibility of annual bonuses, tax incentives (for non-Singaporeans), housing subsidies and educational subsidies for children.

more than 9 years): approximately 7 out of every 10 respondents indicated remuneration package as either important or very important in their decision to move to Singapore.

The variations are more noticeable when we look at access to research funding: about 80% of the survey respondents who received their PhDs recently (2013-2015) cited this as important or very important in comparison to 65% of our respondents who obtained their doctorates before 2000. The figures are similar when we considered their length of stay in Singapore: 78% of our respondents who have been in Singapore less than three years reported better access to research funding as important or very important in comparison to 65% of our respondents who have been here for more than 9 years. Our findings demonstrate that pay and associated benefits are consistently significant for the majority of foreign academics, but access to research funding is more crucial for newer faculty members when considering whether to move to Singapore to work at NUS, NTU or SMU.

*English at work and in everyday life*

The survey also found that a significant factor in academic talents' decision to move to Singapore is the use of English as a language for communication both *at* and *outside* work. The growth of degree programmes taught in English across the world has normalised its usage in many university settings. The factor 'English is used in work environment' is similarly important for faculty members who were born in non-English speaking countries such as France, Italy, Japan, and Germany as for those who were born in English speaking countries such as the United Kingdom, United States, Singapore, Canada, and Australia. An interesting finding is that the faculty members who were born in China were equally divided on the use of English at work: 51% stated that this factor is less important (ranging from not important to moderately important) while 49% indicated that English is either 'important' or 'very important' in their decision to move to Singapore.

Less is known about the importance of English beyond the work environment in foreign academics' decisions to relocate to another country. We found that 56% of our respondents cited 'able to communicate in English' as either important or very important in their decision to move to Singa-

pore. The possibility to do so was especially crucial for academic talents from Belgium, Italy, France, South Korea, Germany, India, Indonesia and Spain: more than 3 out of every 4 respondents from these countries indicated that it was important or very important. Faculty members from English-speaking countries such as the United Kingdom, the United States, and Australia were divided on the importance of being able to communicate in English outside of work: 51% of these respondents stated that it was important or very important. Examining it more closely, we found that UK respondents prioritised 'able to communicate in English' more so than colleagues from the US and Australia: about 7 out of every 10 from the UK indicated that it was important or very important in comparison to 47% of US respondents and 43% of Australian respondents. 'Able to communicate in English' was comparatively less important for academic talents from Taiwan, China, Vietnam, Japan, and Hong Kong: 66% of these respondents stated that it was moderately important, slightly important, or not important at all.

*Moving closer to parents, but only for some academics*

What is striking about the faculty members who indicated 'moving closer to parents' as important in their decision to relocate to Singapore is the variation between their countries of birth. For instance, 'moving closer to parents' is more important for faculty members who were born in Malaysia, India, and Singapore (more than 7 out of every 10 of these respondents) than those who were born in China (4 out of every 10 respondents) and Hong Kong (3 out of 10); for respondents born in Japan, 'moving closer to parents' was simply not a motivating personal factor in their migration to Singapore. Looking at the 'country of PhD', we find that more than 8 out of every 10 respondents who cited 'moving closer to parents' as important or very important obtained their degrees *outside* of Asia—the main PhD-granting institutions were based in the United States and United Kingdom; indeed, more than 6 out of every 10 of these respondents received their doctoral degrees in these two countries.

### *4.2 Factors for retaining academic talent to Singapore*

We asked the survey respondents to tell us: as of now, do you intend to stay in Singapore? More than half of the respondents (375 or 62%) indicated that they intend to stay in Singapore ('yes'), while 10% of the respondents (62) reported that they had no intention to remain ('no') and 28% of the respondents (168) stated that they were unclear about their mobility aspirations ('I don't know'). Identifying the factors contributing to these future mobility decisions is the first step towards understanding how to retain academic talents in Singapore.

Similar to factors motivating foreign talents to move to another country, the factors affecting their decision to remain once relocated include those pertaining to personal and professional dimensions of their lives. Some of the most commonly assumed factors are the cost of living, work-life balance, possibilities for career advancement, as well as employment opportunities for spouses in the new country (Verhaegen 2005). For our respondents, we found that the significant factors contributing to their future mobility decisions were both professional and personal, with satisfaction concerning 'cost of living' and 'work-life balance' being especially important in mobility decisions to leave Singapore (compare Tables 4 and 5; the 'Not Applicable' responses were excluded from the summary statistics in these tables).

**Table 4: Satisfaction with Personal Life in Singapore**

| Items | Mean | Median | Mode (Count) | Obs. |
|---|---|---|---|---|
| Raising family | 3.89 | 4 | 4 (188) | 464 |
| Supporting ageing parents | 3.38 | 4 | 4 (120) | 357 |
| Daily life in Singapore | 3.76 | 4 | 4 (281) | 598 |
| Experiencing other culture | 3.86 | 4 | 4 (274) | 575 |
| Travel/adventure | 3.89 | 4 | 4 (251) | 572 |
| Cost of living | 2.58 | 3 | 2 (190) | 599 |
| City lifestyle | 3.66 | 4 | 4 (236) | 592 |
| Weather/environment | 3.05 | 3 | 3 (185) | 594 |
| Work-life balance | 2.89 | 3 | 3 (180) | 596 |
| Maintaining personal network | 3.50 | 4 | 4 (211) | 569 |
| Family's experience in SG | 3.81 | 4 | 4 (216) | 508 |

**Table 5: Satisfaction with Professional Life in Singapore**

| Items | Mean | Median | Mode (Count) | Obs. |
|---|---|---|---|---|
| Job security | 3.50 | 4 | 4 (231) | 591 |
| Proximity to region of study | 3.71 | 4 | 4 (165) | 421 |
| Proximity to research network | 3.49 | 4 | 4 (226) | 532 |
| Teaching/service obligation | 3.46 | 4 | 4 (263) | 594 |
| Institutional administrative support | 3.36 | 4 | 4 (236) | 591 |
| Opportunities for international collaboration | 3.83 | 4 | 4 (292) | 584 |
| Publication/patent | 3.77 | 4 | 4 (273) | 560 |
| Accessing research funding | 3.71 | 4 | 4 (260) | 586 |
| Opportunities to attend relevant conferences | 3.90 | 4 | 4 (268) | 592 |
| Calibre of colleagues | 3.65 | 4 | 4 (277) | 592 |
| Opportunities for non-academic collaboration | 3.38 | 3 | 3 (219) | 504 |
| Government support for research interest | 3.57 | 4 | 4 (254) | 569 |

*Coding Scheme (for Tables 4 and 5):*
*0: Not Applicable*
*1: Very dissatisfied*
*2: Dissatisfied*
*3: Neutral*
*4: Satisfied*
*5: Very Satisfied*

*The cost of living in Singapore is a major concern*

Cost of living in Singapore emerged as a major concern for all respondents. Among those respondents who intended to stay in Singapore, 39% reported that they were either 'dissatisfied' or 'very dissatisfied' with the cost of living in the City State. For those who intended to leave Singapore, 60% of these respondents indicated that they were either 'dissatisfied' or 'very dissatisfied' with the existing cost of living here. Interestingly, for those who said 'I don't know' to the question concerning their future mobility decision, dissatisfaction level is the highest among the three co-

horts: 66% of respondents who had not decided whether they would remain in Singapore stated that they were either 'dissatisfied' or 'very dissatisfied' with the cost of living in the country.[9]

*Work-life balance is an important determinant for retaining academic talents*

Many of our respondents singled out 'work-life balance' as important to their overall satisfaction with life in Singapore. Among those respondents who indicated their future mobility intentions, 36% were either 'dissatisfied' or 'very dissatisfied' with their work-balance in the City State. The level of satisfaction with work-life balance overall did not vary in terms of the numbers of years the respondents had worked in Singapore: about 36% of all respondents who had worked in the country for one to more than nine years expressed some or strong dissatisfaction with work-life balance. The only variation identified was among those who had worked in Singapore for less than one year,[10] but the total number of respondents in this category was too low to be representative of the sampled population (*N* = 23).

Variation concerning the levels of satisfaction towards work-life balance is visible, however, when we examine the responses according to the respondents' intention to remain in Singapore. For those respondents who had clear intentions to leave Singapore, satisfaction with regards to work-life balance was the lowest: 56% of these respondents expressed some or strong dissatisfaction, 26% were neutral, and 18% were either 'satisfied' or 'very satisfied'. For respondents who were unclear about their future mobility plans, 49% were either 'dissatisfied' or 'very dissatisfied' with their work-life balance in the City State, 32% were neutral, and 19% expressed some or strong satisfaction. Finally, for those respondents who intended to stay in Singapore, satisfaction with work-life

[9] These figures become more striking if we control for those respondents who were 'neutral' in terms of their satisfaction regarding the cost of living: 68% of those respondents who intend to stay were either 'dissatisfied' or 'very dissatisfied'. For those who said they had no intention to remain, 82% were either 'dissatisfied' or 'very dissatisfied' with the cost of living. For those who had not decided whether they would leave or stay in Singapore, 87% were either 'dissatisfied' or 'very dissatisfied' with the cost of living. These responses suggest that the cost of living is a strong concern.

[10] Seventeen per cent indicated that they were either 'dissatisfied' or 'very dissatisfied', 35% were neutral, and 48% were 'satisfied' or 'very satisfied'.

balance was the highest: 43% expressed satisfaction or strong satisfaction, 30% were neutral, and 27% were either 'dissatisfied' or 'very dissatisfied'.[11]

## 5. Reflections on academic talent mobility: Singapore and beyond

We set out in this working paper to address, through the case of Singapore, the question: which factors are crucial for attracting and retaining international academic talents? Our findings show that existing policy assumptions and research findings concerning the factors that motivate academic talents to move to another country are valid, but they also present a layered image. For instance, while a good remuneration package was equally important in foreign academics' mobility decisions, we found that access to research funding was more significant to newer faculty members, suggesting the importance of research funding in their migration decisions. In the same way, while it was expected that international faculty would express a preference for an English-speaking working environment, their preference for an English-friendly environment outside of work had been less discussed in the literature. By indicating 'able to communicate in English' as either important or very important in their decisions to migrate to Singapore, our respondents revealed their overall intention to interact with the local culture and society, and thus the significance of social integration as a key component for talent management. Although 'moving closer to parents' was singled out as important in their migration decisions, we found variance among Asia-born faculties working in Singapore: those born in Malaysia, India, and Singapore were far more likely to select 'moving closer to parents' as significant than those from China, Hong Kong, and Japan. The crucial role of family in migratory decisions has been examined in other forms of migration (e.g. irregular, low-skilled labour migration), but research concerning how professionals negotiate and reconcile family life with their career moves is still emerging.

[11] If we control for responses that were 'neutral' for work-life balance, we find the following: 72.5% of those who indicated 'I don't know' are either 'dissatisfied' or 'very dissatisfied' with work life balance. For those who said they had no intention to remain in Singapore, 76% of them are either 'dissatisfied' or 'very dissatisfied' with work life balance. On the other hand, only 39% of those who intended to stay in Singapore reported that they were 'dissatisfied' or 'very dissatisfied' with work life balance.

Turning to retention, our survey findings show that the majority of respondents have intentions to remain in Singapore. Moreover, the survey respondents reported high levels of satisfaction across a range of issues; they were especially content with opportunities to attend relevant conferences and opportunities for international collaboration. At the same time, it is useful to parse out the potential factors that may contribute to academic talents leaving a country, even one with attractive higher education institutions such as those in Singapore. This is because high employee turnovers can be very costly—for nations, organisations, and companies alike. For instance, replacing a rank-and-file employee for companies costs about 50% of that position's annual salary, and for manager-level employees the cost can be up to 150% (Lazar et al. 2010). We found that the factors at which our respondents expressed the highest levels of dissatisfaction to be 'cost of living' and 'work-life balance'; dissatisfaction was highest among those who intended to leave Singapore and those who did not have a clear preference for future mobility. For our respondents, the cost of living in Singapore became increasingly challenging the longer they remained in the country, particularly in the areas of housing and child education.[12] Work-life balance, for our respondents, reflected both the widespread challenges common to modern life,[13] as well as those specific to academia—as one respondent put it, 'Also 24/7 365 work culture makes it difficult to get away and think'.

So what does the case of Singapore tell us about the drivers and dynamics of talent migration? At the most general level, the overall welcoming approach the government practises has enabled the rising universities in Singapore to attract academic talents from all over the world. At the aggregate

[12] Our survey contained an open-ended question that invited respondents to provide any additional details concerning their experiences in Singapore. We received a total of 199 responses and 47 responses (24%) explicitly discussed or focused on issues concerning the cost of living in Singapore. The following statement from one respondent is indicative of the overall sentiments expressed: 'The biggest barrier/reason to leave Singapore BY FAR, is the cost of education which requires that, as a foreigner, I have limited access to local schools and must pay over $65,000 a year to educate my children at international school. I believe this should be subsidised. I also believe that Academics (particularly senior academics) should be paid enough to have a choice to live off campus, rather than in giant box style apartments on campus. At the moment, the cost of education and (in my case) car and rent (things that are considered basic in any Western country but a luxury here) means that Singapore is not a sustainable long term option as a tenured academic' (emphasis original).

[13] For instance, one respondent stated that 'Overall a safe and good experience. But the lifestyle (work) is too hectic and it is hard to draw a line between work and home!'. Another respondent echoed similar sentiments, 'I feel like I am living here for a job—a good job indeed—but I do not feel that I am living a life here'. One respondent with elderly parents outside of Singapore added 'It is hard for me to balance my work and my responsibility to take care of my aging parents'.

individual level, we find that, however, both professional and personal factors matter in mobility decisions. While providing funding opportunities for fieldwork travel and laboratory research, and having administrative infrastructures in place to support research and teaching, are important factors in attracting high calibre academics from around the world, the rising cost of living (especially for those with children and ageing parents) and the overall work-life imbalance over time are likely to drive away these same people. While we have little knowledge of what constitutes work-life balance for academic talents, we can focus on their perception of satisfaction as a proxy to examine this increasingly significant aspect in contemporary life. What our findings ultimately tell us is that talent attraction and retention is a multi-level (involving national policy and university practice), multi-actor (policymakers, university administrators, academic talents), and multi-issue (professional and personal factors) undertaking. It is less useful to focus on any individual component of this process without attempting to make linkages with the other elements.

While this study has focused on the case of Singapore, further research should analyse whether the findings hold for other countries trying to attract and retain talents. The number of countries vying for talent has expanded greatly in the last decade, and encompasses traditional immigration countries, European countries, Asian countries (including Singapore and Hong Kong) as well as emerging economies. A supportive research environment, the use of English at work (if not also in life), good opportunities for family and a welcoming approach by the government will likely remain key factors for attracting academic talents. However, the main factors of retaining academic talents are less well known, and may differ across countries.

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