

**Deloitte.**

Global cities,  
global talent  
London's rising  
soft power



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In this publication, references to Deloitte are references to Deloitte LLP, the UK member firm of DTTL.

# Foreword

London is a global city – arguably now the world’s foremost business hub, of vital importance to the national, European and global economies.

Long seen as ‘neck and neck’ with New York on a number of key measures, developments in recent years suggest that London is now in a class of its own. In terms of high-skill, knowledge-based employment, Deloitte’s work suggests that in a period of just three years, London has added 235,000 new jobs while equivalent employment in New York has marginally declined. Latest official data suggests that London now employs approximately 1.7 million workers in highly skilled roles compared to 1.2 million in New York, its nearest rival.

London’s power to shape the business world also derives from its ability to influence the preferences of others by appealing to, attracting and developing leaders – a concept known as ‘soft power’. Our work suggests that London is the most global of global cities, with its business and public sector leaders drawn from the widest range of countries. Many of these people were educated or have worked in or around London, attracted from overseas by the strength of the city’s financial businesses, the quality of its universities and the vitality of its creative and digital start-up scene. Those London ‘alumni’ who have since relocated overseas are the most widely dispersed of any global city and have gone on to become influential leaders of some of the world’s top organisations.

This dynamic ‘flow’ of skills and leadership talent, and the connections and networks formed by business executives and public sector leaders, are the true lifeblood of a global city. However, our research also demonstrates that all of the top global cities – including London – need to shift gears to promote greater diversity, fill the growing high-skills gap and inspire the next generation of leaders.

Deloitte’s ongoing ‘futures’ research provides insights into business in the future, examining the impact of digital technologies on the labour market, on occupations and industry sectors. We also support a number of initiatives that promote the development of vital skills among schoolchildren. We have programmes to encourage women into leadership and technology roles, to support mothers and military personnel in their transition to work, and to enable people of all backgrounds to enjoy the same opportunities for employment.

We hope that you find this report thought provoking and we look forward to your feedback



**Angus Knowles-Cutler**

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# Global cities, global talent London's rising soft po

## Summary

This study is intended to stimulate thinking about the way in which soft power has the potential to shape the economic and social progress of global cities. As well as the latest data on high skills, the study uses data supplied by BoardEx to understand and quantify the dynamic flows of leadership capital through London, New York, Tokyo, Hong Kong, Paris, Singapore and Sydney. This data has allowed us to investigate the career movements of more than 50,000 executives and public sector leaders from over 40,000 organisations in 160 countries, using observations of where people have been educated, their nationality, gender and the roles they have occupied as well as the sectors in which they have worked.

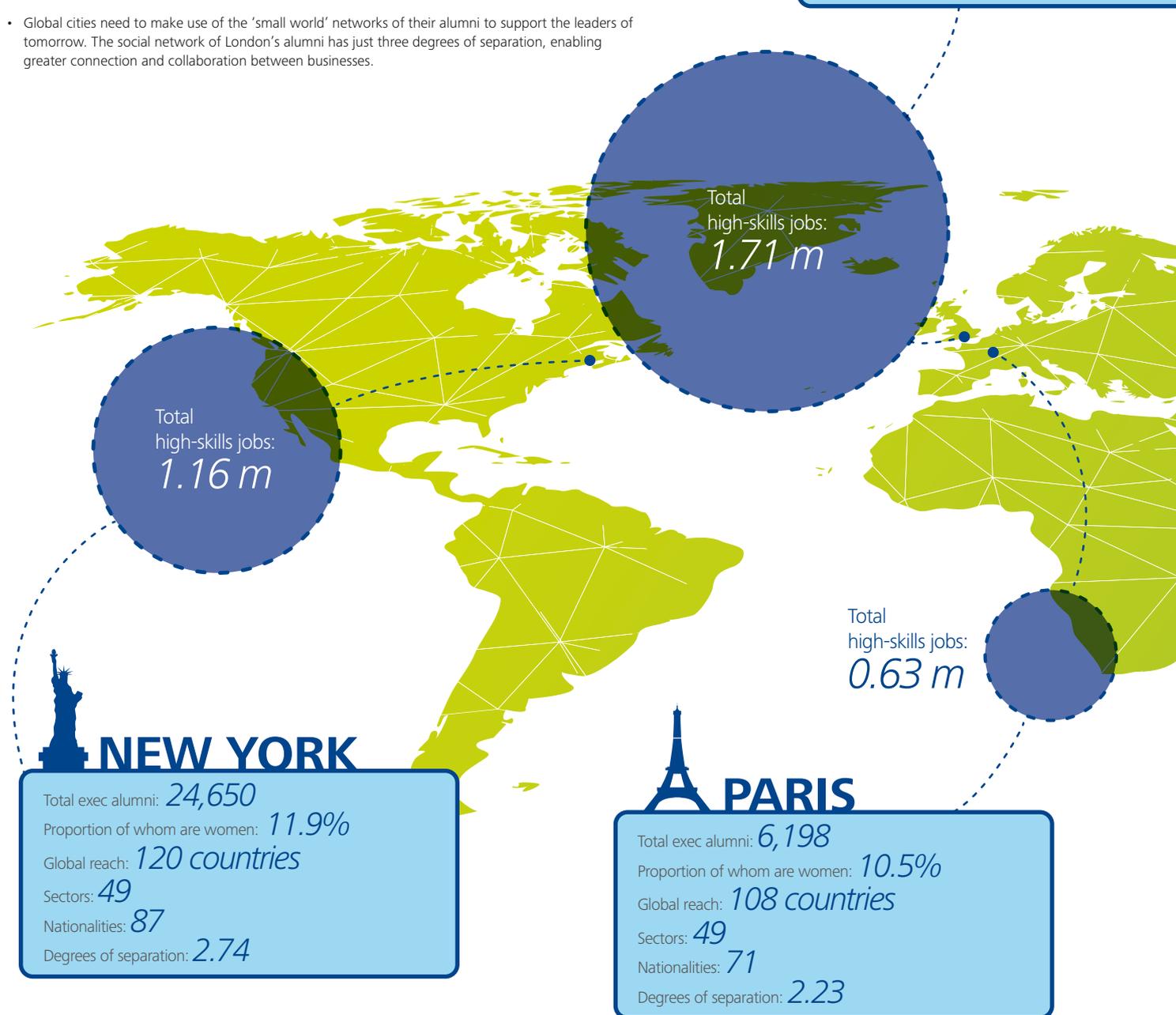
Our analysis of these flows provides surprising insights into the rising urban economy:

- Global cities require diversity to drive economic prosperity. London's executive alumni are drawn from 95 nationalities and reach 134 countries, making it the most global of the world's global cities.
- Global cities need to address an explosion in demand for higher skills to remain competitive. London has added 235,000 new high-skill jobs in the last two years, making it the high-skills capital of the world.
- Global cities need to make use of the 'small world' networks of their alumni to support the leaders of tomorrow. The social network of London's alumni has just three degrees of separation, enabling greater connection and collaboration between businesses.



## LONDON

Total exec alumni: **20,153**  
 Proportion of whom are women: **10.5%**  
 Global reach: **134 countries**  
 Sectors: **49**  
 Nationalities: **95**  
 Degrees of separation: **2.88**





## HONG KONG

Total exec alumni: **3,491**  
Proportion of whom are women: **11.6%**  
Global reach: **79 countries**  
Sectors: **48**  
Nationalities: **39**  
Degrees of separation: **2.42**



## TOKYO

Total exec alumni: **3,609**  
Proportion of whom are women: **2.2%**  
Global reach: **55 countries**  
Sectors: **46**  
Nationalities: **31**  
Degrees of separation: **3.10**

Total high-skills jobs:  
**0.76 m**

Total high-skills jobs:  
**N/A**

Total high-skills jobs:  
**0.73 m**

Total high-skills jobs:  
**0.57 m**



## SINGAPORE

Total exec alumni: **2,627**  
Proportion of whom are women: **11.5%**  
Global reach: **70 countries**  
Sectors: **43**  
Nationalities: **32**  
Degrees of separation: **2.34**



## SYDNEY

Total exec alumni: **1,726**  
Proportion of whom are women: **12.3%**  
Global reach: **57 countries**  
Sectors: **45**  
Nationalities: **19**  
Degrees of separation: **1.91**

# Introducing soft power

“Many newly successful cities on the global stage have sought to make themselves attractive to businesses based on price and infrastructure subsidies. Those competitive advantages can work in the short term, but they tend to be transitory. For cities to have sustained success, they must compete for the grand prize: intellectual capital and talent.”<sup>1</sup>

Michael Bloomberg, former Mayor of New York

According to the Brookings Institution, the world's 300 largest metropolitan economies accounted for nearly half of global output in 2014.<sup>2</sup> Some of the world's largest cities have populations larger than many small countries. In many respects cities *are* the new countries. The Organisation for Economic Co-operation and Development (OECD) seems to think so, deeming them to be “the most relevant level of governance, small enough to react swiftly and responsively to issues and large enough to hold economic and political power”.<sup>3</sup>

Among this list of mega-cities is a network of around 50 so-called ‘global cities’, a phrase popularised by sociologist Saskia Sassen in her 1991 work, *The Global City: New York, London, Tokyo*.<sup>4</sup> A global city is generally considered to be an important node in the global economy based on indicators such as economic output, physical capital, financial maturity, human capital, cultural experience and quality of life. The top six global cities, according to *The Atlantic*'s broad assessment, are New York, London, Tokyo, Hong Kong, Paris and Singapore.<sup>5</sup>

The concept of a global city was originally based on the idea that cities became strategic territories because their location facilitated manufacturing, trade and government administration. Since the early 1980s, though, there have been significant shifts in the structure of business and especially the financial sectors of global cities, driven primarily by advances in information and communications technology.<sup>6</sup> This has been accompanied by exponential growth in both tech industries and the cultural sector.

But it is not the case – as argued by Thomas Friedman in *The World is Flat* – that these digital technologies have nullified the effect of location.<sup>7</sup> Rather, it is the opposite: the digital age has become the main driver of the modern global city.

Today, global cities are strategic because they have access to large pools of skilled workers and the intellectual, social, physical and digital infrastructure to support them. Crucially, as suggested recently by academics Thor Berger and Carl Benedikt Frey, these highly skilled workers are more easily able to adapt and shift faster into new occupations as digital technologies and automation are introduced.<sup>8</sup> Conversely, old manufacturing cities with access to predominantly lower-level skills are struggling to compete, suffering increasingly from lack of investment.

So as the world's population continues on its path of rapid urbanisation, an important driver of sustainable economic growth will be the global cities' ability to attract, welcome, retain and export the right talent and skills to meet the shifting global needs of the digital age, and to develop leaders of the future.

## Are London and the other global cities well-placed to meet this challenge?

One way of thinking about this question is to consider a city's ‘soft power’ – a concept first developed by Joseph Nye in his 1990 book *Bound to Lead: The Changing Nature of American Power*.<sup>9</sup> Soft power is the ability to shape the preferences of others through appeal and attraction, as distinct from ‘hard power’, which arises through coercion, the use of force or by giving money. Nowhere is this more important than in the attraction and development of business and public sector leaders, and the appeal of a global city to global firms and their workers.

This study is intended to stimulate thinking about the way in which soft power has the potential to shape the economic and social progress of global cities. We have used data supplied by BoardEx to understand and quantify the dynamic flows of leadership capital through London, New York, Tokyo, Hong Kong, Paris, Singapore and Sydney. This data has allowed us to investigate the career movements of more than 50,000 business and public sector leaders from over 40,000 organisations in 160 countries, using observations of where people have been educated, their nationality, gender and the roles they have occupied as well as the sectors they have worked in.

Our analysis of these flows provides surprising insights into the rising urban economy. On the following pages, we examine the influence that London and the other top global cities have on the business world and challenge many popular beliefs about diversity, gender, skills and the strength of business networks. In light of our analysis, we explore how city policy makers, businesses and educators can take effective steps to recruit, develop and retain the best executive talent and build the businesses of tomorrow.



## Our data and methodology

To understand which cities have the greatest soft power, we examined a subset of data kindly provided by BoardEx from their repository of nearly three-quarters of a million executive and director profiles across a searchable index of more than 1.2 million organisations. A wide range of data sources are used to compile and maintain BoardEx's repository, including, for example, in the UK, company announcements and press releases, annual reports, the Regulatory News Service, London Stock Exchange, Companies House, Parliament and the Cabinet Office. Equivalent official and commercial sources of information are used to identify and validate profiles of executives in other countries.

Each of the more than 147,000 records in our subset was included because the individual could be directly associated with London, New York, Paris, Tokyo, Hong Kong, Singapore or Sydney by virtue of the universities they attended in those cities or nearby, domiciled businesses or public sector organisations that employ them or by any other reasonable association. These records describe an individual's gender, nationality, organisation and current role or roles, as well as details of the role that led to their association with one of the seven global cities. In total, our data describes 50,200 unique individuals of 115 different nationalities, affiliated with 44,282 unique organisations across 160 countries. Our data is based on an extract from BoardEx's repository dated November 2015.

We have also refreshed the data on high-skill jobs, originally published in *Globaltown: Winning London's crucial battle for talent*.<sup>10</sup> This refresh used various official data sources, including, for example, for London, the Business Register and Employment Survey compiled by the Office for National Statistics and the London Employment Survey conducted by The CityUK, and, for New York, the US Bureau of Labor Statistics.<sup>11, 12, 13</sup>

Throughout this report, we refer to individuals associated with the global cities as 'alumni'. Alumni of London, for example, at some stage in their career have attended university in or around London or have been employed by a business or public sector organisation based in London; and while many of these alumni may still work in the UK, some may now be employed in a role based in another country.

# The metropolitan melting pot

“Strength lies in differences, not in similarities.”

Stephen R. Covey, educator and author

In his 2011 book, *Economic Warfare: Secrets of Wealth Creation in the Age of Welfare Politics*, the author and investor Ziad K. Abdelnour wrote “talent attracts capital more effectively than capital attracts talent.”<sup>14</sup> Writing for the *Financial Times* a year later, Michael Bloomberg, former Mayor of New York, added that talent more effectively and consistently attracts capital.<sup>15</sup> Both assertions might lead one to conclude that the greater the number of executives and business leaders a city grows and nurtures, the more potent its economic success.

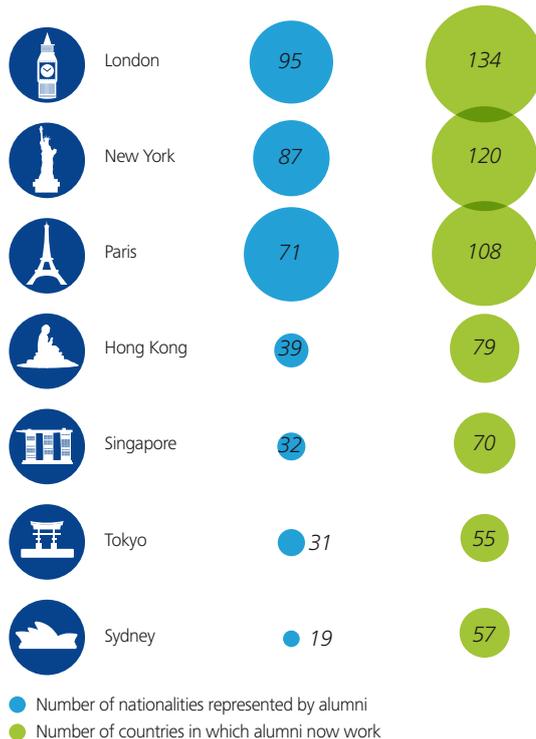
However, the absolute number of executives, while necessary, is not sufficient to guarantee economic prosperity. Many other factors influence success – in particular, diversity of talent. Cities that want to attract, retain and inspire future leaders and business makers must offer appropriate work, social and cultural opportunities, and, in Michael Bloomberg’s words, provide a “fertile breeding ground” in which new ideas and innovations can be spawned.<sup>16</sup> The more diverse the backgrounds and skills of the people drawn to a city, the hotter the melting pot of opportunity.

## Which global city has greater diversity?

Our analysis shows that London attracts leadership talent from the widest pool of nations: London’s executive alumni are drawn from a total of 95 different countries, five times more than Sydney and three times more than Singapore. However, more than two-thirds (68 per cent) of London’s executive alumni are British so the distribution of nationalities is heavily skewed towards the UK’s indigenous population and the proportion of alumni from other countries is relatively low. Singapore’s alumni, on the other hand, are made up of only 27 per cent Singaporeans, suggesting more diverse ethnicity in this global city.

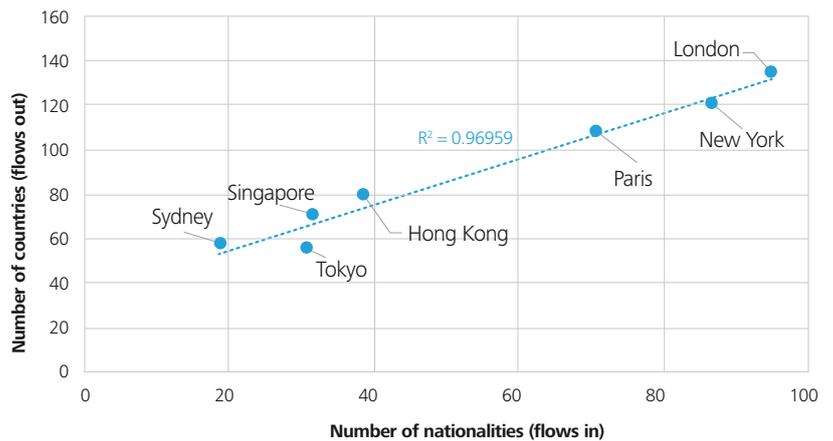
London also ‘exports’ its leaders to more countries than any other global city: its executive alumni have reached an impressive 134 countries, 12 per cent more than New York, for example, and 24 per cent more than Paris.

Figure 1. Nationality and global reach of alumni population



Source: BoardEx, Deloitte analysis

Figure 2. Relationship between human capital flows in and out of global cities



Source: BoardEx, Deloitte analysis

Analysing the data suggests a strong correlation between human capital flows inward to a global city and flows out, as illustrated in Figure 2. In other words, the greater the diversity of nationalities attracted to a city, the greater the global reach and influence that city ultimately enjoys through its alumni.

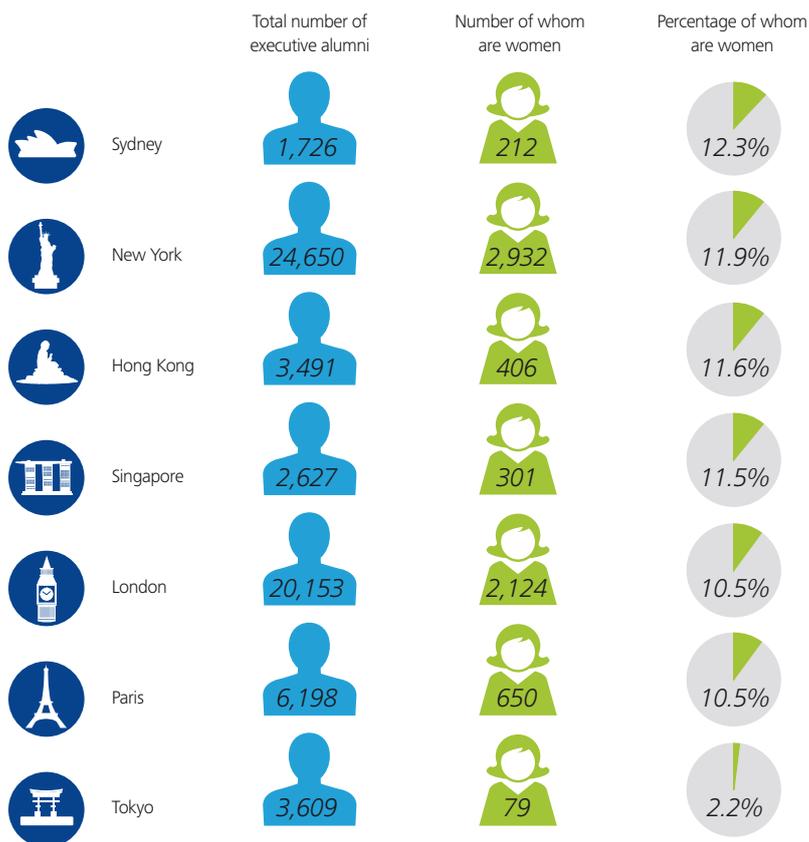
But which global city creates more executive opportunities for women? The answer is Sydney. The proportion of women executives in Sydney's alumni group is 12.2 per cent compared to 10.5 per cent for London. However, even though Sydney has a higher percentage of women among its executive alumni than any other global city, the number of women in leadership positions is very low universally. The picture is similarly bleak from a country perspective. For example, considering all 50,000 individuals in our dataset, just 11.7 per cent of executives in the UK are women, the same percentage as in the US. In South Africa and Singapore, the proportions of executives who are women are 15.5 per cent and 13.3 per cent, respectively. Given the emphasis currently placed by policy makers and businesses on gender diversity and women in leadership, it is sobering to find in the data that fewer than one in eight executives are women.

### Why diversity matters

There is good reason for shining a spotlight on diversity: in what is now considered a classic work, *The Death and Life of Great American Cities*, published in 1961, author and activist Jane Jacobs highlights the significance of creativity and diversity as 'engines' of city growth.<sup>17</sup> Similarly, in 2002, American academic Richard Florida found that diverse communities tend to grow more quickly and create more jobs in creative and high-technology industries than less diverse communities.<sup>18</sup>

In his paper, Florida explores the geography of bohemia – a term associated with the stereotypical lifestyle of artists and intellectuals – and the relationships between it, human capital and the tech industries. His underlying hypothesis, supported by extensive statistical research, is that the presence and concentration of bohemians in an area tend to create clusters of innovative economic activity and attract other types of talented or high human capital individuals of many nationalities.

Figure 3. Gender diversity among global city alumni



Source: BoardEx, Deloitte analysis

The relationship between diversity and economic success seems to be borne out in London. We have found that executives linked to the UK's capital city by education or employment are unquestionably the most ethnically diverse of the seven global cities in our analysis. London is also home to more than one-third of all European Fortune 500 firms, and also attracts three times more corporate headquarters than any other city in Europe.<sup>19, 20</sup> This investment by foreign corporations creates a dynamic, multi-cultural exchange and attractor of talent both inter- and intra-company. London is also the only city in our study to appear in the list of top 30 fastest growing metropolitan economies, according to the Brookings Institution, with GDP per capita growth of 2.5 per cent and employment growth of 3.6 per cent in 2014.<sup>21</sup>

Diversity is a strong predictor of prosperity because the creative and tech industries, which Florida says will profit from the melting pot, have themselves become significant drivers of growth in global cities. For example, according to the Greater London Authority (GLA), The Gross Value-Added (GVA) of London's creative and tech industries has increased by 16.4 per cent since 2009, and contributes £35 billion to the capital's economy every year.<sup>22</sup> This accounts for 10.7 per cent of London's total GVA and just under half of the UK's total GVA from creative industries. There's another benefit, too: the GLA found that London's creative industries are 25 per cent more productive (in terms of GVA per worker) than the average for London's economy as a whole, and over 40 per cent more productive than the average for equivalent creative industries elsewhere in the UK. Global cities, it seems, not only party hard, but they work hard, as well.

### Challenges yet to be overcome

Much of the UK's labour market growth in the last 20 years can be attributed to improvements in female participation and employment, with maternity policies, subsidised childcare services and tax incentives playing important roles.<sup>23</sup> Similar efforts can be observed to a greater or lesser extent in both developing and developed economies around the world. However, before we congratulate London and the other global cities on achieving improved diversity and participation, we should reflect on one of the remaining 'grand talent challenges' of our age – that of attracting more women into executive positions.

Writing in the *Financial Times*, recently, Baroness Martha Lane Fox made the point that "Products, services and ideas that are not founded on diverse thinking will never be as competitive as those created by gender-balanced teams".<sup>24</sup> This is not just a statement about the outputs of a business, it is also a fundamental tenet of leadership.

Whether in the private, public or any other sector, organisations that embrace diversity – in gender and all its other forms – will benefit from the widest possible range of skills, experiences and perspectives when formulating and executing their strategies. But women and other segments of the population are still struggling to participate in London's labour market, as reported by the Economy Committee of the London Assembly.<sup>25</sup> They and others point to ongoing challenges that are limiting gender and ethnic diversity among executives in global cities, such as:

- rising inequality – while some jobs are of high quality and are paid very well, the 'hollowing out' of jobs in the middle of the labour market limits opportunities for many workers to progress upwards on the skills ladder
- cost of city living – the already high and ever-rising cost of living in global cities makes it difficult for overseas students and incoming workers, men and women, alike, to stay for prolonged periods while simultaneously paying for education, accommodation, childcare and provisions
- lack of flexibility – many firms are yet to embrace fully more agile and flexible working practices, which limits opportunities for part-time workers to contribute to the economy
- complexities of immigration – tightening rules that restrict the ability of foreign workers to enter the country can make it difficult for businesses to access the skills they need, which may have a disproportionate impact on global tech firms.<sup>26</sup>

London has clearly done well in the past couple of decades when it comes to attracting the global creative class, notes journalist and social entrepreneur Rohan Silva in a recent article for the *Evening Standard*.<sup>27</sup> But the cost of housing, the decay of cultural facilities and additional complexities associated with immigration are all making it harder for talented people to come to the capital. The same problems are faced to some extent by all global cities. Meanwhile, tech entrepreneurs and creatives are starting to take their talent and ideas elsewhere, to places such as Berlin, Lisbon and Los Angeles, delivering a welcome fillip to their urban economies but potentially restricting growth prospects for the current network of global cities.

# Sorry, New York, London is the world's high-skills capital

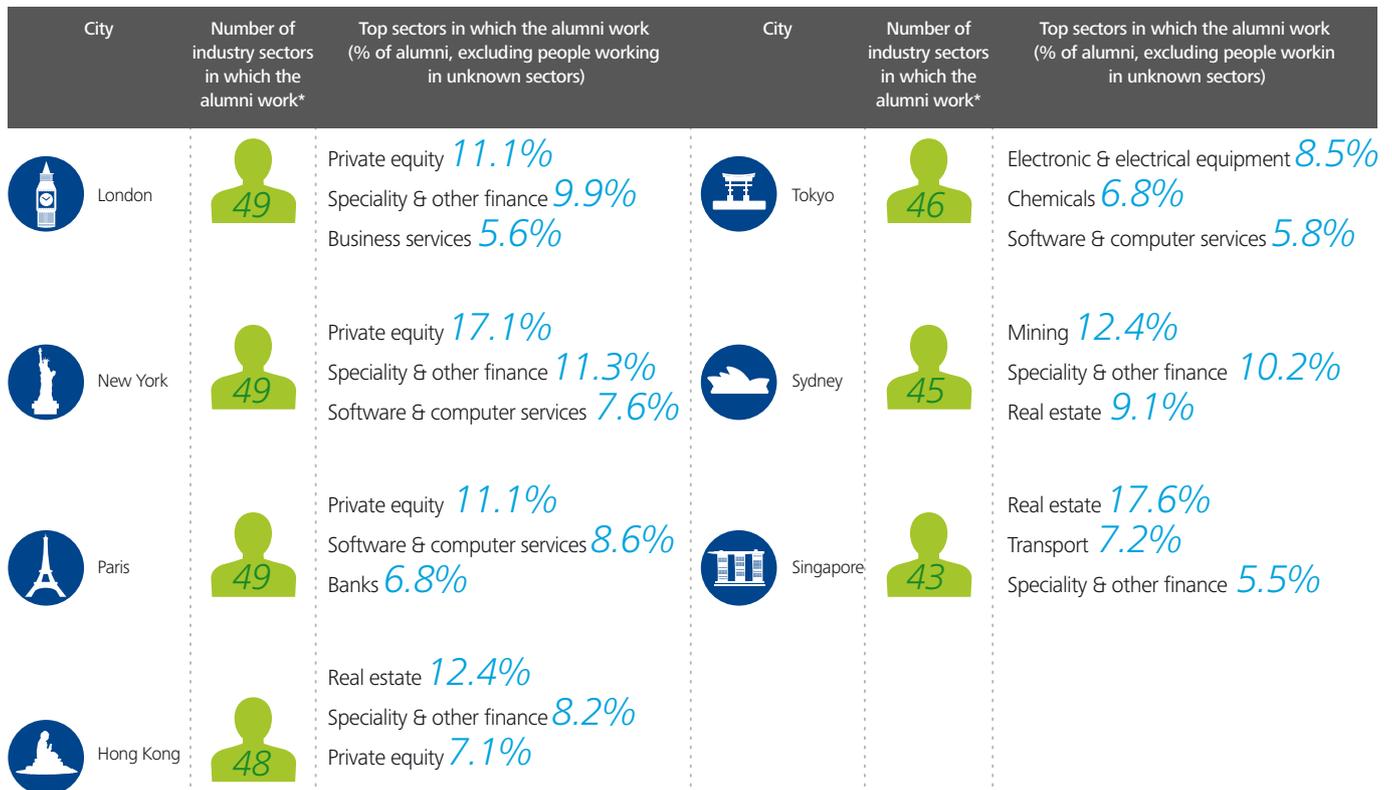
“What is the city but the people?”<sup>28</sup>

William Shakespeare

In Deloitte's 2013 paper, *Globaltown: Winning London's crucial battle for talent*, we showed how, over centuries, businesses in London have been able to move with the times.<sup>29</sup> A crucial enabler of London's ability and that of the other global cities to adapt to the introduction of new technologies and growing commercial diversity is access to the right skills.

Our research highlights the significance of management, financial, scientific, technical and creative skills for business and public sector leaders by the top domains in which executives currently work.

Figure 4. Commercial diversity among the alumni of global cities



\*Industry sectors defined by BoardEx

Source: BoardEx, Deloitte analysis

Figure 5. World university and business school rankings for global cities

City	Number of top-ranked universities or business schools	Top-ranking university	Top-ranking business school
 London	 15	Imperial College London (8th)	London Business School (3rd)
 Paris	 10	Ecole Normale Superieure (54th)	Insead (1st)
 Hong Kong	 9	University of Hong Kong (44th)	HKUST Business School (14th)
 Tokyo	 7	University of Tokyo (43rd)	No business schools ranked
 New York	 6	Columbia (15th)	Columbia Business School (6th)
 Singapore	 5	National University of Singapore (26th)	Insead (1st)
 Sydney	 5	University of Sydney (56th)	Macquarie Graduate School of Management (56th)

Source: Times Higher Education World University Rankings 2015-2016<sup>30</sup>, Financial Times Global MBA Ranking 2016<sup>31</sup>

If learning the right skills is a prerequisite, not only for employment more generally in the digital age but also to build a strong foundation for leadership, one of the main attractors of talented people to global cities must be the quality of their higher educational institutions.

Figure 5 shows the number of top-ranked universities and business schools in each of the global cities. There are clear signs that graduates and experienced individuals from these high quality institutions are in increasing demand. Yet it seems that the jobs growth experienced by knowledge-based firms is not evenly distributed across the world. As part of our study, we have used official statistics to refresh our estimates of the number of high-skill jobs reported in *Globaltown*.<sup>32</sup> Using a consistent methodology, we have also estimated equivalent backdated figures for Hong Kong, Singapore and Sydney, and these are presented in Figure 6.

**Figure 6. High-skill, knowledge-based employment figures**

City	Total of people employed in knowledge-based industries (Globaltown, 2013)	Total of people employed in knowledge-based industries (2016)	Absolute change	Percentage change
 London	1,471,869	1,706,924	235,055	16.0%
 New York	1,163,039	1,158,279	-4,760	-0.4%
 Hong Kong	759,152	769,729	10,577	1.4%
 Singapore	726,502	728,289	1,787	0.2%
 Paris	599,376	627,156	27,781	4.6%
 Sydney	569,545	607,231	37,686	6.6%

Source: ONS, TheCityUK, US Bureau of Labor Statistics, France National Institute of Statistics and Economic Studies, Census and Statistics Department of Hong Kong, Singapore Ministry of Manpower, Australian Department of Employment, Deloitte analysis. Note that comparable data for Tokyo was not available.

As a proportion of total employment, high-skill jobs are increasingly significant contributors to the economies of global cities, as illustrated in Figure 7.

London’s position as the high-skills capital of the world is cemented by these latest employment figures, which show that the number of people employed in high-skill, knowledge-based jobs has grown by 235,000 (16 per cent) in three years.

While London continues to grow rapidly, New York is falling behind. This is largely due to dramatic growth in the computer programming sub-sector and in management, scientific and technical consulting services in London. The only sector where London and New York’s position has switched is financial services, where New York now employs more people than London, despite a decrease in employment overall in this sector in both cities since 2013.

**Figure 7. High-skill, knowledge-based employment as a proportion of total employment**

City	Total number of people now employed in high-skill, knowledge-based jobs	Total number of people employed	Percentage of employment that is high-skill, knowledge-based
 London	1,706,924	5,575,000	30.6%
 New York	1,158,279	4,297,200	27.0%
 Hong Kong	769,729	3,880,000	19.8%
 Singapore	728,289	3,655,600	19.9%
 Paris	627,156	1,920,663	32.7%
 Sydney	607,231	2,471,800	24.6%

Source: ONS, TheCityUK, US Bureau of Labor Statistics, France National Institute of Statistics and Economic Studies, Census and Statistics Department of Hong Kong, Singapore Ministry of Manpower, Australian Department of Employment, Deloitte analysis. Note that comparable data for Tokyo was not available.

### Why skills matter

As technology increasingly substitutes for routine manual and cognitive activities, jobs are being lost in relatively low-skill occupations for which the probability of computerisation is high. But they are growing substantially faster where machines either are not likely to or cannot yet provide a good substitute for human labour, or where technology helps people work more productively, as illustrated in Figure 8.

However, the introduction of technology also has an interesting side-effect: the substantial growth in higher-paid, highly skilled jobs in London and the South East is mirrored by similar levels of demand for lower skilled jobs, particularly in caring, leisure and other service occupations, which are currently predicted to be at a medium risk of automation – a probability of being automated in the next ten to 20 years of between 33 and 66 per cent.

Figure 8. Growth in employment in London and the South East 2001-2015

Region	Increase in high-skill jobs at low risk of automation	Increase in medium-skill jobs at medium risk of automation	Increase in low-skill jobs at high risk of automation	Net job creation	Economic value added (£bn)
 London	41%	42%	1%	870,000	30
 South East	47%	28%	-3%	845,000	31

Source: Frey and Osborne, ONS, Deloitte analysis<sup>33</sup>

Figure 9. Proportion of jobs at high risk of automation in London

Industry sector	Proportion of jobs at low risk of automation	Proportion of jobs at medium risk of automation	Proportion of jobs at high risk of automation
Transportation and storage	10%	17%	72%
Wholesale and retail, repair of motor vehicles	21%	15%	63%
Accommodation and food services	17%	21%	62%
Manufacturing	28%	19%	52%
Real estate and construction	56%	13%	31%
Administrative and support service activities	40%	30%	29%
Human health and social work	54%	18%	28%
Public administration and defence, compulsory security services	68%	5%	27%
Professional, scientific and technical activities	60%	15%	25%
Financial and insurance activities	54%	23%	24%
Arts, entertainment and recreation	65%	13%	23%
Education	67%	25%	8%
Information and communication	97%	0%	3%
Agriculture, forestry and fishing	0%	0%	0%
Mining and quarrying	0%	0%	0%

Source: Frey and Osborne, ONS, Deloitte analysis.<sup>35</sup> Totals for each sector may not equal 100% due to rounding.

All of the data point towards a fundamental shift in the balance of skills in the workforce as organisations adapt their operations to suit an increasingly global and digital world. This shift to higher skilled jobs is significant, beneficial and is likely to continue apace in London. However, it also presents a real threat of 'hollowing out' of lower paid jobs for Londoners. Overall, to date, London has been less exposed to this than other regions of the UK, but with increasing pressure on housing and infrastructure, and the general cost of living in London, coupled with the increasing opportunities organisations have to replace human labour with technology, this must be a real cause for concern.

Our work with Carl Benedikt Frey and Michael Osborne of Oxford University suggests that London jobs that pay £30,000 or less annually are eight times more likely to be automated than those that pay £100,000 or more.<sup>34</sup>

In Figure 9 we look at the number of today's London jobs that are at high, medium and low risk of automation in the next ten to 20 years. This varies widely by industry sector.

While certain sectors in London, such as Transportation and storage are predicted to be affected considerably, others, such as Education or the Information and communication sector, are not. Of course, these estimates simply reflect the degree to which today's jobs could be impacted by technology alone, and they do not take into account other factors, such as the difficulty of implementing the technology, social or political resistance or the relative cost of human labour versus investment in technology. These may be the real brakes on the pace of job automation.

Cities that can provide students and workers with access to both high quality advanced education and high-skill employment become global beacons in this new race for talent – attracting people from all over the world into high-skill roles that are in demand or can be augmented by technology. In *The Hourglass Economy*, the London Assembly writes that they have seen relative growth in London's three top economic categories – professional services, healthcare and education – owing to their competitive strength internationally.<sup>36</sup>

### Challenges yet to be overcome

Despite the substantial increase in employment in high-skill occupations in London and Paris in recent years, the economies of these and other global cities are being held back by an increasingly acute problem: there is a shortage of workers for the growing number of high-skilled roles available. The *Financial Times* recently reported that there are currently 600,000 job vacancies in the UK's tech sector, a number forecast to rise to one million by 2020.<sup>37</sup> *CityAM*

reported in February 2016 that one in four firms are forced to look overseas for tech talent due to a skills gap that is costing the UK economy £10 billion a year.<sup>38</sup> And the Greater London Authority has calculated that about 22 per cent of the higher-level skilled jobs in the city remain vacant, which, they say, "is affecting businesses' ability to be productive and deliver".<sup>39</sup> A number of trade bodies and business organisations have also highlighted the problem, anticipating that the organisations they represent may have difficulties in recruiting and retaining the right talent in the future.<sup>40</sup>

A number of factors are contributing to this skills crunch, including:

- a failure by universities and business schools to adapt their subject matter quickly enough to the changing technology landscape in the digital age<sup>41</sup>
- a lack of continual professional and technical development for existing employees, which could allow workers and their employers to adapt to new technologies faster
- a lack of language skills, which enable people to learn technical skills and interact socially
- a lack of flexibility on the part of employers, which makes it harder for mothers returning to the labour market to use their skills fully; instead, they have to take lower-skilled jobs so that they can work part-time
- a growing gap in the skills and knowledge of different age groups, which means that older workers, despite having huge knowledge and experience, are less able to take on higher-skilled roles, while younger workers, who may have the appropriate skills, lack in-depth knowledge.

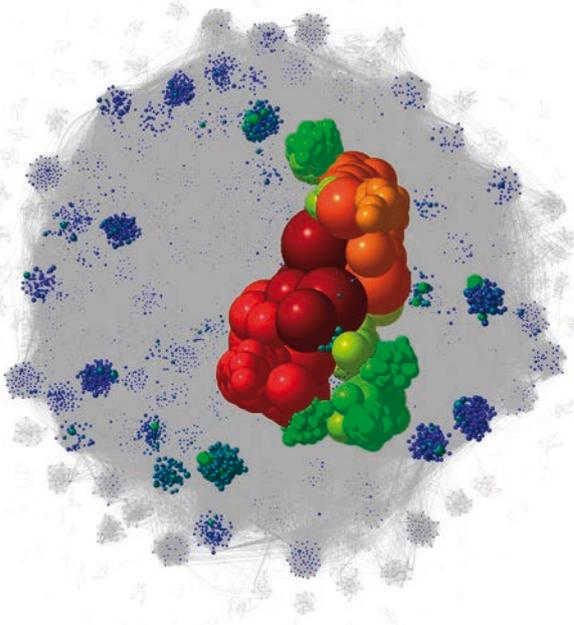
Although high quality universities and business schools are one of the principal instruments of soft power in a global city, there is a risk that the dynamic, technology-driven shifts occurring in the workplace will render current subject matter taught in these institutions increasingly obsolete. There is also a risk that higher education providers do not offer the additional breadth of skills on technical courses that will be needed in the future – for example, languages, complex problem-solving and analytical reasoning, design and creativity. London works exceptionally well as a global city because of the symbiotic (but largely uncoordinated) relationship that exists currently between the providers of education and the providers of employment. But as skills shortages become more acute, and the search for suitable talent inevitably widens, new pressure may be exerted on the network of global cities to adapt or otherwise lose their influence on the world stage.

# Global leaders but small worlds

“When you are a person people can trust, they will call upon you, love to be around you and work with you. A leader’s skills take him to people, but his character brings people to him.”<sup>42</sup>

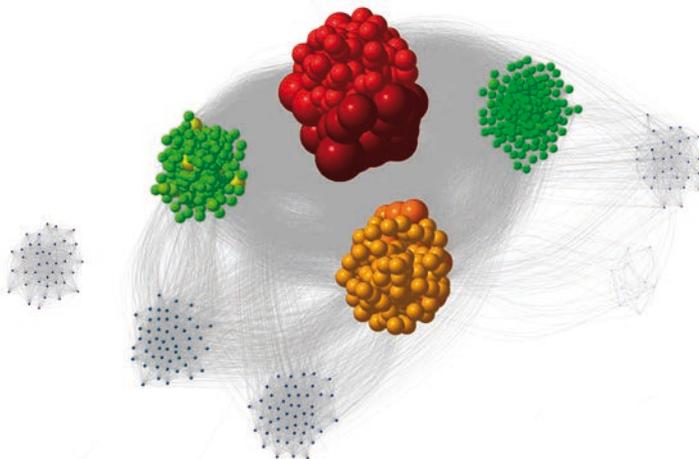
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Figure 10. Social network formed by London alumni



Source: BoardEx, Deloitte analysis

Figure 11. Social network formed by Sydney alumni



Source: BoardEx, Deloitte analysis

In February 2016, Facebook established that there are an average of 3.57 degrees of separation across the approximately 1.6 billion users of its social networking site.<sup>43</sup> This is the equivalent of saying that there are a little over three-and-a-half people between one user and any other user, anywhere on the planet. Facebook’s researchers suggest that the world is getting progressively ‘smaller’ as people shift online. One of the reasons for the surprisingly small number of jumps required to make a link is that there are a number of ‘rare connectors’, people with anomalously large numbers of connections to other people who also share many of the same connections. These rare connectors form social bridges between different communities and thus shrink the degrees of separation while simultaneously extending the reach of the network.

The combined effects of digitisation and globalisation create conceptually similar networks among leaders of business and public sector organisations. We have, therefore, applied the same analysis to the tens of thousands of executive alumni in each of the global cities for which we have data. We have done this by creating a link between two people if they have studied at or been employed by the same institution. In many respects, the ‘social networks’ created through this analysis provide both a visual representation and mathematical description of a city’s soft power.

The network diagrams in Figures 10 and 11 show the social networks for London and Sydney alumni, respectively. In these graphs, the circles – known as ‘vertices’ – represent individual alumni, and the grey lines – or ‘edges’ – represent the connections between them. The size and colour of the circles is related to the overall influence each alumni has on the network overall. For example, large red circles can thus be considered our ‘rare connectors’, whereas small blue circles are executives who are yet to build up their networks.

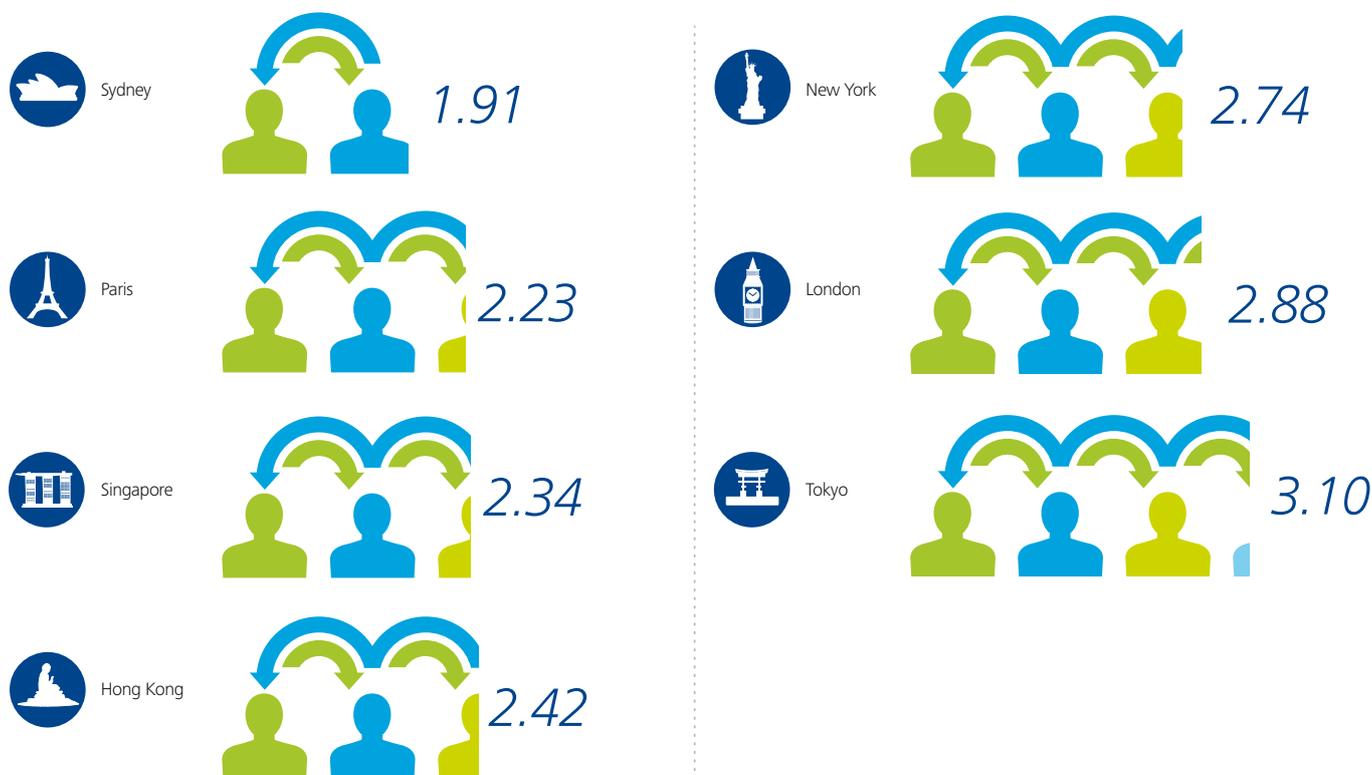
The graphs highlight a number of structural differences between the alumni networks of different global cities. They also prove the axiom, ‘birds of a feather flock together’. In Sydney’s case, we find nine distinctive clusters of executives, each with a different level of influence on the network as a whole. And while there is a clear community of rare connectors, these individuals are not at the heart of the network and other clusters of executives provide almost the same degree of connection.

In contrast, the social network for London, which has over 5.8 million separate links, shows a central group of rare connectors but many more relatively isolated clusters of alumni. A visual inspection suggests that London’s network is more fragmented, which may well be the result of the more dynamic nature of the city’s flows of talent compared to other global cities.

The number of degrees of separation for executive alumni of different global cities is shown in Figure 12.

Our analysis shows that all of the alumni networks for the global cities have fewer degrees of separation than even the ‘small world’ of Facebook. In Sydney’s case, any person in the network can be reached by an average of just under two jumps – quite literally, the friend of a friend. And although, at the other end of the spectrum, the network of Tokyo alumni is more fragmented, it is still possible to reach anyone in the network via a chain of just three people.

Figure 12. Degrees of separation between executive alumni of different global cities



Source: BoardEx, Deloitte analysis

### Why networks matter

For any professional person, networking is one of the best ways to establish new contacts, build relationships and create new avenues for business and customer engagement. The links between people, such as being employed by the same organisation, provide familiarity, reassurance and trust. London is home to numerous organisations that provide dedicated networking services and events for women in business, small businesses and myriad other groups. In an interview with *The Guardian*, Charlie Lawson, national director for BNI, one of London's business networking organisations, said, "What we've learnt about networking is that you should never underestimate who knows whom".<sup>44</sup>

It is well known that recommendations and introductions from within a network also help in-house recruiters cost-effectively find new people with relevant skills and experience. The savings compared to the use of external searches, for example, can be as much as a factor of ten.<sup>45</sup> There is also a growing awareness among organisations looking for advanced technical skills, in particular, that tapping the expertise of people in distant, analogous fields can yield good results.<sup>46</sup> Finding these people can pose a challenge, though. But the small-world nature of executive networks provides a good platform for simplifying the search into adjacent sectors and domains. Indeed, business networks are now being viewed more as 'ecosystems', providing opportunities for people in different business communities to engage and collaborate with one another across professions.

### Challenges yet to be overcome

Networks can do more than just provide an efficient mechanism for recruitment, business development or marketing. For example, some businesses and public sector organisations run internal executive 'shadowing' schemes to enable high-fliers to learn more about the day-to-day activities of their leaders.<sup>47</sup> Others are introducing the concept of 'shadow boards', aimed at developing the capabilities of future leaders, embracing a different kind of leadership thinking, and drawing on a diverse pool of talent.<sup>48</sup> Such schemes not only help the individuals involved – both executives and their 'shadows' – but also strengthen ties between disparate parts of an organisation by bringing people from different functions and backgrounds together. They are not yet widely adopted, though.

Other challenges include:

- a lack of an over-arching strategy for talent and skills management in business and higher education
- a lack of a central body to help plan and coordinate inter-organisational talent development activities.

There is little organised coordination between organisations to develop future leaders; the far-reaching but small-world networks of executives are not being exploited to address the skills gap. Business schools do act as hubs for executive education, and it is here that many of the links between leaders are first established. However, businesses themselves could do more to cooperate with one another through additional inter-organisational secondments and by establishing closer partnerships with higher education institutions, for example, by funding collaborative projects and enabling more student placements within industry.



# Looking to the future: The cities and leaders of tomorrow

“I want London to be a competitive, dynamic place to come to work.”<sup>49</sup>

Boris Johnson, Mayor of London

In today's digital age, the world's cities are in direct competition for talent and business. For cities that have been developing as global hubs for centuries, the reality is that the combined effects of globalisation and digital technologies are making the world even smaller and creating dramatic shifts in the flows of trade and people. These shifts are positive for cities whose universities and business schools are able to attract students from home and abroad, and adapt quickly to provide continuing high quality advanced education and professional development. They are also positive for cities that are home to a wide spectrum of successful and growing knowledge-based businesses – from innovative start-ups and creative agencies to large global corporations.

Cities that are not able to provide such a hot melting pot of opportunity are likely to lose their influence on the world stage. Although they may be relatively vibrant hubs for employment now, people are already beginning to shift their allegiance to an emerging network of younger cities – and some older ones, too – where the melting pot is more diverse and the cost of living is lower, where there is greater freedom, flexibility and choice in employment, and where new quarters for culture and innovation are being established. As Michael Bloomberg says, “Cities at the top must continuously find new ways to meet the future demands of a talent-driven market”.<sup>50</sup> It is not, he continues, “merely the job of national governments to anticipate the direction of the global economy”.<sup>51</sup> Cities, themselves, and the leaders working within them, are now most able to manage their own economic destinies.

Our new research, suggests that London continues to exert tremendous soft power. The UK's capital city has significant reach and influence in the business world – people who are educated or work here go on to become leaders of business and public sector organisations worldwide. They are drawn from and ultimately reach more countries around the world than the alumni of any other city. London also has the largest number of top-ranked universities and business schools of any other global city, which together attract a wealth of international talent.

However, there are upsides and downsides to the city's soft power. London, like all the other global cities, lags behind on gender equality among its senior executives. Indeed, as a proportion of all execs, there are fewer females in the UK than in South Africa or Singapore. London may be on par with the US and better than France, but there's more work to be done. And London's position as a leading global city is also under increasing pressure from a 'hollowing out' of the national and global economies. Although the capital has resisted so far, middle-income, middle-skills jobs in London are under increasing threat of being replaced by robots, software automation and other rapidly advancing technologies. The problem is compounded by a lack of flexibility on the part of employers, which can force highly skilled workers to take low-skilled jobs.

The modern global city, it seems, is an environment of extremes. There are more jobs, but also more vacancies and more unemployed people than average. There is a network of highly connected leaders but a growing cadre of young people who struggle to make it onto the first rung of the career ladder. There are more highly paid, high-skill jobs, but also more people struggling to find affordable housing and meet the rising cost of living. There are pressures on firms to be more flexible and on governments to relax immigration rules to make it easier for overseas students and highly skilled workers to study and work here. And, although the recent growth in London's employment and economic output marks the capital as a leading global city, the reality is that unless these challenges are tackled, it will become increasingly difficult to sustain this growth, and London's influence will decline.

In *Globaltown*, we recommended a number of actions to help London maintain its position as a leading global city, which included appointing a Chief Talent Officer, strengthening links between employers and the education sector, and making the case for an intelligent visa system.<sup>52</sup> This most recent study highlights a number of the same issues and reinforces the need for swift action.

Ultimately, the long-term economic success of global cities will depend on more than just location or their industrial legacy, it will also depend on their soft power, their ability to attract, retain and subsequently export talent. In the future, cities will rise and fall – in economic terms – on the strength that comes from the diversity and creativity of their workforce, from the partnerships formed between their innovative, growing businesses and agile higher education institutions, from the flexibility of their immigration and working practices, and from the way that the leaders of today nurture the leaders of tomorrow.

### Key recommendations for London

Here are three further practical recommendations for city officials, business leaders and educators:

#### 1. For city officials:

##### **Develop a 'soft power dashboard' for London**

We recommend that London's authorities should routinely collect, publish and use data to build a comprehensive balanced scorecard of the city's soft power – set against clear strategic objectives for talent, encompassing growth in employment, diversity and skills. The scorecard, presented in the form of a dashboard, should highlight to all stakeholders the flows of human capital into and out of the city, including students, employees and executives, as well as employment and vacancy statistics from knowledge-based sectors and sub-sectors. The dashboard should also show the status of new education initiatives to develop advanced skills. In time, the dashboard could be used to market the city to prospective visitors, students and workers.

#### 2. For business leaders and educators:

##### **Use executives as mentors and businesses as universities**

We recommend that London's business leaders leverage their networks and connections to support the development of talented employees by providing advice, mentoring and coaching. Businesses should also consider collaborating on a 'virtual business university' to provide opportunities for secondments and other temporary or part-time placements, which will help individuals develop a broad range of skills, knowledge and experience. The vice chancellors and deans of London's universities and business schools should consider how they could provide more dynamic executive education as part of existing and new business-led programmes. As part of such a business university business leaders and educators should consider how they can create high-skills 'apprenticeships' for workers seeking to bridge the gap between low or medium-skill employment and high-skill occupations. Although there are considerable benefits to businesses in such a collaboration, further incentives could be provided through appropriate government fiscal policies.

#### 3. For all:

##### **Establish new and affordable creative zones**

Given the relationship that appears to exist between culture, creativity and innovation, and economic prosperity, we recommend that city officials work closely with business leaders and educators to develop new creative zones in London, such as Croydon Tech City, picking up the mantle from Shoreditch, Old Street and Kings Cross. These zones can help to tackle many of the challenges that have the potential to inhibit London's future growth, including the provision of new 'campus-style' business hubs where established companies can work hand in hand with new start-ups, creatives and entrepreneurs in a cost-friendly environment. Creative zones could also offer affordable housing or temporary student and worker accommodation, and provide opportunities for businesses to regenerate old or derelict buildings, bringing much-needed investment into deprived areas. Here, there is a clear role for city planners and for more flexible fiscal policies that support and encourage widespread business investment.

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