



CITIES OF INFLUENCE

Talent - Location - Cost - Risk

Office Sector | Q1 2018 | EMEA



Introduction

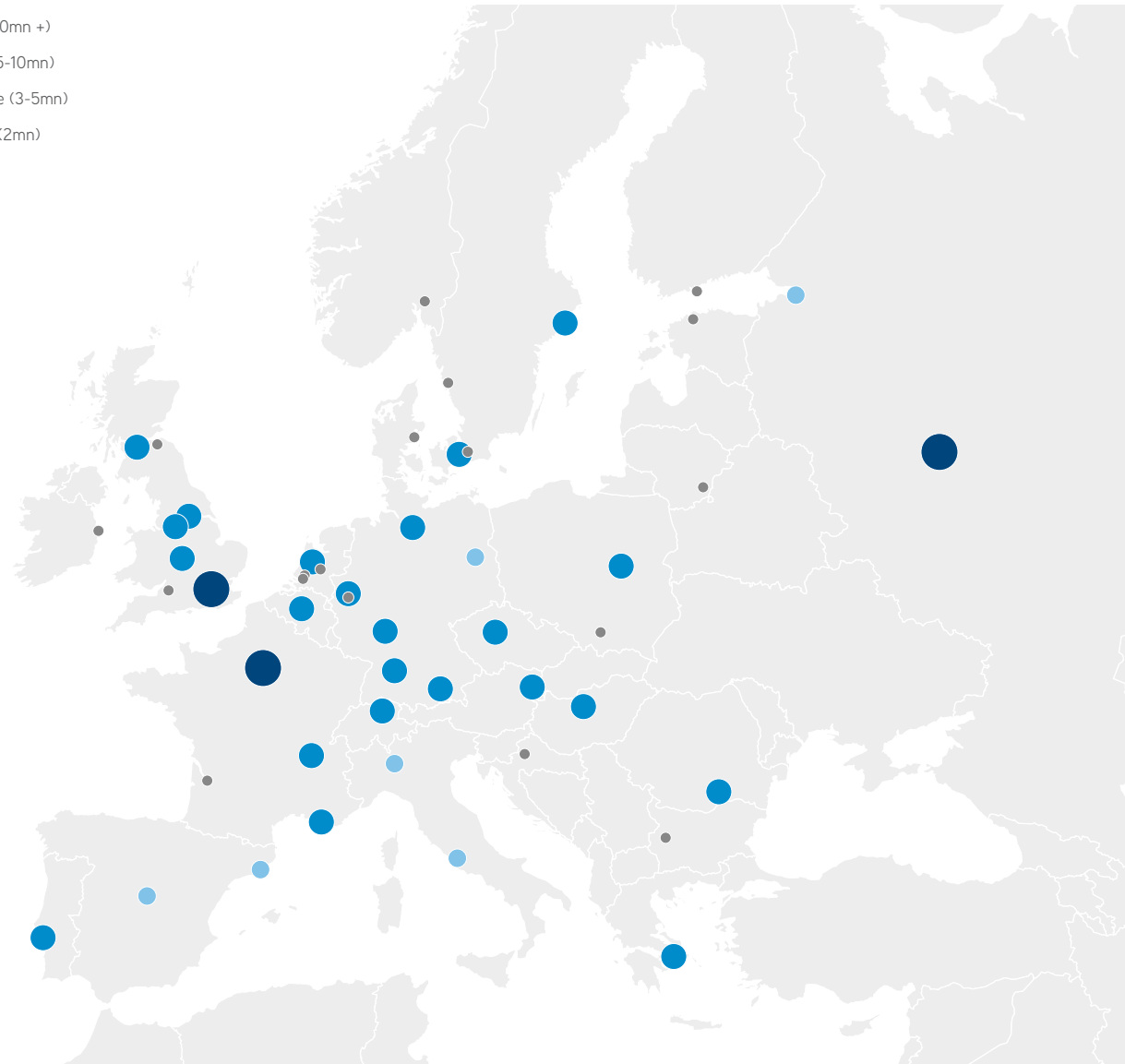
We are delighted to launch version 2.0 of our market-leading series of European research, "Cities of Influence". The new extended version of the series now covers fifty European economic hubs – building on the twenty covered in the inaugural report launched in Q1 2017 - providing a broad geographic coverage of European markets that are of global, regional and national importance.

This latest version of the report introduces some new factors into the overall analysis, but the overall context remains the same – reviewing and ranking markets based on their occupier attractiveness and magnetism as centres of diverse high-quality service sector talent, driving economic output and productivity.

The analysis has been developed and structured in a way to examine the broader, functional catchment areas of each city but adding in some new components providing an analysis of economic productivity and quality of life factors for employees. While the overall scores tends to favour the larger markets, the analysis examines different aspects of each city in proportional terms to provide fair coverage to both big and small – and some markets certainly punch above their weight.

Cities of Influence

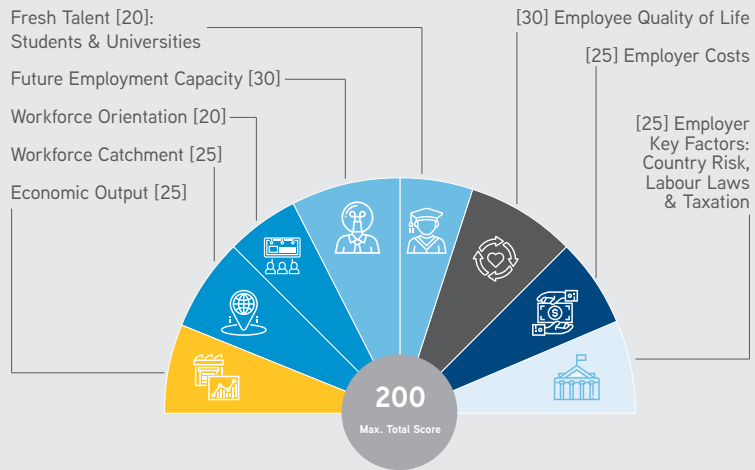
- Mega (10mn +)
- Large (5-10mn)
- Mid-size (3-5mn)
- Small (<2mn)



Source: Colliers International

Scoring Categories

Cities of Influence: Category Weightings



Their are eight categories covering a total of over 150 data metrics per city, which combine to generate a potential score out of 200. Further information on the various metrics which combine to provide the category score can be found at the back of this report. A brief summary of each category is provided here.

Economic Output: Scores are driven by the volume of economic output (GVA) generated by each city and the productivity of each city in terms of GVA/employee. This category also rewards cities driving economic output through 'value-add' services and its importance to the national economy.

Workforce Catchment: This rewards cities where the workforce comprises those in office-based and higher value-add service sector employment. The prevalence of English language skills is now absorbed into this category, and extra points goes to those cities with dominance over their hinterland, as the centre of economic (and employment) gravity.

Workforce Orientation: This reviews the skilled workforce in more detail, and rewards those workforces with a higher proportion of employees in working Information & Communications Technology, Financial Business Services and those in Professional, Technical and Scientific Roles.

Future Employment Capacity: This reviews the latent talent pool and rewards those markets with a higher volume of 'immediately' employable, skilled talent. This comprises a combination of short-term unemployed with value-add skills; 'seniors with skills' i.e. those reaching retirement age but more than capable of economic and corporate value; and emerging youth - those leaving school, and capable of joining the workforce.

Fresh Talent: This scores cities according to the number of students graduating through accredited universities within the catchment area, and the standing of the institution in terms of its global rank and quality of the research/teaching it produces, according to the Times University Global Index. The higher the quality of the institution and the greater the number of students qualifying, the higher the score.

Employee 'Aspirational' Factors: This comprises two elements. Firstly an overall quality of life score that accounts for safety, healthcare, climate, traffic commute & pollution, a property prices to income ratio relative to the cost of living. Secondly, the ability to earn and save, based on income versus consumption levels. Cities generating the best quality of life combined with the ability to earn and save achieve the highest scores.

Employer Costs: This comprises an analysis of average salary levels (inc. employer costs), typical CBD rents for modern office space and the overall cost per FTE of using office space per city, which accounts for typical space per person, plus the total costs of servicing office space. This score is inverted so the lower the overall cost, the higher the score.

Employer Key Factors: These factors are set at the national level, and account for the operational efficiency (ease of doing business), the flexibility of labour laws, overall economic, trade, exchange rate and political risk, the credit rating of each country and corporation tax levels - both current and the historic average. The countries (and thus cities) with the highest operational efficiency, greatest labour market flexibility and lowest market risks combined with low corporation tax generate the highest scores.

Economic Output & Workforce Catchment

When markets are ranked by overall economic output, combined with their workforce catchment scores, we see some interesting results. Unsurprisingly London then Paris lead the line, but Dublin - a comparatively small city - comes in third place, followed by Zurich and Stockholm.

Moscow, the only other 'mega-city' in the study in terms of population catchment size (>10 million, alongside London and Paris) is pushed back into fifth position, with Oslo, Copenhagen, Amsterdam and Munich making up the top ten. And the top ten are only marginally ahead of those in the top twenty - led by Birmingham, Helsinki and Edinburgh - with only two points separating 10th and 20th place.

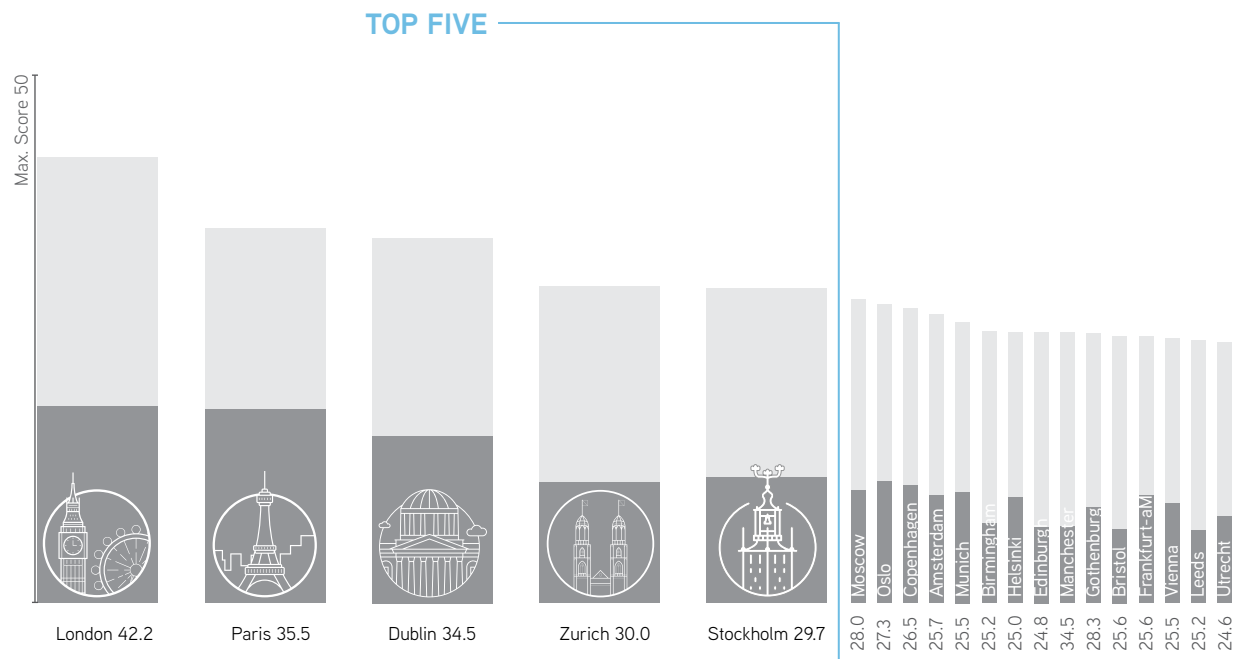
When we examine the scores in more detail, we can extract stories around why certain cities feature strongly, which the matrix chart overleaf helps to highlight. Dublin is a hugely productive economy on a per capita basis, with dominance over its hinterland. These are also features of the main Nordic cities, led by Stockholm and Copenhagen at the top of the rankings, which also benefit from their orientation towards high, value added service creation - a requirement of successful city in the modern, digital economy.

Another interesting feature of this category is that, Paris aside, all the cities in the top twenty belong to the North-western European markets of the UK, Benelux, the Nordics and Germany plus the Germanic speaking territories of Zurich and Vienna. Something for the many CEE and southern European cities to aspire to.



Economic Output & Workforce Catchment - Top 20

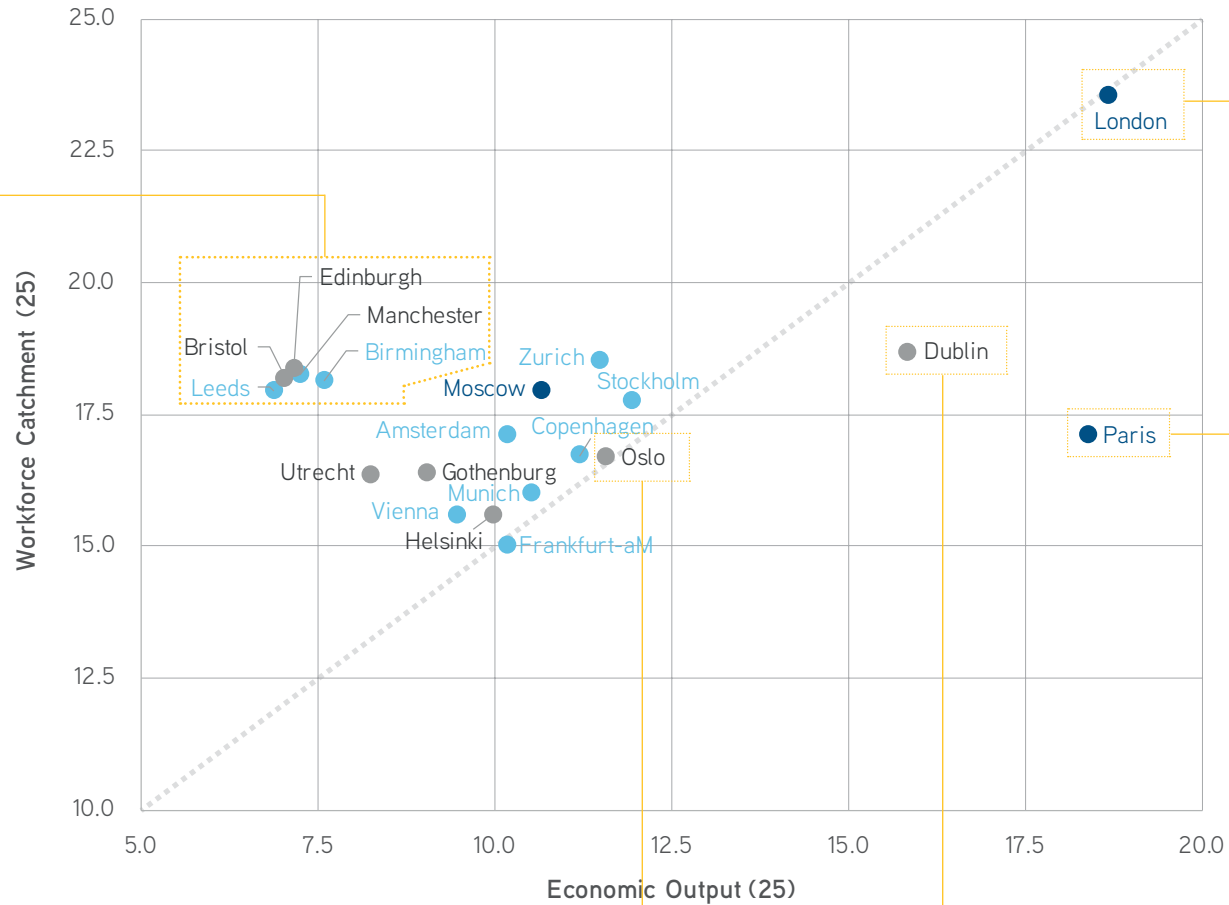
● Economic Output ● Workforce Catchment



Source: Colliers International, Oxford Economics, Eurobarometer

Economic Output vs Workforce Catchment Matrix (Top 20)

● Mega ● Mid-Size ● Small



UK Cities

Despite featuring in the top 20 in this category, the major UK cities that feature may have a strong workforce catchment, but their overall economic output does not match that of their peer group in relative terms. There are some significant productivity gains to be had, if the ongoing investment into 'UK devolution' continues to gain ground.

London

As a leading global centre of innovation, technology and financial and business services it is no surprise to see London 'way out' in front of the competition. To date, Brexit has been high on negative publicity but low on any tangible, negative strategic impact. This does not mean the eventual impact could be more significant, but the London economic eco-system is vast, established and highly diverse.

Paris

Paris runs a close second to London in this category, which is of significant merit when considering the workforce catchment score is significantly lower. If President Macron can continue to enact economic advancement via a re-orientation of the workforce Paris would give London a run for its money.

Oslo

Oslo is something of an anomaly this high up the rankings, but the unique 'hydrocarbon wealth factor' certainly helps drive high output/per capita.

Dublin

Dublin grabs the headlines in 3rd place courtesy of very high productivity rates (and it is not all about tax) in terms of economic output (GVA) per employee, and the dominance of the city over not just its hinterland, but also the national economy.

Source: Colliers International, Oxford Economics, Eurobarometer, Eurostat, OECD

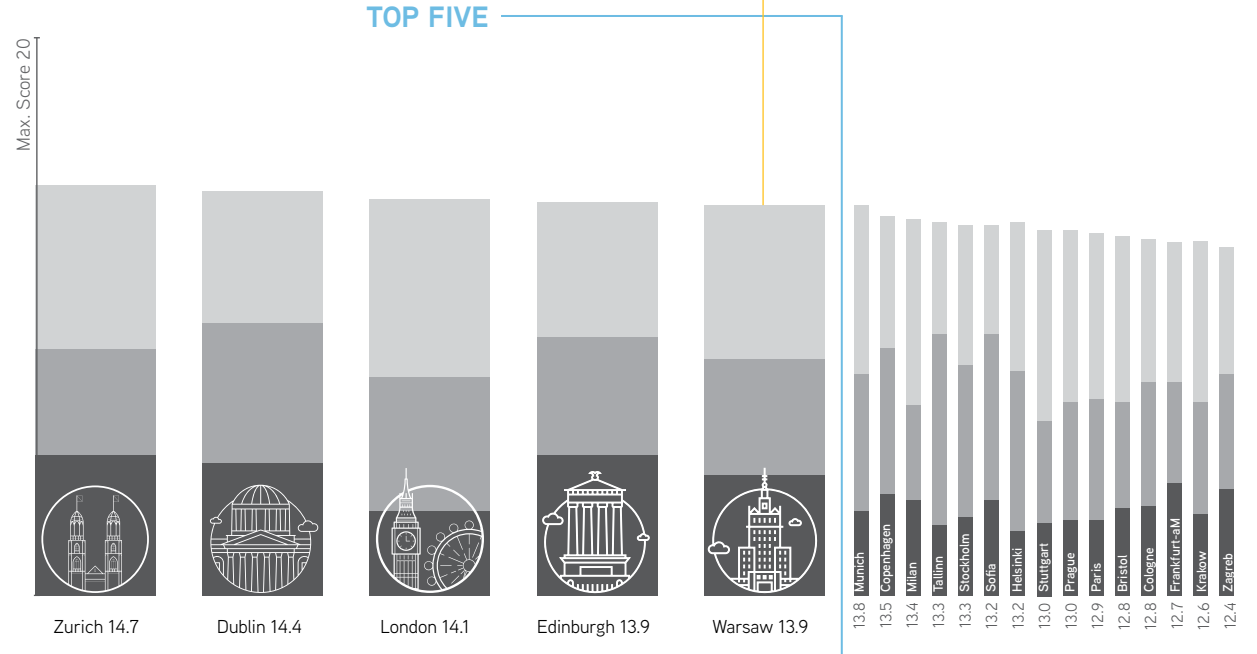
Workforce: Skills & Orientation

If we dig a little deeper and examine the structure of the workforce of each city, we can see of how close they are to having the right balance of workers in value-add modern professions including Information & Communications Technology, Financial Business Services and those in Professional, Technical and Scientific Roles. Many smaller and mid-size markets feature strongly in this category, and it is of no coincidence that these markets also feature highly overall, and in terms of economic productivity per capita. Zurich leads the line, closely followed by Dublin, London and Edinburgh. The major Nordic cities also feature strongly alongside some of the Big7 German cities, but Paris drops back as a result of over-exposure to jobs in public services and support functions. Perhaps the stand-out market is Warsaw, which jumps into the top five for the first time courtesy of a healthy mix of employees working in IT, professional and technical roles.



Workforce Orientation - Top 20

● FBS ● IT & Comms ● Prof, Scientific & Technical



Source: Colliers International, Oxford Economics

Latent/ Future Talent:

Europe is facing an imminent capacity constraint in terms of very low unemployment levels combined with shrinking working populations. So which cities look best positioned to offer occupiers the best options in terms of latent and future talent, to help drive their growth needs?

Well, good question. To provide some objective context to this question we have broken down latent capacity into the following categories, with the weighting toward latent talent that is more 'immediately employable' in office-based, value-add services - as follows:



Short-term unemployed with office-based skills



City seniors at retirement age, with office-based Skills



New starters: city youth reaching employment age and 'ready for work'

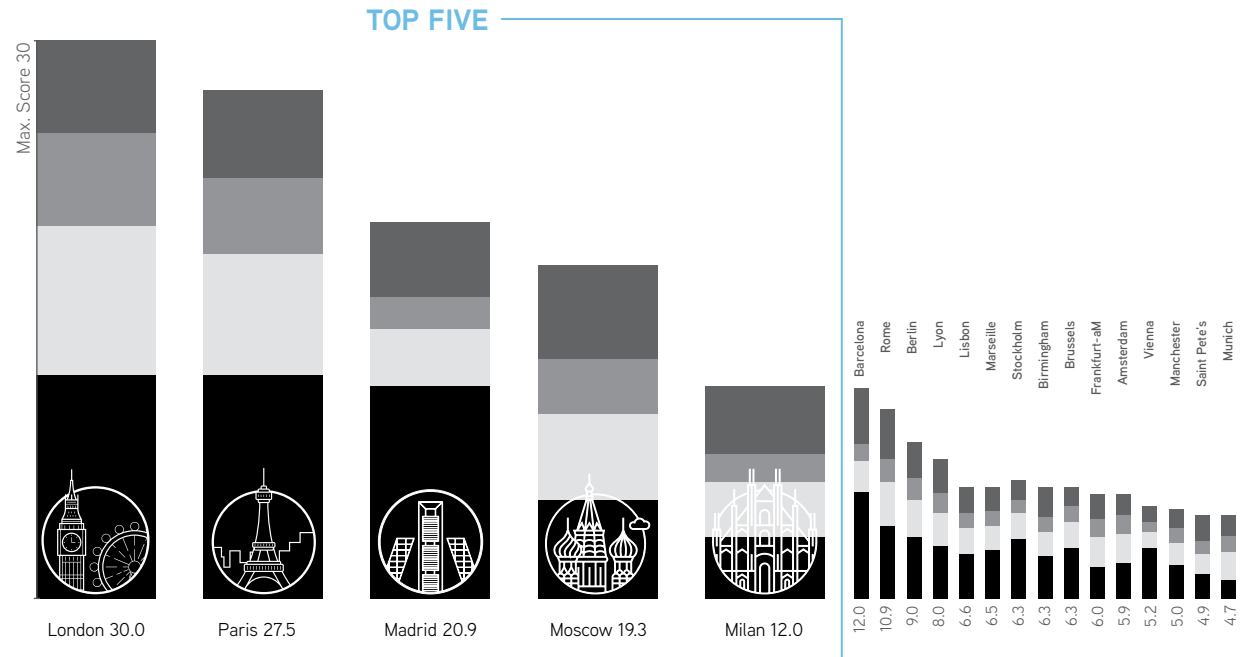


Residual Talent Pool (Unemployed, seniors and youth; mid-long term capacity)



Latent/ Future Talent- Top 20

- City short-term unemployed with office skills
- City Seniors with office-based Skills
- City Youth - 'Ready for work' (Aged 15)
- City - Residual Potential Talent Pool (out of work)



Source: Colliers International, Oxford Economics, Eurostat, OECD

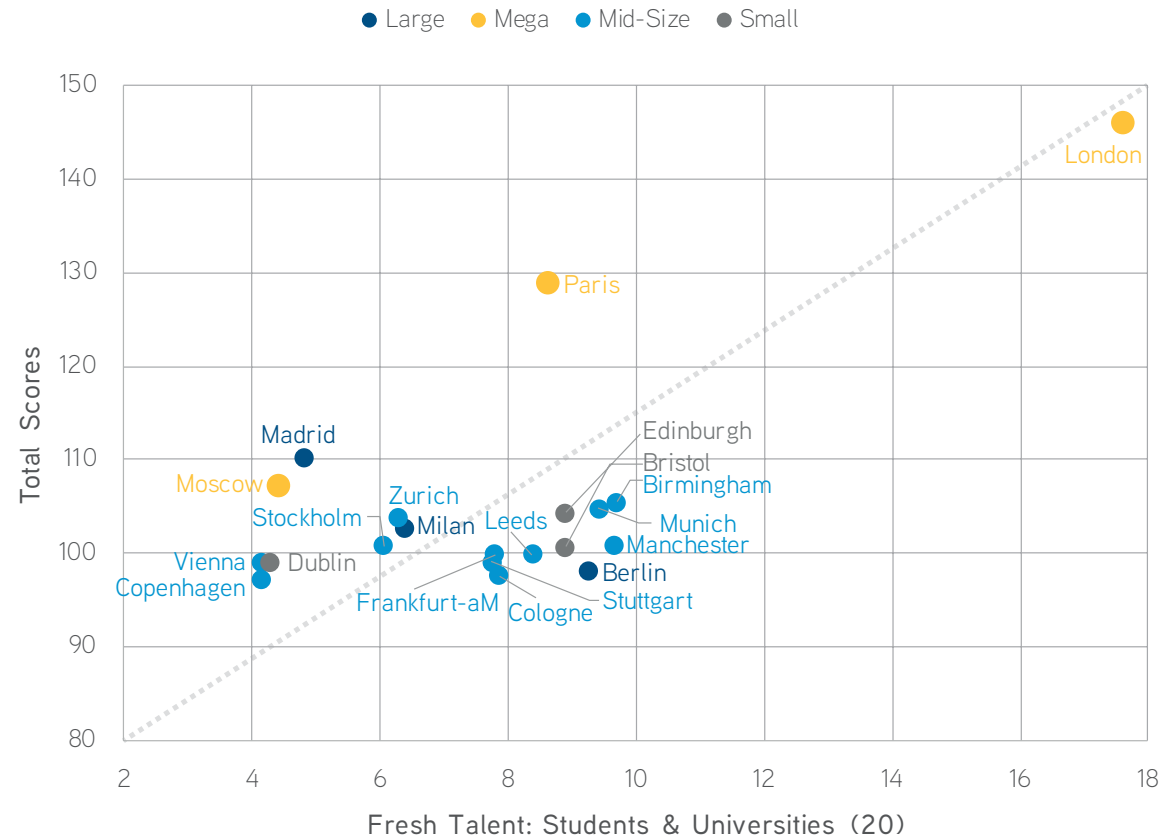
Latent/ Future Talent:

What we see is London again tops the rankings in terms of latent talent, but this time it is followed at the top of the rankings by primarily southern European cities. Madrid, Barcelona, Milan and Rome score strongly courtesy of high unemployment and youth unemployment – the big question for the cities is whether they can create the right jobs to hang on to this talent, and stem the exodus of young talent leaving in search of better employment opportunities across Europe.

Additionally, the prospects of employment, a career path and success will often start at the university level, and there is a strong correlation between the overall city scores achieved with those cities providing a strong university catchment.

The Fresh Talent matrix draws attention to this, especially the dividing diagonal line. Markets above the line suggest locations that perform well, despite not benefiting from a strong university catchment. Paris and Madrid depict this trend. Those below the line – primarily UK and German regional cities could do better, notably Berlin and Manchester.

Fresh Talent vs Total Score Matrix (Top 20)



Source: Colliers International, Oxford Economics, Eurostat, OECD, Higher Education World University Rankings

Employee 'Aspirational' Factors

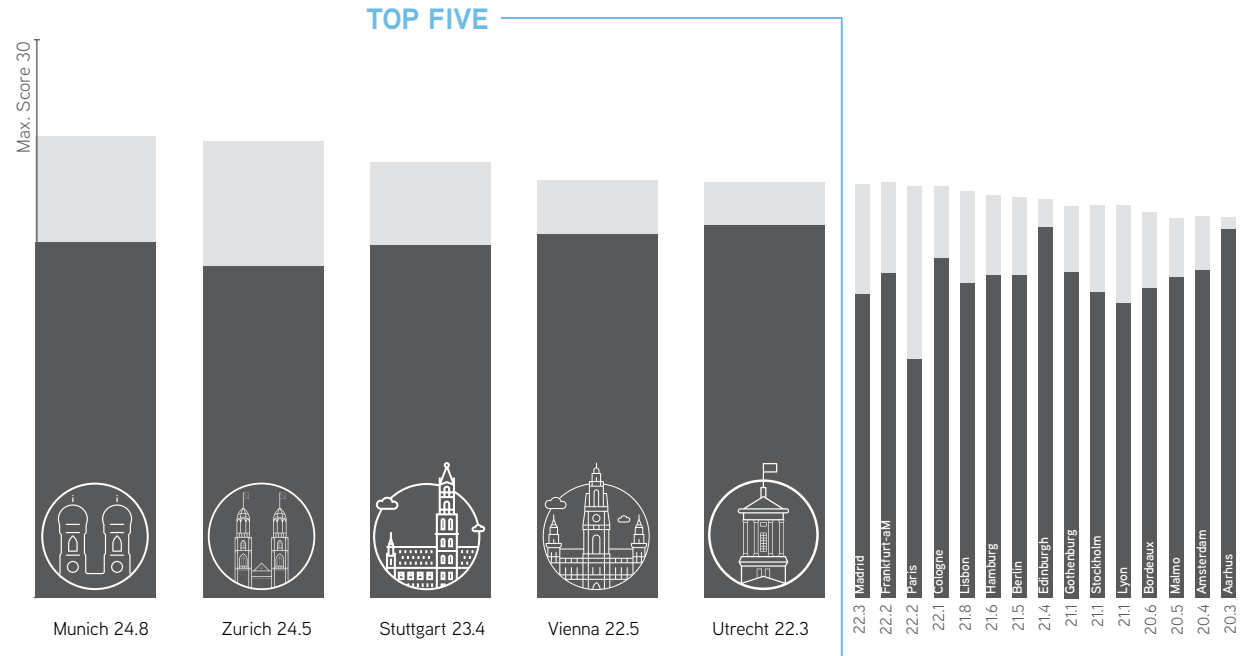
Beyond university and working life, overall quality of life has become more relevant and important to many, especially those of the millennial plus generations. In order to account for this increasingly important factor we have embedded a quality of life score into the analysis. This provides an objective summary of a range of 'quality of life factors' including crime and safety, access to health care, climate, traffic commute & pollution. It also provides an analysis of cost of living factors, property prices to income ratios and the ability to save in each city, based on household consumption vs income levels.

Overall, we see a different picture entirely, with the top ten dominated by Germanic and Dutch markets – led by Munich. The Iberian capitals of Madrid and Lisbon also feature, as do some of the Nordic markets further down the top 20. Three French cities also feature, whereas Edinburgh is the only UK representative.



Employee 'Aspirational' Factors - Top 20

● Quality of Life ● Ability to Save



Source: Colliers International, Oxford Economics, EDCI, Numbeo, Teleport

Employer Factors: Country Risk, Labour Laws & Corporate Taxation

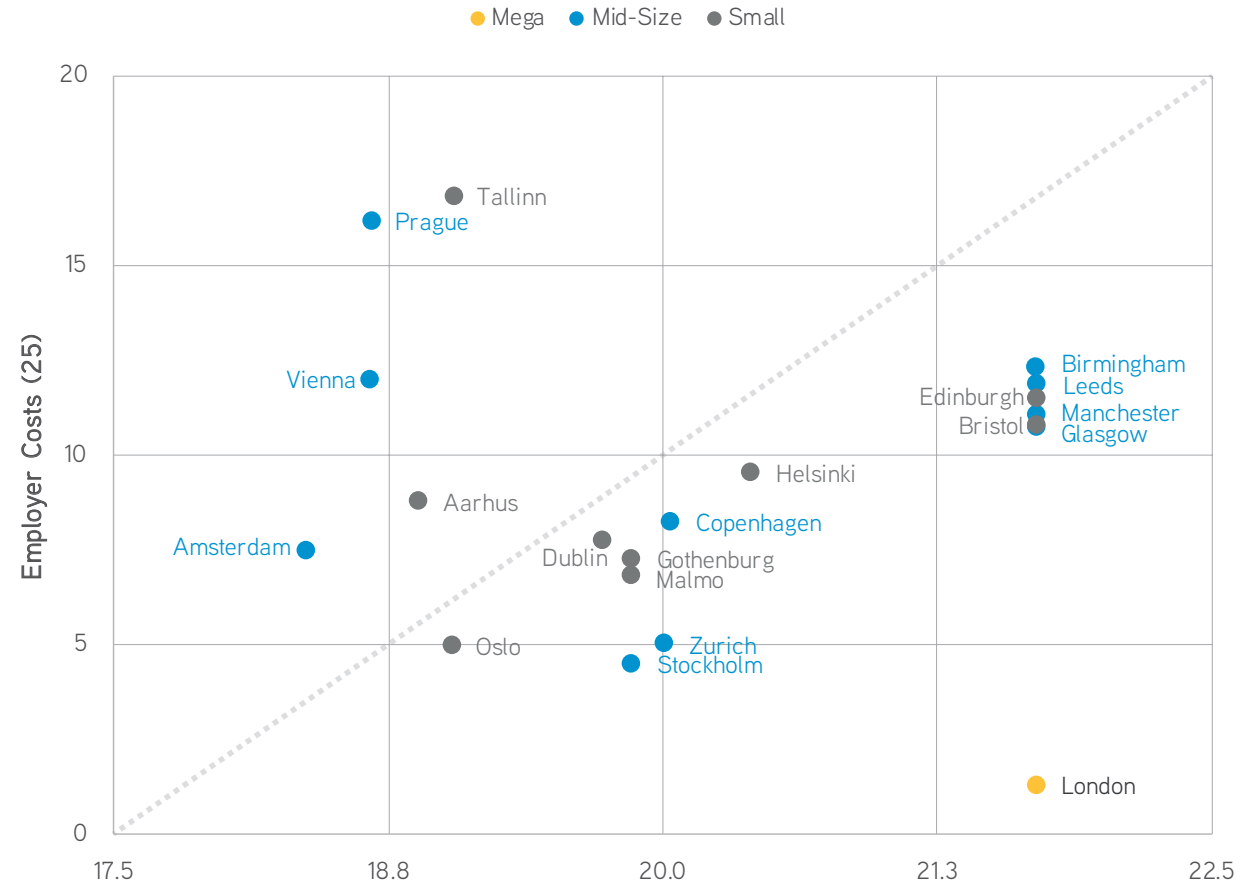
While employee -friendly factors do not put the UK in a good light, the reverse can be said of the more employer friendly factors of market risk, operating conditions, labour law flexibility and corporate tax levels. In this regard, the UK cities sit right at the top of the rankings, which is a reminder of how transparent, flexible and open the UK is as a place to do business despite all the much publicised Brexit ruminations.

Making up the top ten of 'open market' cities to do business are Helsinki, Copenhagen, Zurich and Stockholm.

Also of note is the markets that provide a very strong balance between cost and low risk/operational ease. Tallinn and Prague stand out in this regard.



Employer Costs vs EmployerFactors (Top 20)



Source: Colliers International, Oxford Economics, Eurostat, OECD, Numbeo, Teleport, KPMG

Col: Overall Results

GOLD, SILVER & BRONZE

The total score generated by a combination of all categories tends to favour the biggest cities when it comes to the top of the rankings, but size is certainly not the only driver. When we look at the top three, it should not be a shock to see London and Paris again taking the top two spots. They are followed by Madrid in 3rd place, which has moved several places up the rankings from 2017, courtesy of strong economic and jobs growth amongst other factors.

THE TOP TEN

As we work our way through the rest of the top ten there are, perhaps, a few surprises – as a result of their inclusion and omission.

Moscow comes in 4th place, which may be a shock to some. But Moscow is the largest city in this study – by virtue of a population catchment close to 20 million. Naturally, this generates huge economic output and

future employment growth/expansion potential albeit the focus of the market is primarily national, rather than European or Global.

The remainder of the top ten sees Birmingham jump into fifth place, marginally ahead of Munich in 6th.

There are large differences between the two. Munich features as the top city overall on ‘employee aspirational factors’, whereas Birmingham comes in at No. 25. But at the heart of the UK Midlands engine, Birmingham does offer significant scale, growth and higher productivity potential which saw it top the FDI rankings for the UK in 2017. The ongoing ‘place-making’ regeneration of the city should play a strong role in helping drive both occupier and investment activity in future. Munich will continue to be a very steady performer at the top of the rankings.

The remainder of the top ten features four rather different cities in Edinburgh, Zurich, Milan and Manchester. Different factors drive

the success of each, with Zurich and Edinburgh scoring very highly on their quality of life/ employee aspirational factors and the high orientation of their workforce towards higher value-added skills. Both have strong university catchments, helping drive their talent pool in a range of technical and scientific roles, including life sciences, alongside their established financial/insurance business services industries. Edinburgh is the only ‘small’ city to make it into the top ten.

Milan and Manchester feature highly, primarily driven by scale. Milan has the fourth largest population catchment in Europe. Manchester has one of the highest student population densities in Europe. Both act as strong potential drivers of occupational demand, and the latent talent potential of Milan remains especially high as a result of high youth unemployment. Both have strong, diverse economies but modern Italian politics have done little to help Milan realise its potential to date.

Berlin is probably the biggest surprise to not feature in the top five, let alone top 10, but only makes it to 18th place. The overall score for the city continues to be held back by a high workforce orientation towards the public sector, but as the city continues to transform, via a burgeoning start-up scene, and growing tech, digital and media sectors it should not take long before it jumps up the Col rankings. We may then see it match investor activity as a favoured capital destination – according to ULI, Berlin has been voted the No. 1 European investment market of 2018, having made it into fourth in 2017.

Cities of Influence: Overall Results Top 30

CITY	CITY SIZE (POPN BASED)	COI TOTAL (200)	COI RANK	2017 INVESTMENT RANK
London	Mega	146.2	1	1
Paris	Mega	129.1	2	2
Madrid	Large	110.3	3	3
Moscow	Mega	107.5	4	19
Birmingham	Mid-Size	105.5	5	14
Munich	Mid-Size	104.8	6	8
Edinburgh	Small	104.4	7	45
Zurich	Mid-Size	103.8	8	28
Milan	Large	102.7	9	15
Manchester	Mid-Size	100.9	10	13
Stockholm	Mid-Size	100.8	11	10
Bristol	Small	100.7	12	42
Leeds	Mid-Size	99.9	13	58
Frankfurt-aM	Mid-Size	99.9	14	5
Dublin	Small	99.1	15	21
Stuttgart	Mid-Size	99.1	16	31
Vienna	Mid-Size	99.0	17	12
Berlin	Large	98.0	18	4
Cologne	Mid-Size	97.6	19	18
Copenhagen	Mid-Size	97.2	20	20
Hamburg	Mid-Size	96.3	21	9
Amsterdam	Mid-Size	96.2	22	6
Helsinki	Small	96.0	23	7
Glasgow	Mid-Size	95.8	24	33
Utrecht	Small	95.7	25	22
Rome	Large	94.3	26	24
Barcelona	Large	93.8	27	23
Prague	Mid-Size	93.2	28	25
Lyon	Mid-Size	92.8	29	37
Lisbon	Mid-Size	92.7	30	57

Source: Colliers International, RCA

Cities of Influence: Top 5 by City Size

OVERALL	LARGE CITIES (5-10MN)	MID-SIZE CITIES (2-5MN)	SMALL CITIES (<2MN)
1	London	Madrid	Birmingham
2	Paris	Milan	Munich
3	Madrid	Berlin	Zurich
4	Moscow	Rome	Manchester
5	Birmingham	Barcelona	Stockholm

Source: Colliers International

Investment Outlook

CITY	2018 ULI INVESTMENT DESTINATION RANK
Berlin	1
Frankfurt-aM	2
Copenhagen	2
Munich	4
Madrid	5
Hamburg	6
Dublin	7
Stockholm	8
Amsterdam	10
Barcelona	11
Lisbon	11
Vienna	13
Paris	14
Prague	15
Oslo	16
Milan	17
Helsinki	18
Budapest	19
Manchester	20
Birmingham	21
Lyon	21
Warsaw	23
Zurich	24
Brussels	25
Edinburgh	26
London	27
Rome	28
Athens	29
Moscow	30

Source: ULI

OCCUPIER VS INVESTOR

Given that the European market is at the top of the current investment cycle, occupier drivers are increasingly important in maintaining and growing capital values long-term. With limited scope for further yield compression in light of impending inflation and rising interest rates, buying into markets with a strong occupational basis, and/or a strong growth story should be increasingly important to investors. So how does Colliers Col analysis match with where investors have been investing in 2017, and where investors - at least courtesy of the recent ULI Emerging Trends report - think investment capital should be going in 2018.

TOP THREE CORRELATION

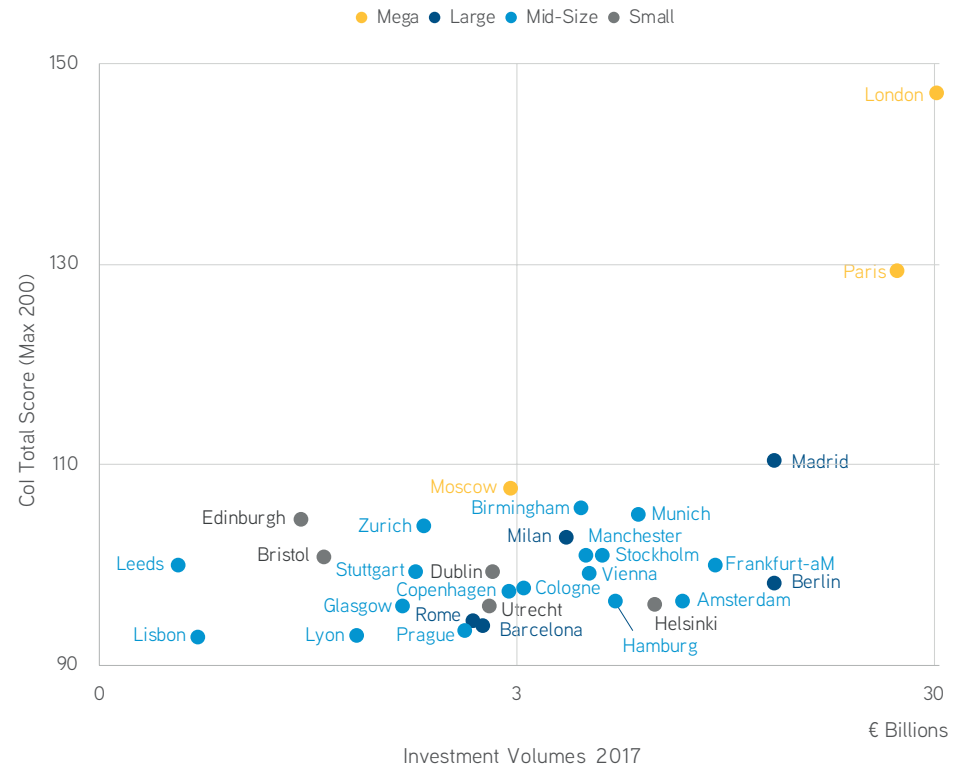
If we compare our Col index to the key investment capital destinations of 2017, there is a clear correlation with the top three markets i.e. the top three Col markets of London, Paris and Madrid were also the top investment destinations of 2017 and in that order (see matrix chart above).

There are other instances where the correlation matches, or is at least very close including: Munich, Manchester, Stockholm, Vienna, Cologne, Copenhagen,

Utrecht, Rome, Barcelona and Prague. This suggests that investors are buying into markets with the best current, and in many respects long-term, drivers of occupational growth. For the larger markets, scale also generates liquidity.

Yet there are many markets where the correlation weakens, but it is possible to understand and give a view as to why. Moscow, for example features as No. 4 in our Col index, but ranked 19th as a capital destination in 2017. Few explanations are needed as to why it is currently not the top 4 European location to invest, but it is worth remembering that prior to the market changing events of 2013 it ranked 3rd as a capital destination in 2011, and 5th in 2012.

Cities of Influence Score vs Investment Volumes (Top 30)



Source: Colliers International, RCA, Various

Other 'non-correlations' include many of the UK regional cities, which - Manchester aside - appear under-invested. Helsinki reaching 7th place as capital destination for 2017, courtesy of Blackstone buying Sponda, is another example of how activity and events will always skew where investment capital goes.

Looking forward, although pricing and returns, access to product, new infrastructure and development will always be key factors in attracting investment, the 'occupier drivers' highlighted by our Col index should take on more importance in determining capital flows in the years ahead.

As for 2018, it is hard to discount the magnetism of London and Paris at the top of the leaderboard, even though the latest ULI emerging trends survey gives Germany, the Benelux and Nordic markets a front-seat. Berlin is very likely to press Madrid for 3rd place, and many of the UK regional cities look 'under-invested' relative to their Col score, which could drive a shift in capital distribution. Perhaps the main observation, as per the matrix above, is that that Europe will continue to be a tightly contested landscape as cities vie for talent, business growth and investment. The good news is that this will create new opportunities, extending the investment cycle further. There is plenty to play for.



€2.4

billion in
annual revenue

68,000

lease/ sales
transactions

180

million square metre
under management

€103

billion
transaction value

15,400

professionals
and staff

69

countries

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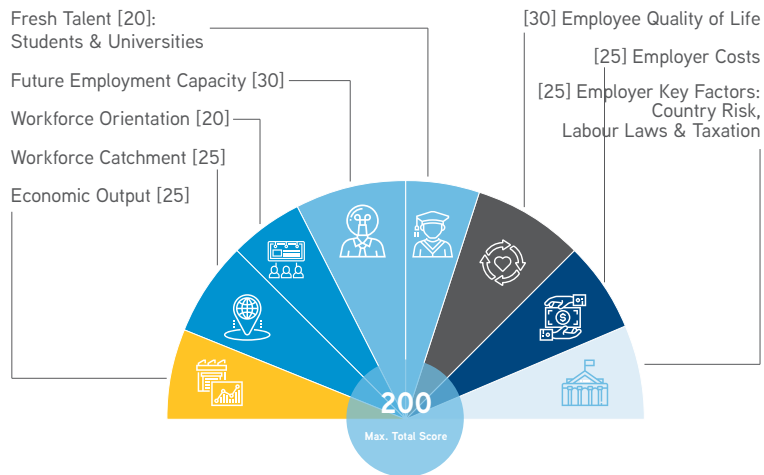
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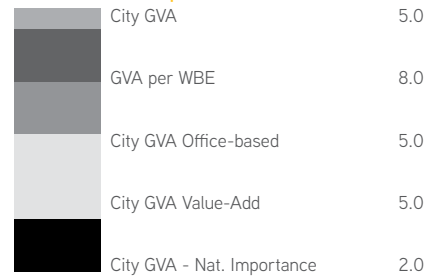


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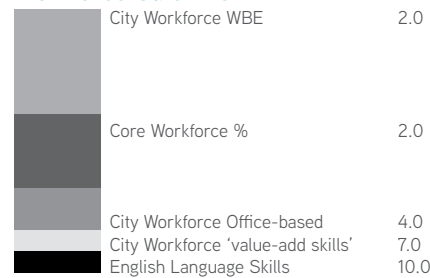
Cities of Influence: Category Weightings



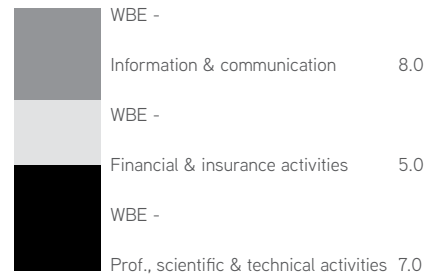
Economic Output



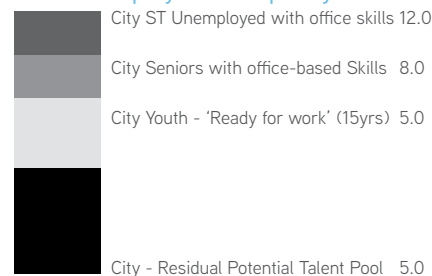
Workforce Catchment



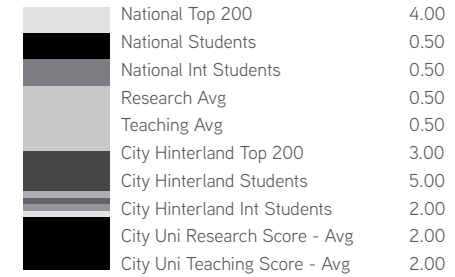
Workforce Orientation



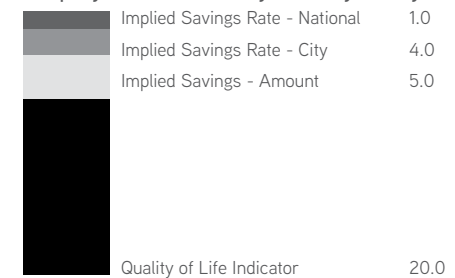
Future Employment Capacity



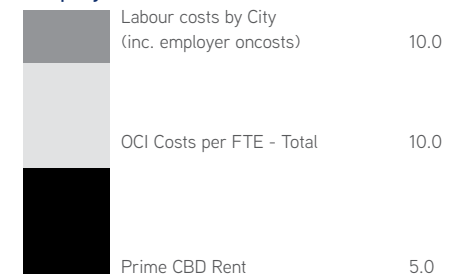
Fresh Talent: Students & Universities



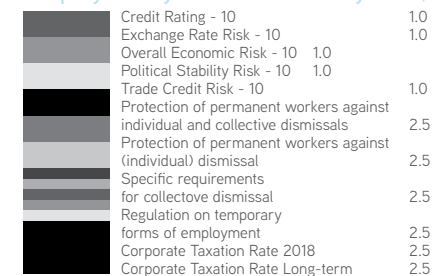
Employee Affordability/Lifestyle Key Factors



Employer Costs



Employer Key Factors: Country Risk, Labour Laws & Taxation



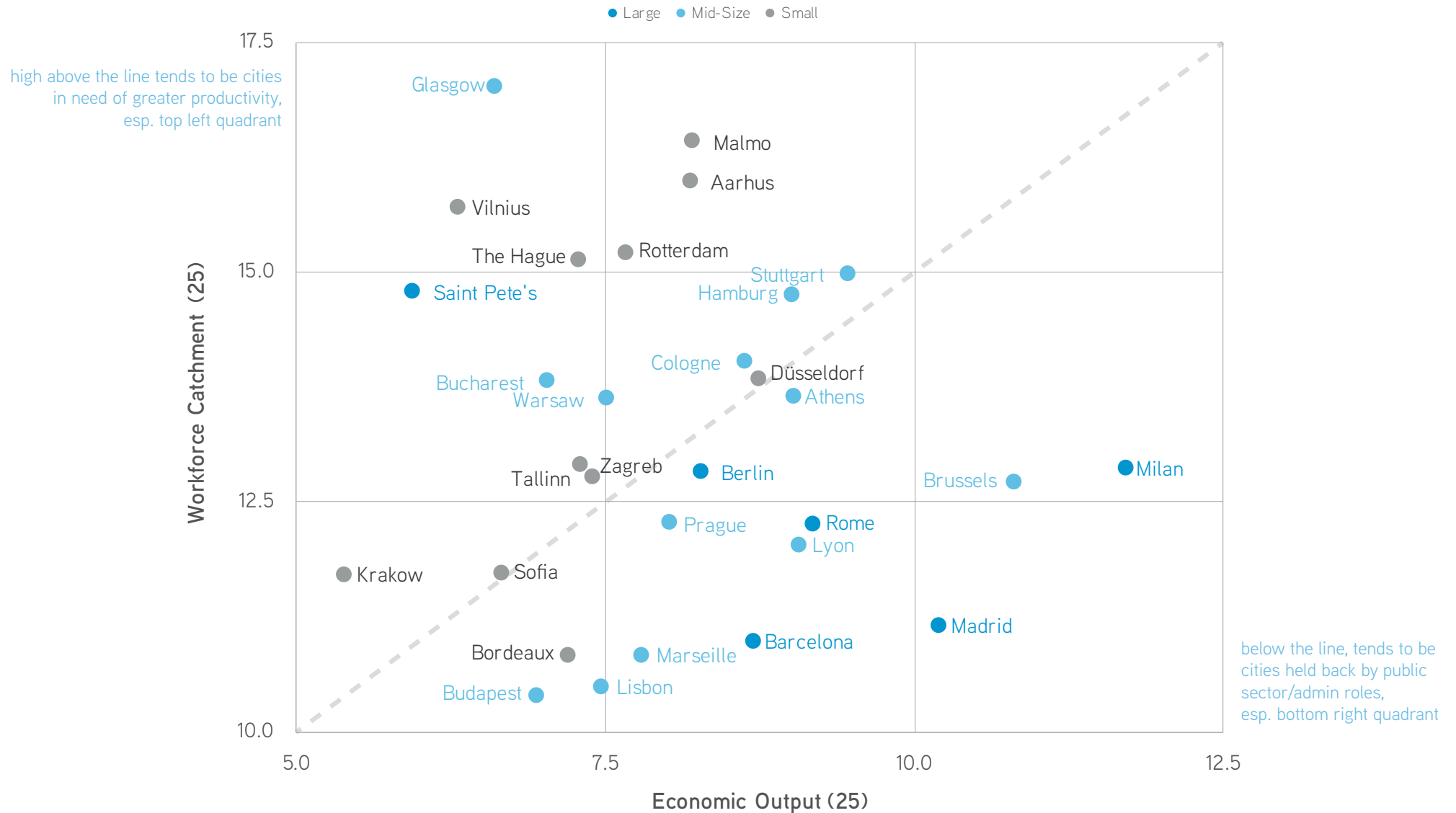
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	ALL SIZES	LARGE (5-10MN)	MID-SIZE (2-5MN)	SMALL (<2MN)
ECONOMIC OUTPUT				
1	London	Milan	Stockholm	Dublin
2	Paris	Madrid	Zurich	Oslo
3	Dublin	Rome	Copenhagen	Helsinki
4	Stockholm	Barcelona	Brussels	Gothenburg
5	Milan	Berlin	Munich	Düsseldorf
WORKFORCE ORIENTATION (20)				
1	Zurich	Milan	Zurich	Dublin
2	Dublin	Saint Pete's	Warsaw	Edinburgh
3	London	Rome	Munich	Tallinn
4	Edinburgh	Madrid	Copenhagen	Helsinki
5	Warsaw	Barcelona	Stockholm	Bristol
FRESH TALENT: STUDENTS & UNIVERSITIES (20)				
1	London	Berlin	Birmingham	Edinburgh
2	Birmingham	Milan	Manchester	Bristol
3	Manchester	Rome	Munich	Düsseldorf
4	Munich	Madrid	Leeds	The Hague
5	Berlin	Barcelona	Glasgow	Utrecht
EMPLOYER COSTS (25)				
1	Saint Pete's	Saint Pete's	Bucharest	Zagreb
2	Zagreb	Rome	Budapest	Krakow
3	Bucharest	Madrid	Athens	Tallinn
4	Budapest	Barcelona	Lisbon	Vilnius
5	Krakow	Milan	Warsaw	Sofia
WORKFORCE CATCHMENT (25)				
1	London	Milan	Stockholm	Edinburgh
2	Edinburgh	Madrid	Zurich	Dublin
3	Dublin	Rome	Copenhagen	Bristol
4	Bristol	Barcelona	Brussels	Oslo
5	Manchester	Berlin	Munich	Utrecht
FUTURE EMPLOYMENT CAPACITY (30)				
1	London	Madrid	Lyon	Sofia
2	Paris	Milan	Stockholm	Helsinki
3	Madrid	Barcelona	Marseille	Bordeaux
4	Moscow	Rome	Lisbon	Rotterdam
5	Milan	Berlin	Brussels	Gothenburg
EMPLOYEE 'ASPIRATIONAL' FACTORS (30)				
1	Munich	Madrid	Munich	Utrecht
2	Zurich	Berlin	Zurich	Edinburgh
3	Stuttgart	Milan	Stuttgart	Gothenburg
4	Vienna	Barcelona	Vienna	Bordeaux
5	Utrecht	Rome	Frankfurt-aM	Malmö
EMPLOYER KEY FACTORS: COUNTRY RISK, LABOUR LAWS & TAXATION (25)				
1	UK Cities	Berlin	UK Cities: Birmingham, Manchester, Leeds, Glasgow	UK Cities: Bristol, Edinburgh
2	Helsinki	Madrid	Copenhagen	Helsinki
3	Copenhagen	Barcelona	Zurich	Swedish Cities: Gothenburg, Malmö
4	Zurich	Saint Pete's	Stockholm	Dublin
5	Swedish Cities	Rome	Prague	Tallinn

Apendix: iii

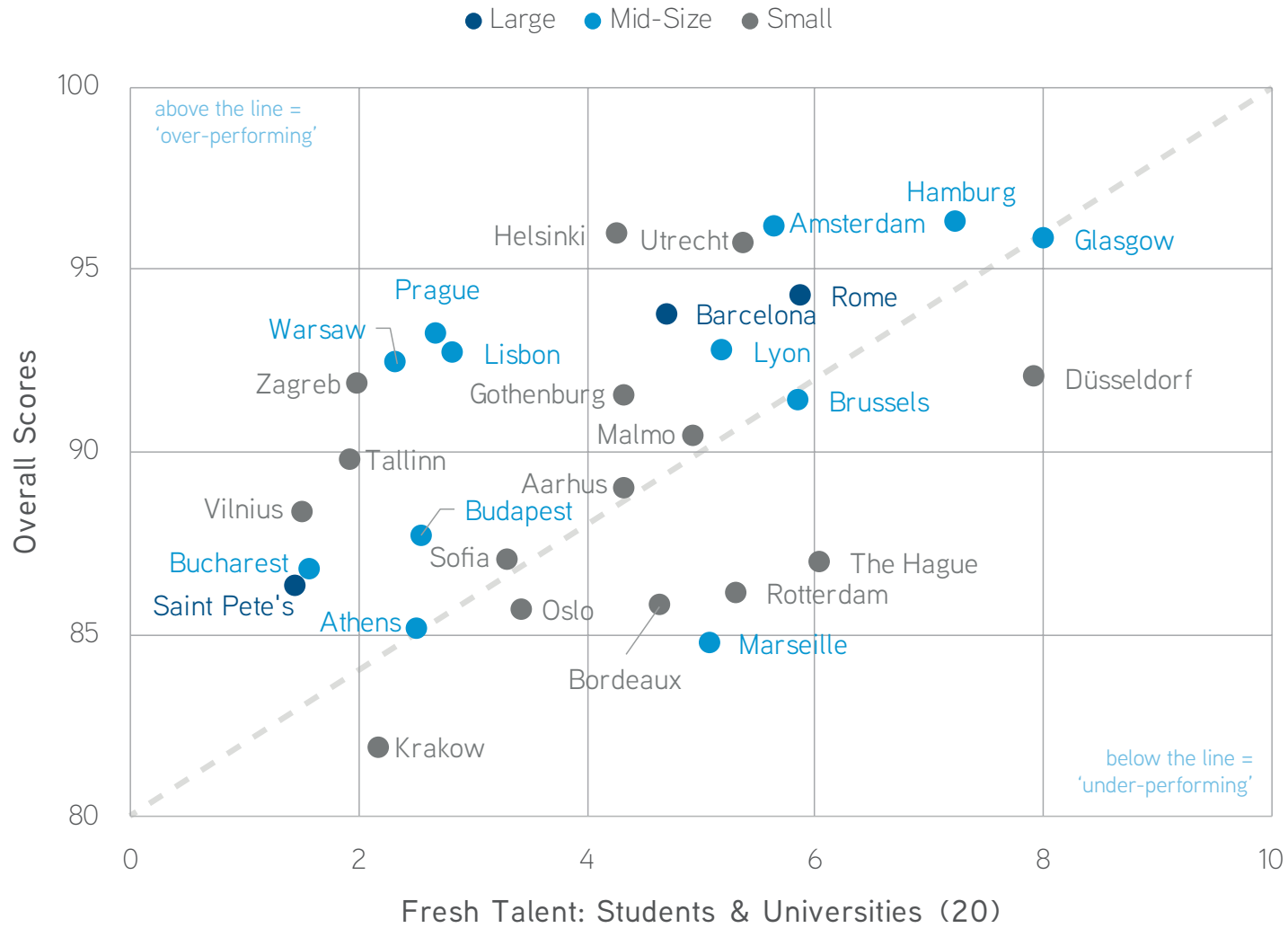
CITY	CITY SIZE	CITY SIZE (POPN BASED)	TOTAL (200)	ECONOMIC OUTPUT (25)	WORKFORCE CATCHMENT (25)	WORKFORCE ORIENTATION (20)	FUTURE EMPLOYMENT CAPACITY (30)	FRESH TALENT: STUDENTS & UNIVERSITIES (20)	EMPLOYEE QUALITY OF LIFE (30)	EMPLOYER COSTS (25)	EMPLOYER KEY FACTORS: COUNTRY RISK, LABOUR LAWS & TAXATION (25)
London	10mn +	Mega	146.3	18.7	23.6	14.1	30.0	17.6	19.4	1.3	21.7
Paris	10mn +	Mega	129.3	18.4	17.2	12.9	27.2	8.6	22.2	6.4	16.3
Madrid	5-10mn	Large	110.3	10.2	11.2	11.1	20.2	4.8	22.3	13.0	17.6
Moscow	10mn +	Mega	107.4	10.7	17.8	9.7	17.9	4.4	15.7	13.6	17.6
Birmingham	2-5 mn	Mid-Size	105.5	7.6	18.1	10.7	6.0	9.7	19.4	12.3	21.7
Munich	2-5 mn	Mid-Size	104.6	10.5	15.9	13.8	4.5	9.4	24.8	7.6	18.1
Edinburgh	sub 2mn	Small	104.6	7.2	18.6	13.9	1.3	8.9	21.4	11.5	21.7
Milan	5-10mn	Large	102.6	11.7	12.8	13.4	11.4	6.4	18.0	12.2	16.7
Zurich	2-5 mn	Mid-Size	102.0	11.5	16.7	14.7	3.3	6.3	24.5	5.0	20.0
Manchester	2-5 mn	Mid-Size	100.8	7.3	18.2	11.2	4.8	9.6	16.9	11.1	21.7
Stockholm	2-5 mn	Mid-Size	100.8	12.0	17.7	13.3	6.4	6.0	21.1	4.5	19.9
Bristol	sub 2mn	Small	100.8	7.0	18.2	12.8	1.6	8.9	19.7	10.8	21.7
Frankfurt-aM	2-5 mn	Mid-Size	100.1	10.2	15.3	12.7	5.6	7.8	22.2	8.3	18.1
Leeds	2-5 mn	Mid-Size	99.9	6.9	18.0	11.7	3.5	8.4	18.0	11.9	21.7
Vienna	2-5 mn	Mid-Size	99.2	9.5	15.8	11.6	5.1	4.1	22.5	12.0	18.7
Stuttgart	2-5 mn	Mid-Size	99.1	9.5	14.9	13.0	2.8	7.7	23.4	9.5	18.1
Dublin	sub 2mn	Small	98.9	15.8	18.5	14.4	2.3	4.3	16.2	7.7	19.7
Berlin	5-10mn	Large	98.0	8.3	12.8	9.6	8.4	9.2	21.5	10.1	18.1
Cologne	2-5 mn	Mid-Size	97.8	8.6	14.2	12.8	2.6	7.9	22.1	11.5	18.1
Copenhagen	2-5 mn	Mid-Size	96.8	11.2	16.4	13.5	4.1	4.1	19.3	8.2	20.0
Amsterdam	2-5 mn	Mid-Size	96.3	10.2	17.3	11.4	5.5	5.7	20.4	7.5	18.4
Hamburg	2-5 mn	Mid-Size	96.3	9.0	14.8	11.5	4.3	7.2	21.6	9.8	18.1
Helsinki	sub 2mn	Small	95.9	10.0	15.6	13.2	3.7	4.3	19.3	9.5	20.4
Utrecht	sub 2mn	Small	95.7	8.3	16.4	11.7	2.1	5.4	22.3	11.2	18.4
Glasgow	2-5 mn	Mid-Size	95.7	6.6	16.9	9.7	3.1	8.0	19.0	10.8	21.7
Rome	5-10mn	Large	94.5	9.2	12.5	11.2	10.2	5.9	15.1	13.8	16.7
Barcelona	5-10mn	Large	93.7	8.7	10.9	9.7	11.3	4.7	17.9	13.0	17.6
Prague	2-5 mn	Mid-Size	93.2	8.0	12.3	13.0	2.9	2.7	19.5	16.2	18.7
Lyon	2-5 mn	Mid-Size	92.9	9.1	12.1	10.1	7.6	5.2	21.1	11.5	16.3
Lisbon	2-5 mn	Mid-Size	92.8	7.5	10.6	8.3	6.1	2.8	21.8	17.5	18.3
Düsseldorf	sub 2mn	Small	92.2	8.7	14.1	12.4	1.9	7.9	20.0	9.0	18.1
Gothenburg	sub 2mn	Small	91.4	9.1	16.3	10.9	2.6	4.3	21.1	7.3	19.9
Brussels	2-5 mn	Mid-Size	91.2	10.8	12.5	11.2	6.1	5.8	18.3	9.9	16.5
Warsaw	2-5 mn	Mid-Size	90.8	7.5	11.9	13.9	4.2	2.3	16.5	16.7	17.7
Malmo	sub 2mn	Small	90.3	8.2	16.3	11.3	2.4	4.9	20.5	6.8	19.9
Zagreb	sub 2mn	Small	89.8	7.3	10.9	12.4	1.7	2.0	18.9	19.0	17.7
Tallinn	sub 2mn	Small	89.6	7.4	12.6	13.3	0.3	1.9	18.2	16.8	19.0
Aarhus	sub 2mn	Small	88.9	8.2	15.9	11.1	1.4	4.3	20.3	8.8	18.9
Vilnius	sub 2mn	Small	88.2	6.3	15.6	10.8	1.2	1.5	18.5	16.8	17.5
Budapest	2-5 mn	Mid-Size	88.1	6.9	10.8	10.3	3.9	2.6	17.4	17.9	18.3
Saint Pete's	5-10mn	Large	87.2	6.7	11.9	13.2	2.4	3.3	13.2	19.0	17.5
The Hague	sub 2mn	Small	87.1	7.3	15.2	8.9	2.3	6.0	18.1	10.9	18.4
Bucharest	2-5 mn	Mid-Size	86.7	7.0	13.7	12.0	2.9	1.6	14.2	18.0	17.3
Sofia	sub 2mn	Small	86.3	5.9	14.7	9.5	4.5	1.4	16.4	16.2	17.6
Rotterdam	sub 2mn	Small	85.9	7.7	15.0	8.4	2.6	5.3	18.0	10.6	18.4
Oslo	sub 2mn	Small	85.5	11.6	16.6	12.1	2.0	3.4	15.8	5.0	19.0
Bordeaux	sub 2mn	Small	85.5	7.2	10.6	9.4	2.9	4.6	20.6	13.9	16.3
Athens	2-5 mn	Mid-Size	85.2	9.0	13.6	11.1	3.2	2.5	12.3	17.8	15.6
Marseille	2-5 mn	Mid-Size	84.8	7.8	10.9	7.9	6.1	5.1	18.2	12.5	16.3
Krakow	sub 2mn	Small	81.7	5.4	11.5	12.6	1.4	2.2	13.0	17.9	17.7

Economic Output vs Workforce Catchment Matrix Rank 21-50



Appendix: v

Fresh Talent - Rank 21-50



Employer Factors - Rank 21-50

