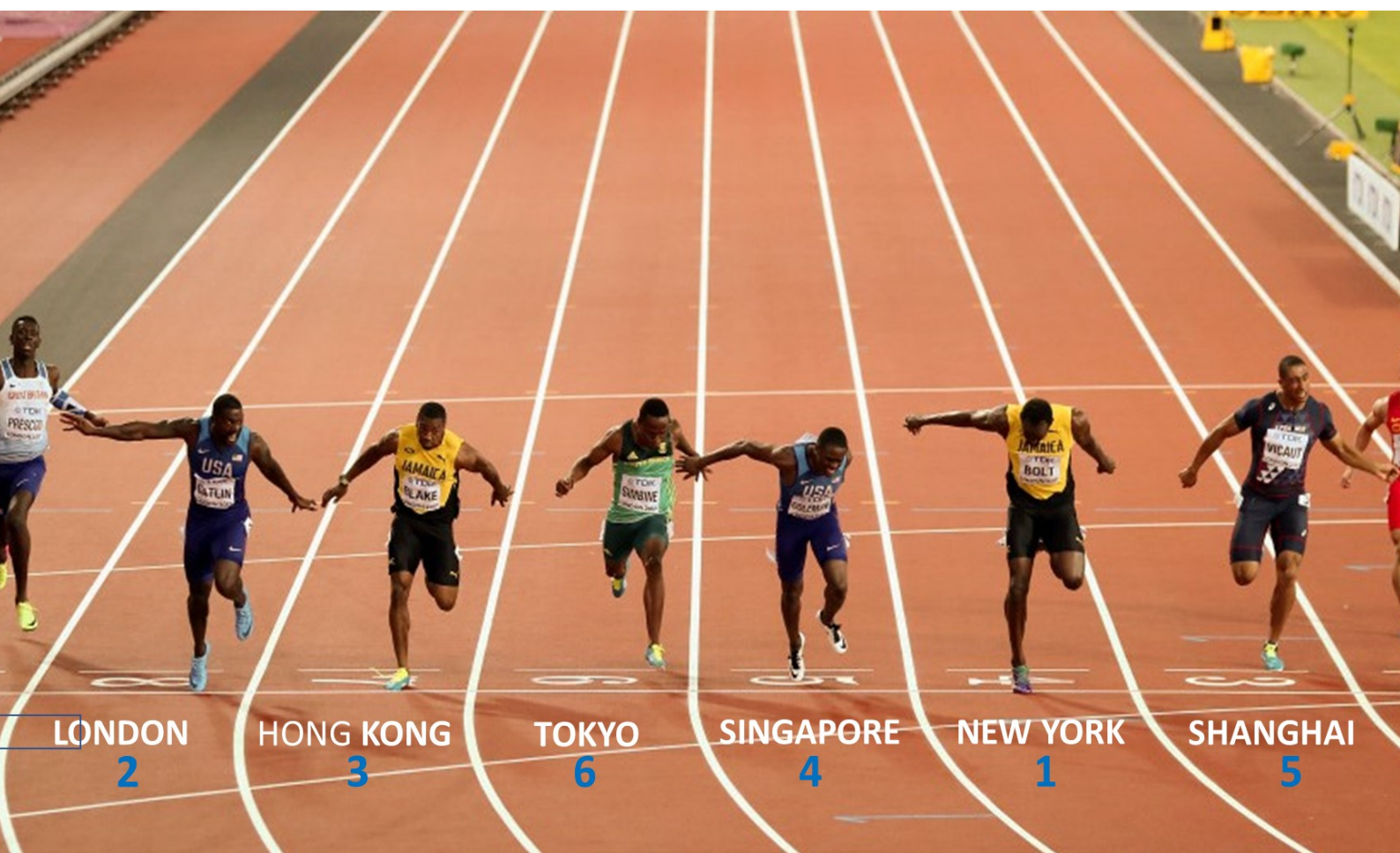




# The Global Financial Centres Index 24

SEPTEMBER 2018



LONDON  
2

HONG KONG  
3

TOKYO  
6

SINGAPORE  
4

NEW YORK  
1

SHANGHAI  
5



Financial Centre Futures





We are pleased to present the twenty-fourth edition of the Global Financial Centres Index (GFCI 24).

In March 2007 Z/Yen released the first edition of the GFCI, which continues to provide evaluations of competitiveness and rankings for the major financial centres around the world.

In July 2016 the China Development Institute (CDI) in Shenzhen and Z/Yen Partners in London established a strategic partnership for research into financial centres. We continue our collaboration in producing the GFCI.

The GFCI is updated every March and September and receives considerable attention from the global financial community. The index serves as a valuable reference for policy and investment decisions.

Z/Yen is the City of London's leading commercial think-tank. Z/Yen was founded in 1994 to promote societal advance through better finance and technology. Z/Yen has built its practice around a core of high-powered project managers, supported by experienced technical specialists so that clients get expertise they need, rather than just resources available. The firm is headquartered in London, but Z/Yen is committed to the 'virtual office' concept and is an intense user of technology in order to improve flexibility and benefit staff.

The CDI is a leading national think-tank that develops solutions to public policy challenges through broad-scope and in-depth research to help advance China's reform and opening-up to world markets. The CDI has been working on the promotion and development of China's financial system since its establishment 29 years ago. Based on rigorous research and objective analysis, CDI is committed to providing innovative and pragmatic reports for governments at different levels in China and corporations at home and abroad.

The authors of this report, Mark Yeandle and Mike Wardle would like to thank Bikash Kharel, Shevangee Gupta, Michael Mainelli, Carol Feng, Peng Yu, and the rest of the GFCI team for their contributions with research, modelling, and ideas.



# Preface

When 60% of an index moves from Western centres to Asian centres in a decade, it is a time for reflection. Our Global Financial Centres Index was created in 2005 and, after nearly two years of incubation, launched in March 2007. Back in 2002, our clients asked us to compare just the four leading global financial centres, specifically London, New York, Paris, and Frankfurt. Today, the Global Financial Centres Index explores these four, plus 96 others such as Dalian, Panama, Cyprus, Mumbai, Buenos Aires, Helsinki, Baku, Almaty, Sofia, Athens, and Trinidad & Tobago.

Yes, our clients 16 years ago were somewhat blinkered, but helped us start this index. Yes, the world of 2002 was a bit Western-centric. Yes, we lacked the tools, such as instrumental factor indices, to handle large numbers on comparative centres efficiently. Yet, the world has changed enormously.

Some of the shifts have been geopolitical, ranging from the increasing economic importance of China, to global conflicts, sanctions, trade flows, financial crises, and demography. Other shifts have been deliberate and intentional policies directed at increasing the attractiveness of specific financial centres for relocation and inward investment.

Still, as attributed to Abdul Kalam, President of India (2002-2007), “I was willing to accept what I couldn't change” equally implies, I tried to change what I could. In this, our latest edition, Global Financial Centres Index 24, it is clear that financial centres can change a lot despite the geopolitical winds.

Far too much attention is focused on the top centres and the blow-by-blow rankings they have. The long-term trend since our first published edition in 2007 has been the consistent and persistent rise of Asian centres while the press and pundits focus on brief headlines about London and New York City. London is overtaken, barely, by New York City in this edition, but it was overtaken before in GFCI 15, 16, and 17 and will probably overtake New York City again. The long-term news (a bit of a contradiction) is that Singapore, Hong Kong, and Shanghai will be over-and-under taking for a while before ratings settle, if ever. It is highly likely that an Asian centre will have the top slot very soon.

Financial centres can, and do, control large amounts of their destiny. GFCI 24 shows the wide range of strategy, competition, specialisation, and, may I say, style in which they do it. We look forward to sharing with you the exciting news of these improvements and tussles in many future editions.



**Professor Michael Mainelli**  
Executive Chairman, Z/Yen Group



# Foreword

In the aftermath of the US financial crisis of 2008, followed by Brexit in 2016, global financial markets have become multi-polarized, with the center of global markets shifting from conventional economic centers, such as the U.S. and UK, to emerging powerhouses, including Germany, Canada and China.

In the face of the 4<sup>th</sup> Industrial Revolution, new types of financial products based on AI, blockchain and cloud technology have enabled innovative forms of financial transactions that transcend space and time to emerge .

In the course of this transition, the GFCI report published by Z/Yen Group, a leading think tank in the City of London, has provided useful guidelines on the future growth of major financial centers in the world.

In Asia, emerging financial hubs, such as China and Korea, as well as the existing financial centers in Singapore and Hong Kong, are making dedicated efforts to promote the financial sector as a new growth industry.

In particular, the Korean government designated the capital city of Seoul and the southern port city of Busan as national financial hubs in 2009, with the strategy of nurturing the capital into a comprehensive financial center and the port city into a major financial hub which specializes in maritime finance and derivatives.

In addition, the government has made a continuous effort to enhance Korea's financial infrastructure. In 2007, the Financial Investment Services and Capital Markets Act was enacted to improve the national system, and International Finance Centers were established in both Seoul and Busan in 2012 and 2014 respectively.

Busan is a logistics hub city equipped with a tri-port system incorporating rail, sea and air routes. The city is also a starting point and final destination for the Trans-Siberian Railway, and logistics hub for the New Northern Policy and New Southern Policy.

Moreover, Geoje City in South Gyeongsang Province and Ulsan Metropolitan City, which incorporate the surrounding area of Busan, form a cluster for the global shipbuilding industry. Situated on the coast, the region is also home to advanced shipping businesses and industries thanks to its advantageous geographical location. In addition, Busan is located at the center of a metropolitan economic zone that connects Busan-Ulsan-Gyeongsang Province and forms a supra-regional economic zone by carrying out exchanges with major cities in Asia.

Based on its geographic strengths for the port, logistics, shipbuilding, shipping and fisheries industries, Busan is set to launch a new strategy to respond to the 4<sup>th</sup> Industrial Revolution.

To begin with, the City Government will establish a system that supports the development of maritime finance by creating a cluster of institutions and organizations related to maritime finance, such as the Korea Ocean Business Corporation.

In addition, the city will mobilize development capital in collaboration with public financial institutions and major state-invested banks in order to gain a foothold in the infrastructure development market of North Korea, as the Inter-Korean Summit has opened the door for increased inter-Korean economic cooperation.

Furthermore, the City Government plans to invite Fintech related businesses and institutions to establish offices in BIFC in an effort to provide targeted support to leading technologies in the era of the Fourth Industrial Revolution, such as AI and IoT, and launch a program to incubate start-ups to create a cluster for Fintech businesses.

Lastly, the Korean Government and Busan Metropolitan City Government offer incentives to financial firms moving into the Busan Financial Hub Zone. These include tax breaks and exemptions, as well as subsidies.

Busan Metropolitan City is fully committed to developing the city into a business-friendly city for international financial firms by reducing red tape and providing a favorable environment for their successful operation.



**Oh Keo-don**

**Mayor, Busan Metropolitan City**



*“South Korea continues to be more competitive and I hear Busan cropping up in conversation more.”*

INVESTMENT BANKER BASED IN HONG KONG



# GFCI 24 Summary And Headlines

## Overview

- We researched 110 centres for this edition of the Global Financial Centres Index (GFCI 24). The number of financial centres in the main index has increased from 96 to 100 with the addition of Cape Town, GIFT City (Gujarat), Hangzhou, and Sofia from the associate centres list. There are ten associate centres awaiting potential inclusion in the main index.
- GFCI 24 was compiled using 137 instrumental factors. These quantitative measures are provided by third parties including the World Bank, The Economist Intelligence Unit, the OECD, and the United Nations. Details can be found in Appendix 4.
- The instrumental factors were combined with 31,326 financial centre assessments provided by respondents to the GFCI online questionnaire ([www.globalfinancialcentres.net](http://www.globalfinancialcentres.net)). Details of the 2,453 respondents are at Appendix 2. Further details of the methodology behind GFCI 24 are in Appendix 3.
- Performance across the index was mixed. Within the top 30 centres in the index, 20 centres rose in the ratings while 10 fell. While in GFCI 23 all 25 leading centres rose in the ratings and the lower ranked centres' ratings fell, there was a less clear pattern in GFCI 24.

## The Results

### Leading Centres in the Index

- Not for the first time, New York took first place in the index, just two points head of London, although both centres fell slightly in the ratings;
- Hong Kong is now only three points behind London;
- Shanghai overtook Tokyo to move into fifth place in the index gaining 25 points in the ratings;
- Beijing, Zurich, and Frankfurt moved into the top ten centres, replacing Toronto, Boston, and San Francisco.

### Western Europe

- Zurich, Frankfurt, Amsterdam, Vienna, and Milan moved up the rankings significantly. These centres may be the main beneficiaries of the uncertainty caused by Brexit;
- Surprisingly, despite some evident success in attracting new business, Dublin, Munich, Hamburg, Copenhagen, and Stockholm fell in the rankings, reflecting respondents' views of their future prospects.

### Asia/Pacific

- The leading Asia/Pacific Centres performed well, closing the gap on London and New York at the top of the rankings;
- Centres in the Asia/Pacific region generally rose in the ratings, continuing the trend which has been apparent over several years;
- There were steady increases for Shanghai, Sydney, Beijing, and Guangzhou;
- GIFT City (Gujarat) and Hangzhou entered the index for the first time.

### North America

- North American centres fell back in the rankings and ratings overall, although Los Angeles and Washington DC gained places in the index, with Washington DC reversing the fall it experienced in GFCI 23.

### Eastern Europe and Central Asia

- There were significant gains for Astana, Budapest, St Petersburg, and Tallinn. Astana only officially launched their financial centre in July, and it is unusual for such a new centre to perform so strongly;
- The strong performance of Tallinn may reflect Estonia's development of the e-society, including digital identity and smart ledger development, providing an alternative focus for Tallinn's competitiveness;
- Cyprus and Warsaw fell significantly in the ratings and rankings;
- Sofia was a new entrant to the index.

### Middle East and Africa

- Dubai, Abu Dhabi, and Doha all rose significantly reversing the trend from GFCI 23;
- Cape Town is the highest new entrant to the index, ranking 38<sup>th</sup> in its first entry.

### Latin America and the Caribbean

- There were mixed results in the region. Bermuda, Sao Paulo, Mexico City, and Rio de Janeiro performed strongly, while other centres fell in the rankings.

### Island Centres

- Island and Offshore centres fell in the index, with the exception of Bermuda, which rose six places;
- The British Crown dependencies of Jersey, Guernsey, and the Isle of Man all fell significantly in the rankings, with the Isle of Man dropping 27 places in the index.

Table 1 | GFCI 24 Ranks And Ratings

Centre	GFCI 24		GFCI 23		Change in	Change in
	Rank	Rating	Rank	Rating	Rank	Rating
New York	1	788	2	793	▲1	▼5
London	2	786	1	794	▼1	▼8
Hong Kong	3	783	3	781	0	▲2
Singapore	4	769	4	765	0	▲4
Shanghai	5	766	6	741	▲1	▲25
Tokyo	6	746	5	749	▼1	▼3
Sydney	7	734	9	724	▲2	▲10
Beijing	8	733	11	721	▲3	▲12
Zurich	9	732	16	713	▲7	▲19
Frankfurt	10	730	20	708	▲10	▲22
Toronto	11	728	7	728	▼4	0
Shenzhen	12	726	18	710	▲6	▲16
Boston	13	725	10	722	▼3	▲3
San Francisco	14	724	8	726	▼6	▼2
Dubai	15	722	19	709	▲4	▲13
Los Angeles	16	721	17	712	▲1	▲9
Chicago	17	717	14	718	▼3	▼1
Vancouver	18	709	15	717	▼3	▼8
Guangzhou	19	708	28	678	▲9	▲30
Melbourne	20	699	12	720	▼8	▼21
Luxembourg	21	694	21	701	0	▼7
Osaka	22	693	23	692	▲1	▲1
Paris	23	691	24	687	▲1	▲4
Montreal	24	690	13	719	▼11	▼29
Tel Aviv	25	689	34	661	▲9	▲28
Abu Dhabi	26	686	25	683	▼1	▲3
Geneva	27	685	26	682	▼1	▲3
Casablanca	28	684	32	664	▲4	▲20
Cayman Islands	29	683	22	700	▼7	▼17
Bermuda	30	680	36	656	▲6	▲24
Qingdao	31	679	33	662	▲2	▲17
Taipei	32	670	30	673	▼2	▼3
Seoul	33	668	27	679	▼6	▼11
Doha	34	662	47	617	▲13	▲45
Amsterdam	35	657	50	613	▲15	▲44
Washington DC	36	655	48	616	▲12	▲39
Dublin	37	652	31	666	▼6	▼14
Cape Town	38	651	New	New	New	New
Munich	39	639	35	660	▼4	▼21
Kuala Lumpur	40	638	40	632	0	▲6
Hamburg	41	636	29	676	▼12	▼40
Calgary	42	635	38	642	▼4	▼7
Edinburgh	43	634	43	628	0	▲6
Busan	44	631	46	618	▲2	▲13
Wellington	45	630	44	621	▼1	▲9
Monaco	46	629	54	604	▲8	▲25
Jersey	47	628	39	637	▼8	▼9
Bangkok	48	626	37	643	▼11	▼17
Mauritius	49	625	56	601	▲7	▲24
Glasgow	50	622	49	614	▼1	▲8



Table 1 (Continued) | GFCI 24 Ranks And Ratings

Centre	GFCI 24		GFCI 23		Change in	Change in
	Rank	Rating	Rank	Rating	Rank	Rating
Vienna	51	621	64	583	▲ 13	▲ 38
Tallinn	52	620	79	559	▲ 27	▲ 61
Madrid	53	619	41	631	▼ 12	▼ 12
Brussels	54	617	62	592	▲ 8	▲ 25
Sao Paulo	55	616	67	574	▲ 12	▲ 42
Milan	56	613	61	593	▲ 5	▲ 20
Johannesburg	57	612	52	610	▼ 5	▲ 2
Stockholm	58	611	42	629	▼ 16	▼ 18
Bahrain	59	607	51	612	▼ 8	▼ 5
Guernsey	60	603	53	605	▼ 7	▼ 2
Astana	61	599	88	548	▲ 27	▲ 51
Mexico City	62	598	70	569	▲ 8	▲ 29
British Virgin Islands	63	597	60	594	▼ 3	▲ 3
Oslo	64	596	55	602	▼ 9	▼ 6
Rio de Janeiro	65	594	81	557	▲ 16	▲ 37
Warsaw	66	592	45	620	▼ 21	▼ 28
Bahamas	67	591	59	596	▼ 8	▼ 5
Istanbul	68	590	76	562	▲ 8	▲ 28
Riyadh	69	588	68	573	▼ 1	▲ 15
Lisbon	70	585	74	564	▲ 4	▲ 21
Budapest	71	584	89	547	▲ 18	▲ 37
Rome	72	583	65	579	▼ 7	▲ 4
Liechtenstein	73	582	69	570	▼ 4	▲ 12
Prague	74	581	71	567	▼ 3	▲ 14
Gibraltar	75	580	66	576	▼ 9	▲ 4
Jakarta	76	579	90	546	▲ 14	▲ 33
GIFT City-Gujarat	77	578	New	New	New	New
Tianjin	78	577	63	588	▼ 15	▼ 11
Chengdu	79	576	82	556	▲ 3	▲ 20
St Petersburg	80	575	91	531	▲ 11	▲ 44
Copenhagen	81	573	58	599	▼ 23	▼ 26
New Delhi	82	572	78	560	▼ 4	▲ 12
Moscow	83	571	83	555	0	▲ 16
Reykjavik	84	570	93	521	▲ 9	▲ 49
Isle of Man	85	568	57	600	▼ 28	▼ 32
Manila	86	566	84	554	▼ 2	▲ 12
Riga	87	565	87	551	0	▲ 14
Malta	88	564	77	561	▼ 11	▲ 3
Hangzhou	89	563	New	New	New	New
Panama	90	562	80	558	▼ 10	▲ 4
Cyprus	91	560	72	566	▼ 19	▼ 6
Mumbai	92	558	73	565	▼ 19	▼ 7
Buenos Aires	93	557	75	563	▼ 18	▼ 6
Helsinki	94	556	85	553	▼ 9	▲ 3
Baku	95	555	95	511	0	▲ 44
Almaty	96	550	94	519	▼ 2	▲ 31
Sofia	97	544	New	New	New	New
Athens	98	518	92	525	▼ 6	▼ 7
Trinidad and Tobago	99	510	86	552	▼ 13	▼ 42
Dalian	100	499	96	501	▼ 4	▼ 2

We track centres which are included in the GFCI questionnaire but have yet to achieve the number of assessments required to be listed in the main GFCI index. Table 2 lists the ten centres which fall into this category of ‘associate centre’.

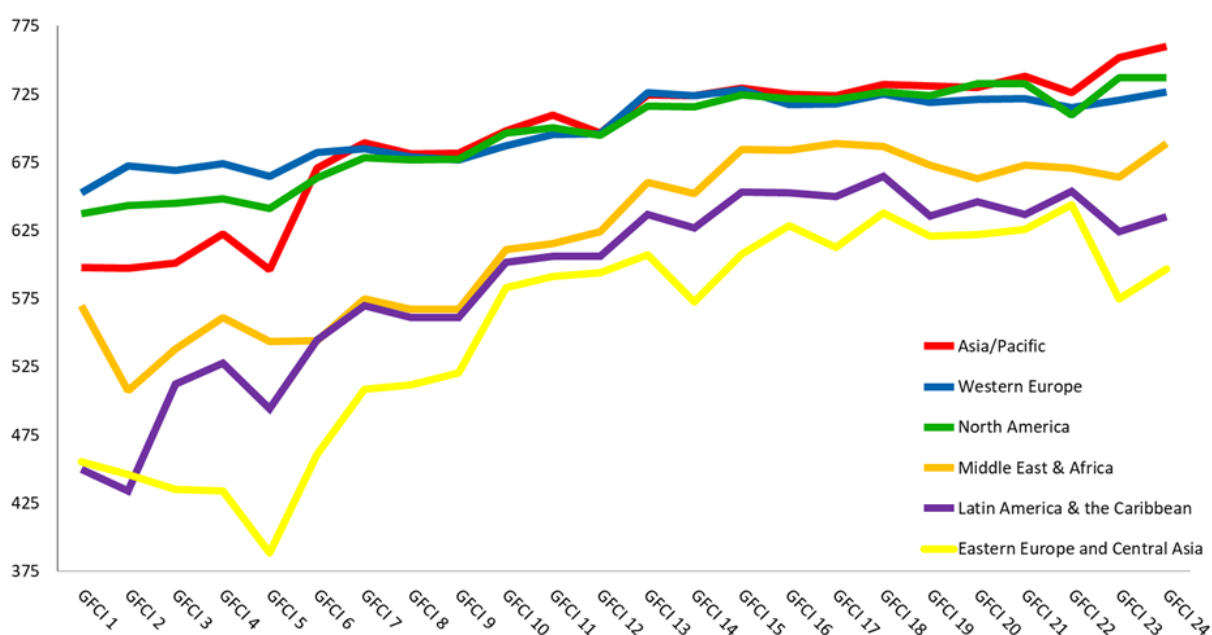
**Table 2 | Associate Centres**

Centre	Number of Assessments in the last 24 months	Mean of Assessments
Kuwait City	86	549
Karachi	83	543
Tehran	83	494
Barbados	80	518
Stuttgart	72	676
Nairobi	69	491
Bratislava	68	499
Santiago	49	563
Andorra	48	442
San Diego	47	651

## Regional Performance

Western Europe’s position as the leader in financial centres has been challenged over time, with the average assessment of the top five centres in Asia/Pacific and North America overtaking Western Europe. The top centres in other regions have improved over time and narrowed the gap with other regions; and have rallied following a downturn in GFCI 23.

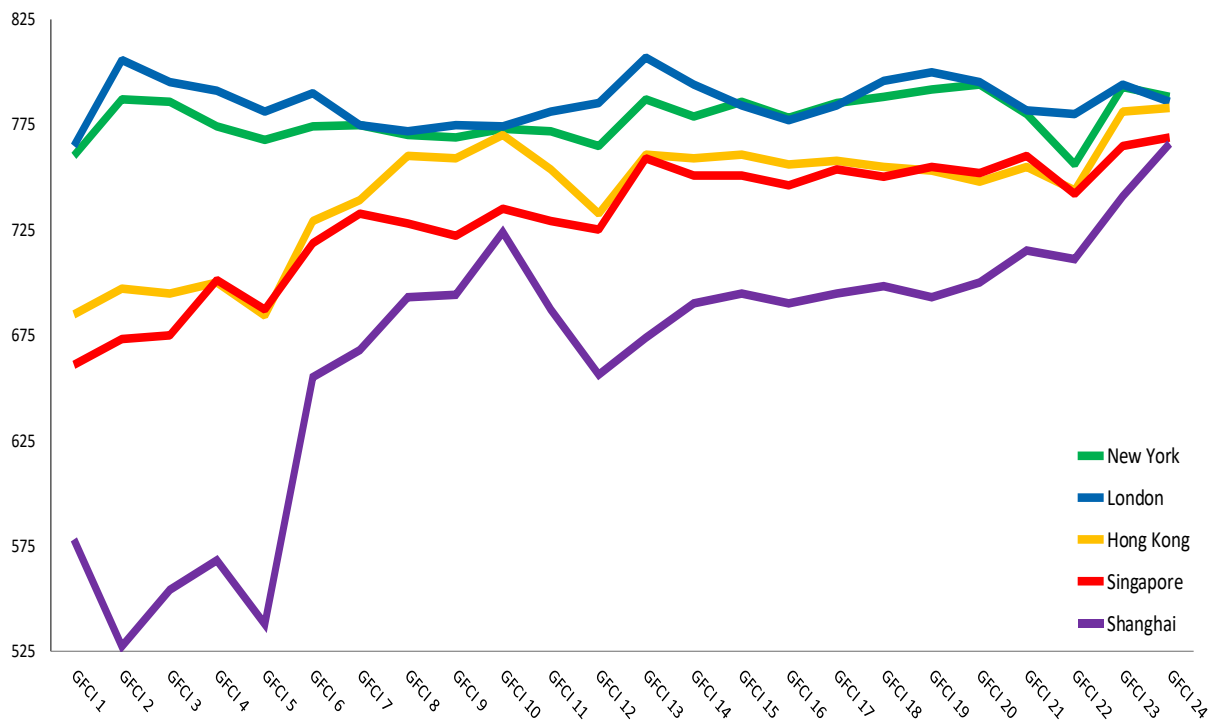
**Chart 1 | Average Ratings Of The Top Five Centres In Each Region**



## The Top Five Centres

New York took first place in the index in GFCI 24, though New York's lead over London is only two points (on a scale of 1,000). Shanghai has overtaken Tokyo to enter the top five in GFCI 24. The rise of Chinese centres is marked at the top of the index. Hong Kong, Singapore, and Shanghai have all continued to close the gap on the leaders, with Hong Kong now only three points behind London.

Chart 2 | The Top Five Centres— GFCI Ratings Over Time



*“New York and London don’t seem to be doing anything to fight off the Asian challenge.”*

COMMERCIAL BANKER BASED IN PARIS

## Future Prospects

The GFCI questionnaire asks respondents which centres they consider will become more significant over the next two to three years. Table 3 shows the top 15 centres mentioned. Eight of the top 15 centres are in the Asia/Pacific region.

**Table 3 | The 15 Centres Likely To Become More Significant**

Centre	Mentions in last 24 months
Shanghai	198
Qingdao	107
GIFT City - Gujarat	101
Frankfurt	73
Singapore	65
Dublin	45
Hong Kong	39
Chengdu	37
Casablanca	30
Beijing	30
Paris	30
Shenzhen	27
London	25
Luxembourg	25
Seoul	22

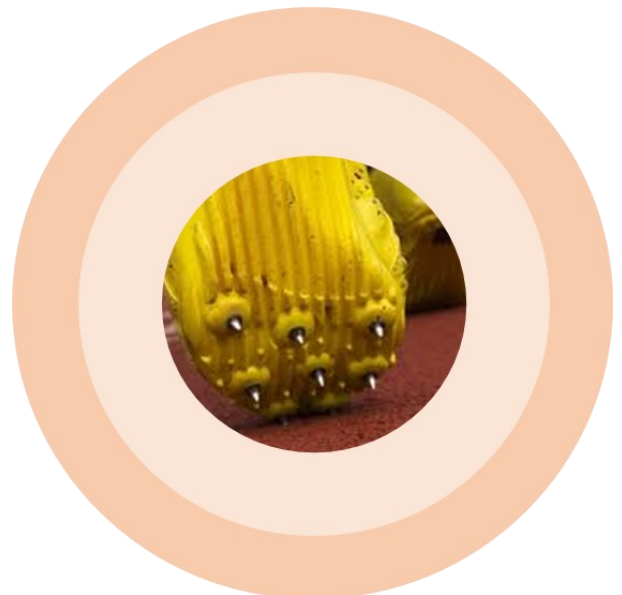
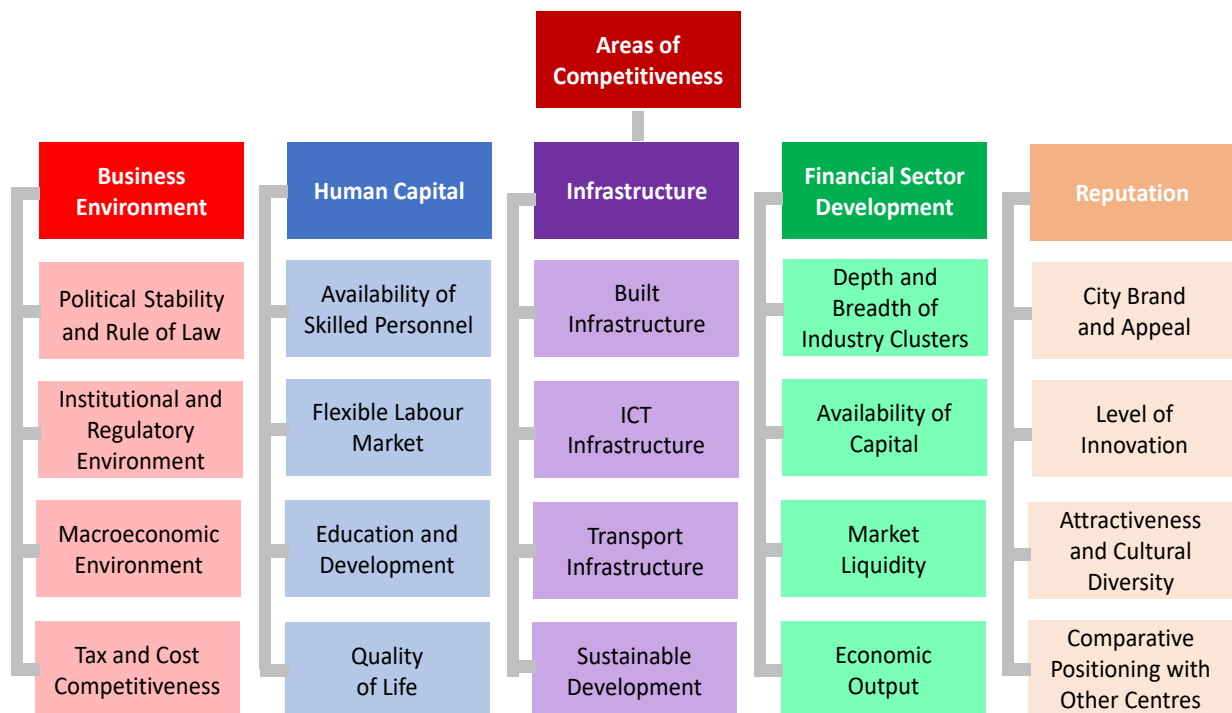
*“Frankfurt is definitely winning some business this year and Brexit will continue to help it.”*

INSURANCE UNDERWRITER BASED IN LONDON

# Areas Of Competitiveness

The instrumental factors used in the GFCI model are grouped into five broad areas of competitiveness: Business Environment, Human Capital, Infrastructure, Financial Sector Development, and Reputation. These areas and the instrumental factor groups which comprise each area are shown in chart 3.

Chart 3 | GFCI Areas Of Competitiveness



To assess how financial centres perform in each of these areas, the GFCI factor assessment model is run separately for each of the five areas of competitiveness at a time. The top 15 ranked centres in each of these sub-indices are shown in table 4. The top financial centres of the world are well developed and strong in most areas. The top four financial centres overall hold the top four positions in five of the five sub-indices.

**Table 4 | GFCI 24 Top 15 By Area Of Competitiveness**

Rank	Business Environment	Human Capital	Infrastructure	Financial Sector Development	Reputational and General
1	London	Hong Kong	Hong Kong	New York	New York
2	New York	London	New York	London	London
3	Hong Kong	New York	London	Hong Kong	Hong Kong
4	Singapore	Singapore	Singapore	Singapore	Singapore
5	Chicago	Tokyo	Shanghai	Shanghai	Chicago
6	Shanghai	San Francisco	Tokyo	Tokyo	San Francisco
7	San Francisco	Shanghai	Dubai	Frankfurt	Boston
8	Boston	Chicago	Beijing	Sydney	Shanghai
9	Toronto	Dubai	Sydney	Dubai	Los Angeles
10	Tokyo	Los Angeles	San Francisco	San Francisco	Tokyo
11	Dubai	Boston	Boston	Zurich	Zurich
12	Sydney	Beijing	Toronto	Boston	Toronto
13	Frankfurt	Toronto	Frankfurt	Chicago	Sydney
14	Montreal	Frankfurt	Zurich	Toronto	Dubai
15	Zurich	Paris	Paris	Shenzhen	Dublin





## Factors affecting Competitiveness

The GFCI questionnaire asks respondents to indicate which factors of competitiveness they consider the most important at this time. The number of times that each area was mentioned and the key issues raised by respondents are shown in table 5.

**Table 5 | GFCI 24 Main Areas Of Competitiveness**

Area of Competitiveness	Number of Mentions	Main Issues
Business Environment	457	Brexit continues as the major source of uncertainty for many centres Protectionism / potential trade wars continue to worry many
Human Capital	407	Human rights and personal safety are now key concerns UK and USA respondents fear restrictions in movement of talented staff
Reputation	401	Promotion is more important than ever Fears about terrorism and war have increased
Infrastructure	347	How to foster a FinTech environment is a hot topic Great need for increased air travel connectivity in some centres
Financial Sector Development	322	Will London lose its critical mass after Brexit? Banks looking to rationalise locations

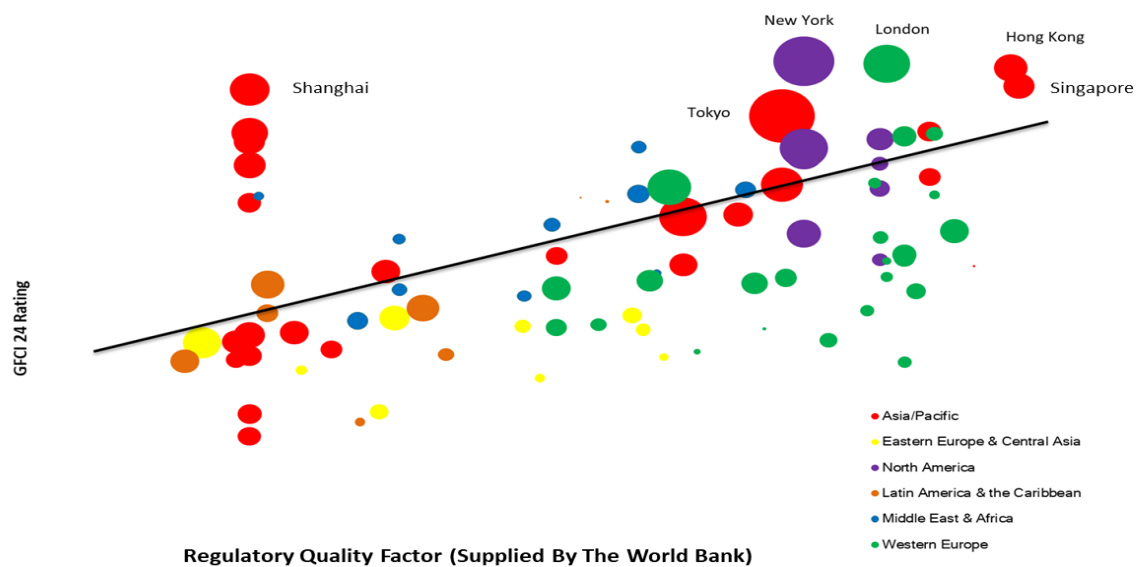
*“Getting very fed up with Brexit - we cannot continue to operate with some much uncertainty. Many of the staff here are trying to plan for their futures.”*

PENSION FUND MANAGER BASED IN LONDON

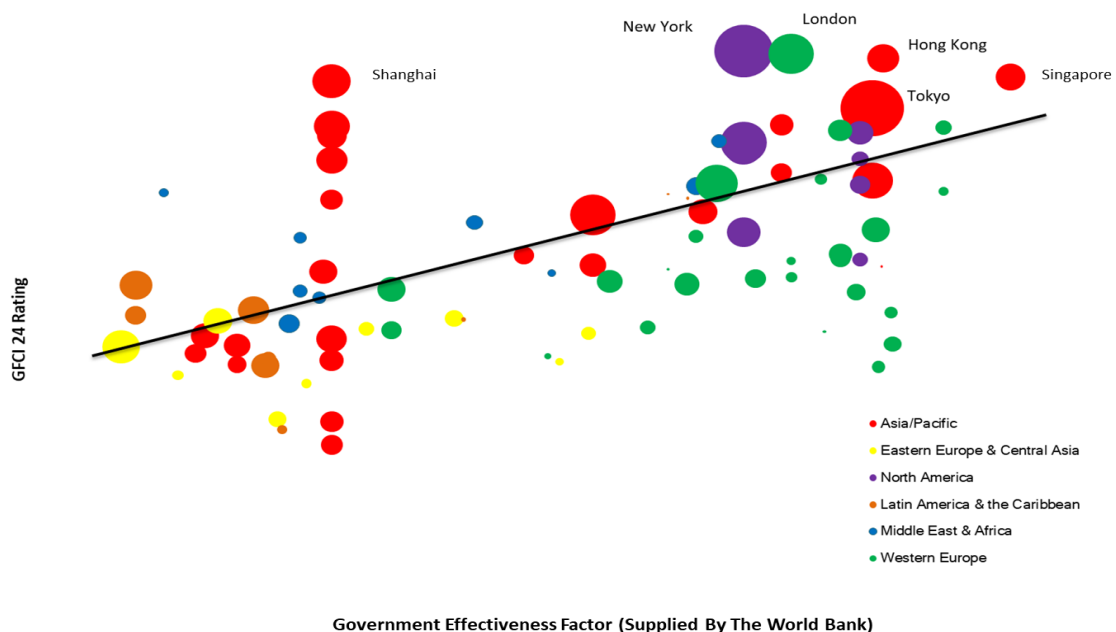
## Regulatory Quality

In developing our research into financial centres, we have found that the quality of regulation in a centre, as well as overall government effectiveness are significant factors in a financial centre's competitiveness. Charts 4 and 5 map two instrumental factors that relate to the quality of regulation and government and demonstrate the correlation of these factors with the GFCI 24 rating (the size of the bubble indicates the relative GDP of each centre).

**Chart 4 | Rating Against Regulatory Quality Factor**



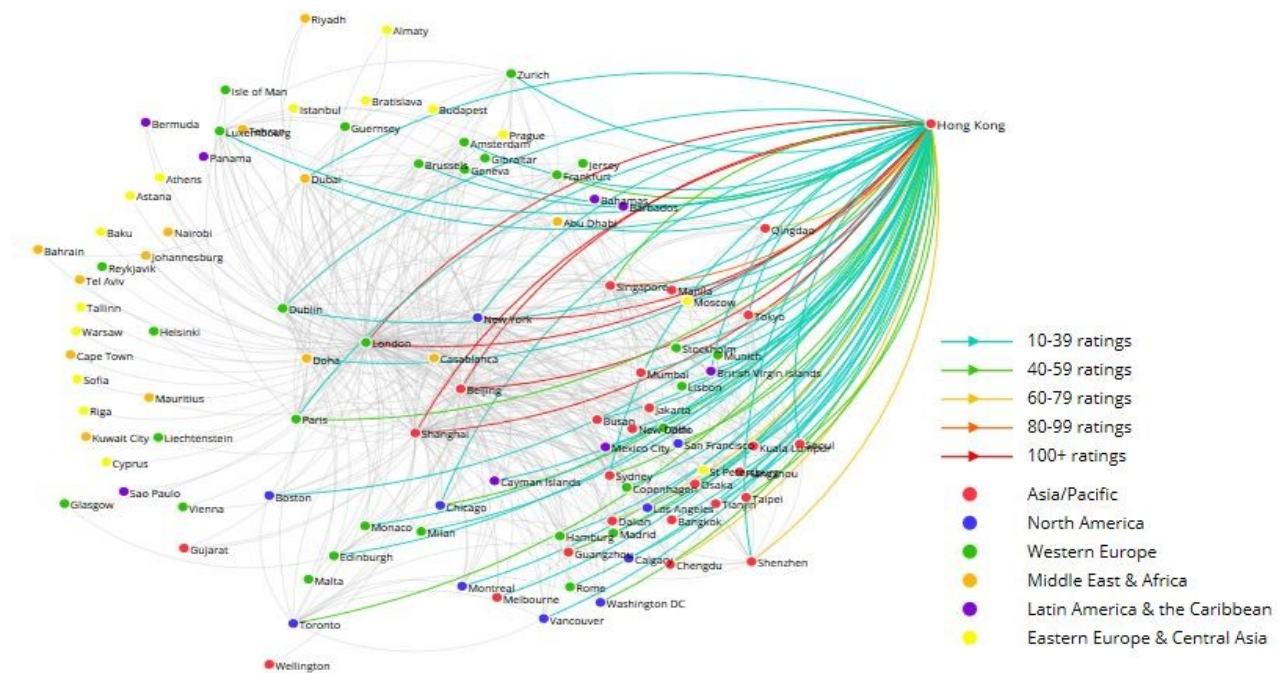
**Chart 5 | Rating against Government Effectiveness Factor**



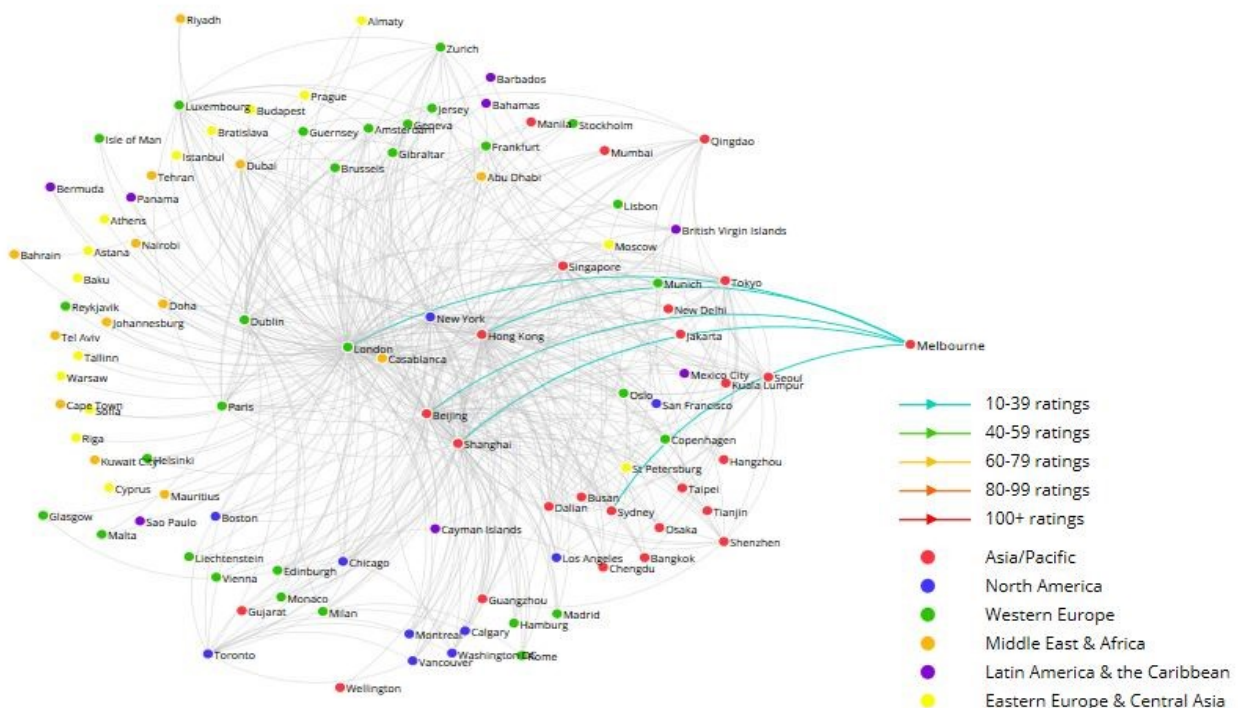
# Connectivity

Financial centres thrive when they develop deep connections with other centres. The GFCI allows us to measure connectivity by investigating the number of assessments given to and received from other financial centres. Charts 6 and 7 show the different levels of connectivity enjoyed by Hong Kong and Melbourne to demonstrate the contrast.

**Chart 6 | GFCI 24 Connectivity — Hong Kong**

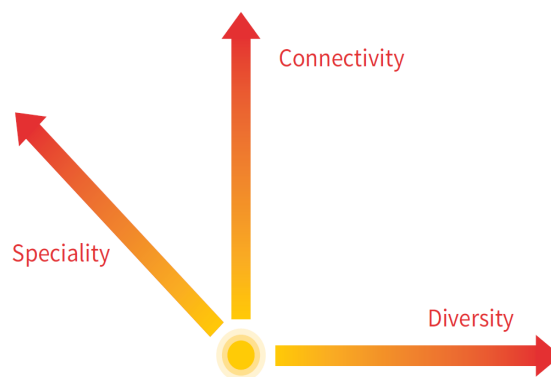


**Chart 7 | GFCI 24 Connectivity — Melbourne**



## Financial Centre Profiles

Chart 8 | GFCI 24 Profile Elements



Using clustering and correlation analysis we have identified three measures (axes) that determine a financial centre's profile along different dimensions of competitiveness.

**'Connectivity'** – the extent to which a centre is well connected around the world, based on the number of assessments given by and received by that centre from professionals based in other centres.

A centre's connectivity is assessed using a combination of 'inbound' assessment locations (the number of locations from which a particular centre receives assessments) and 'outbound' assessment locations (the number of other centres assessed by respondents from a particular centre). If the weighted assessments for a centre are provided by over 55 per cent of other centres, this centre is deemed to be 'Global'. If the ratings are provided by over 40 per cent of other centres, this centre is deemed to be 'International'.

**'Diversity'** – the instrumental factors used in the GFCI model give an indication of a range of factors that influence the richness and evenness of areas of competitiveness that characterise any particular financial centre. We consider this span of factors to be measurable in a similar way to that of the natural environment. We therefore use a combination of biodiversity indices (calculated on the instrumental factors) to assess a centre's diversity taking account of the range of factors against which the centre has been assessed – the 'richness' of the centre's business environment; and the 'evenness' of the distribution of that centre's scores. A high score means that a centre is well diversified; a low diversity score reflects a less rich business environment.

**'Speciality'** – the depth within a financial centre of the following industry sectors: investment management, banking, insurance, professional services, and the government and regulatory sector. A centre's 'speciality' performance is calculated from the difference between the GFCI rating and the industry sector ratings.

In table 6 'Diversity' (Breadth) and 'Speciality' (Depth) are combined on one axis to create a two dimensional table of financial centre profiles. The 100 centres in GFCI 24 are assigned a profile on the basis of a set of rules for the three measures: how well connected a centre is, how broad its services are, and how specialised it is.

The 14 Global Leaders (in the top left of the table) have both broad and deep financial services activities and are connected with many other financial centres. This list includes the top nine global financial centres in GFCI 24.

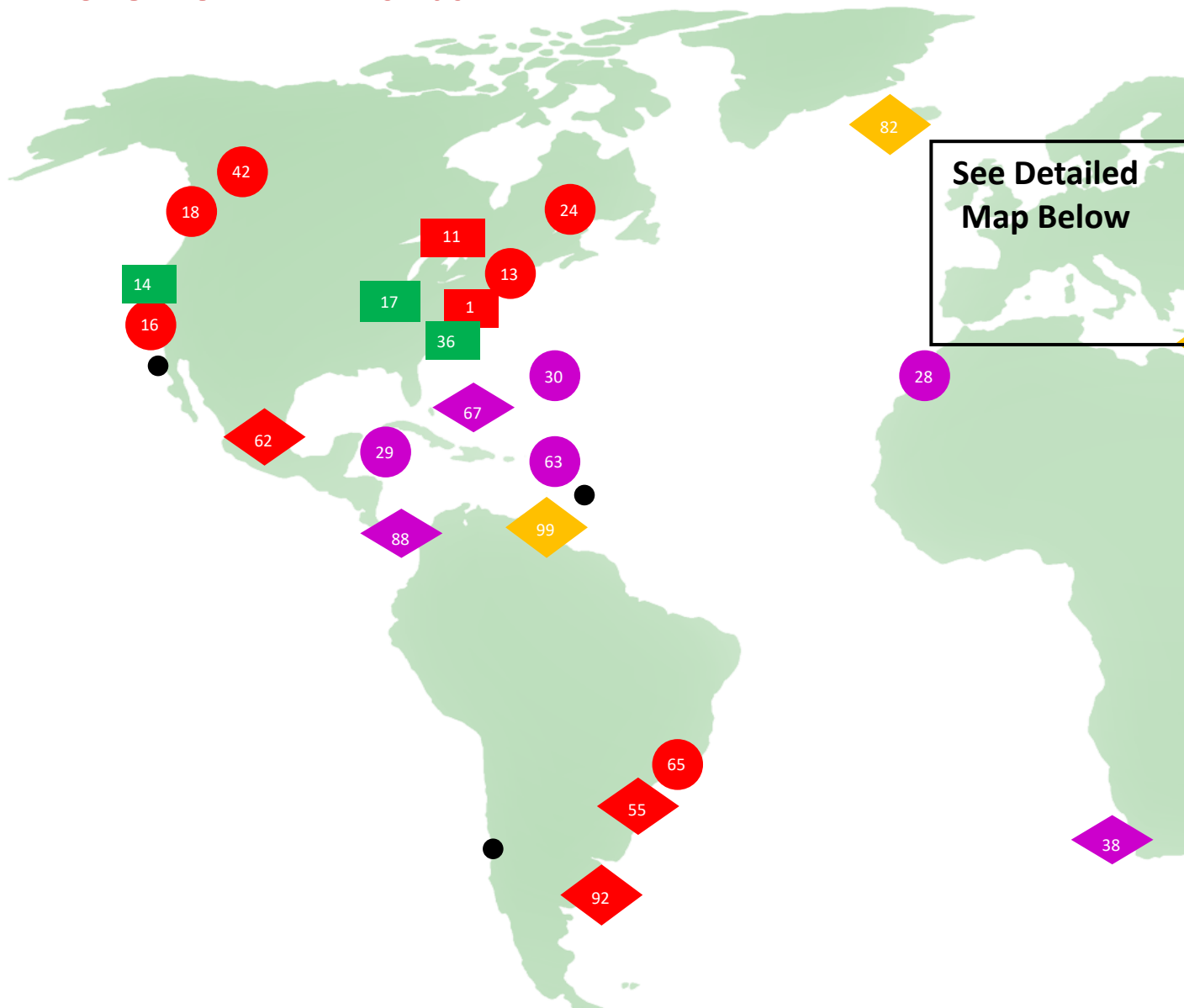
Significant changes in GFCI 24 include Dublin, Seoul and Frankfurt moving out of the Global Leaders section to feature as Global Diversified Centres. An asterisk by a centre's name indicates a movement from the profile in GFCI 23

Brussels has moved from International Diversified to Global Diversified and San Francisco has moved from Established International to Global Diversified. Astana has moved to become a Global Specialist.

**Table 6 | GFCI 24 Financial Centre Profiles**

	Broad & Deep	Relatively Broad	Relatively Deep	Emerging
	Global Leaders	Global Diversified	Global Specialists	Global Contenders
Global	Abu Dhabi	Amsterdam	Astana*	Luxembourg*
	Beijing	Brussels*	Shenzhen	Qingdao
	Dubai	Chicago		
	Hong Kong	Dublin*		
	London	Frankfurt*		
	New York	Milan		
	Paris	Moscow		
	Shanghai	San Francisco*		
	Singapore	Seoul*		
	Sydney	Washington DC		
	Tokyo			
	Toronto			
	Zurich			
	Established International	International Diversified	International Specialists	International Contenders
International	Bangkok*	Copenhagen	Almaty*	Busan*
	Boston*	Edinburgh	Bermuda*	Chengdu*
	Calgary*	Hamburg*	British Virgin Islands	GIFT City-Gujarat (New)
	Geneva	Johannesburg	Casablanca	Dalian
	Istanbul	Madrid	Cayman Islands	
	Kuala Lumpur	Munich	Doha*	
	Los Angeles	Stockholm*	Guangzhou*	
	Melbourne	Warsaw*	Guernsey	
	Montreal		Jersey*	
	Rio de Janeiro		New Delhi*	
	Vancouver		Taipei*	
	Established Players	Local Diversified	Local Specialists	Evolving Centres
Local	Budapest*	Athens	Bahamas	Bahrain
	Buenos Aires*	Helsinki	Cape Town (New)	Baku
	Glasgow*	Lisbon	Gibraltar*	Cyprus
	Mexico City	Mumbai	Isle of Man	Jakarta
	Osaka	Oslo	Liechtenstein	Malta
	Prague	Vienna*	Manila	Reykjavik
	Rome*		Mauritius	Riga
	Sao Paulo		Monaco	Riyadh
	Tel Aviv		Panama*	Tianjin
	Wellington*		Sofia (New)	Trinidad and Tobago*
			St Petersburg*	
			Tallinn*	

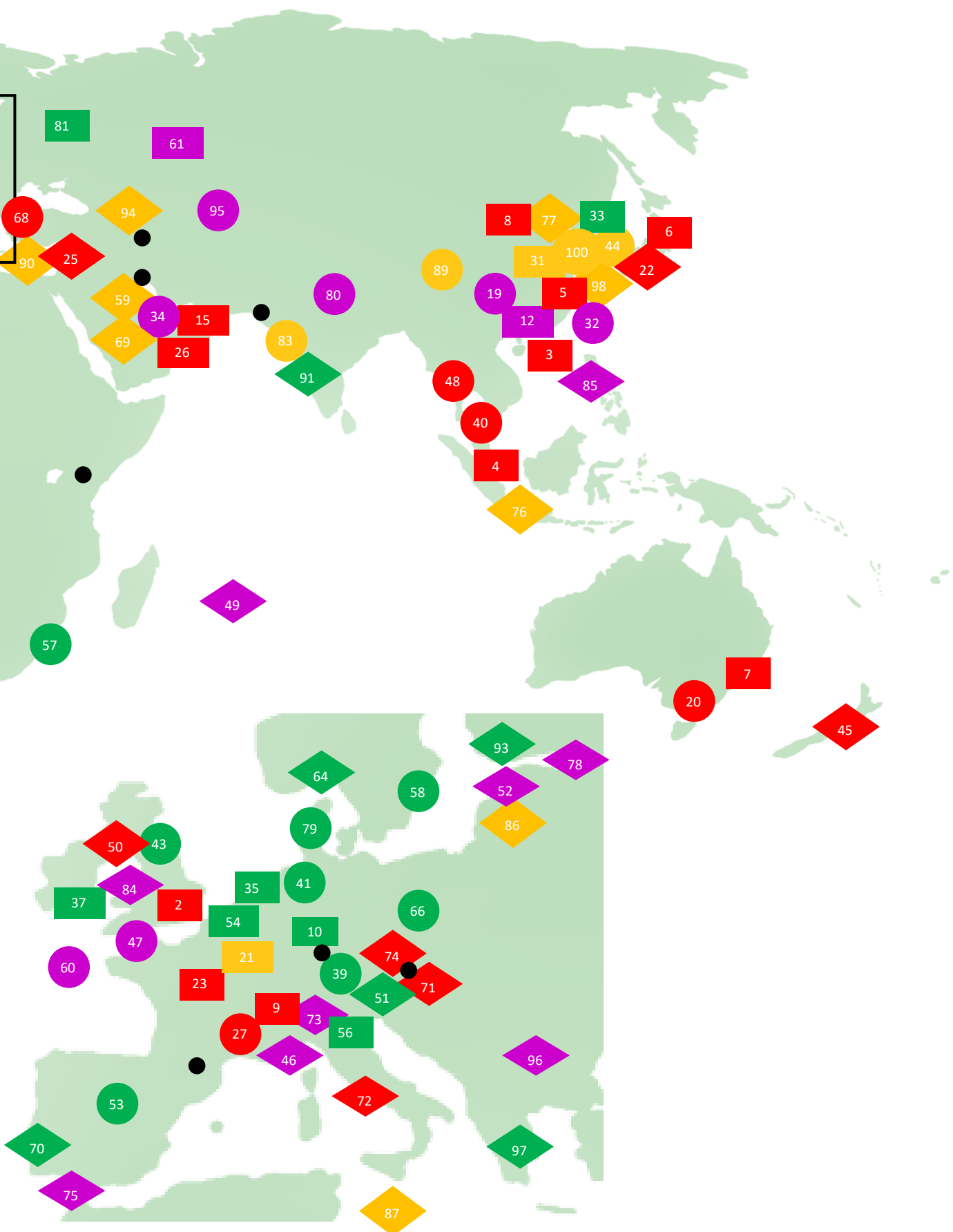
## The GFCI 24 World



The numbers on the map indicate the GFCI 24 rankings. Black dots denote Associate Centres:

Broad and Deep		Relatively Broad		Relatively Deep		Emerging	
<span style="color: red;">■</span>	Global Leaders	<span style="color: green;">■</span>	Global Diversified	<span style="color: purple;">■</span>	Global Specialists	<span style="color: yellow;">■</span>	Global Contenders
<span style="color: red;">●</span>	Established International	<span style="color: green;">●</span>	International Diversified	<span style="color: purple;">●</span>	International Specialists	<span style="color: yellow;">●</span>	International Contenders
<span style="color: red;">◆</span>	Established Players	<span style="color: green;">◆</span>	Local Diversified	<span style="color: purple;">◆</span>	Local Specialists	<span style="color: yellow;">◆</span>	Evolving Centres





## Regional Analysis

In our analysis of the GFCI data, we look at six regions of the world to explore the competitiveness of their financial centres.

Alongside the ranks and ratings of centres, we look at trends in the leading centres in each region; and investigate the average assessments received by regions and centres in more detail.

We display this analysis in charts which show:

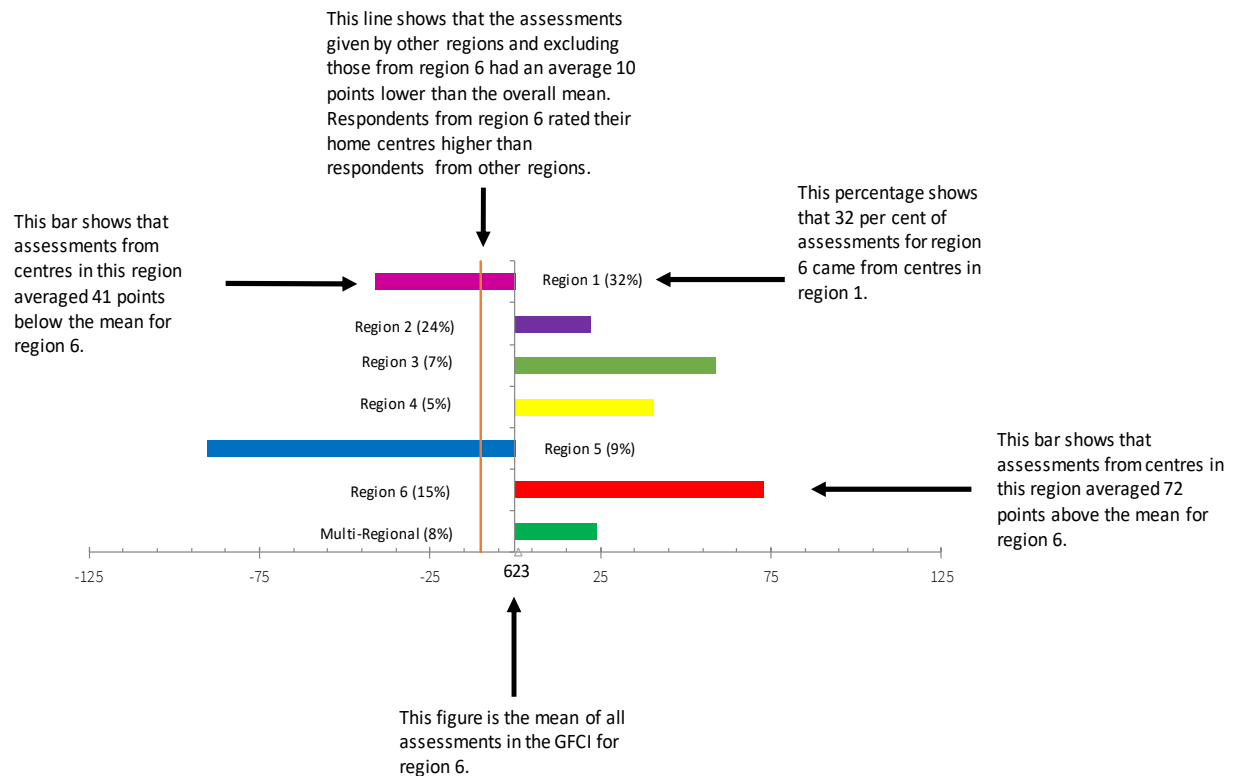
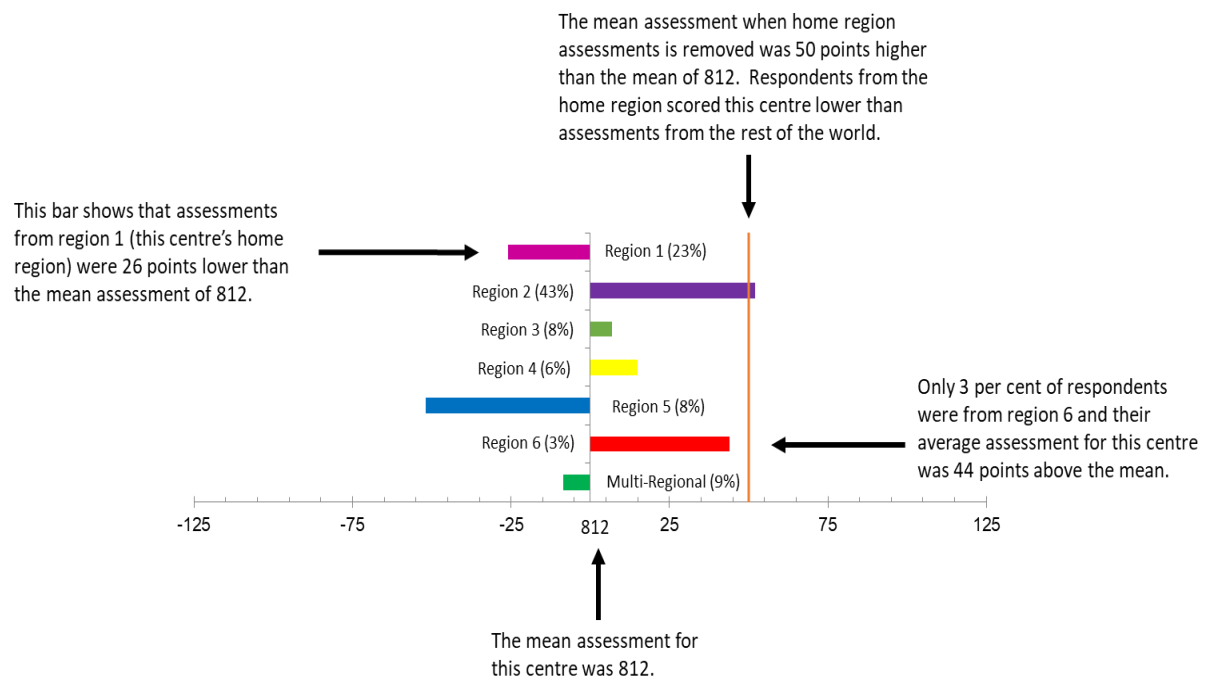
- the mean assessment provided to that region or centre;
- the difference in the mean assessment when home region assessments are removed from the analysis;
- the difference between the mean and the assessments provided by other regional centres;
- the proportion of assessments provided by each region.

Charts 9 and 10 show examples of these analyses. Coloured bars to the left of the vertical axis indicate that respondents from that region gave lower than the average assessments. Bars to the right indicate respondents from that region gave higher than average assessments. It is important to recognise that assessments given to a centre by people based in that centre are excluded to remove 'home' bias.

The additional vertical axis (in red) shows the mean of assessments when assessments from the home region are removed. The percentage figure noted by each region indicates the percentage of the total number of assessments that are from that region.

*“My single biggest concern is the looming trade war between the USA and China. That could really have a devastating effect on the world economy.”*

ECONOMIST BASED IN CASABLANCA

**Chart 9 | Example 1: Assessments Compared With The Mean For Region 6****Chart 10 | Example 2: Assessments Compared With The Mean For An Individual Centre**

## Western Europe

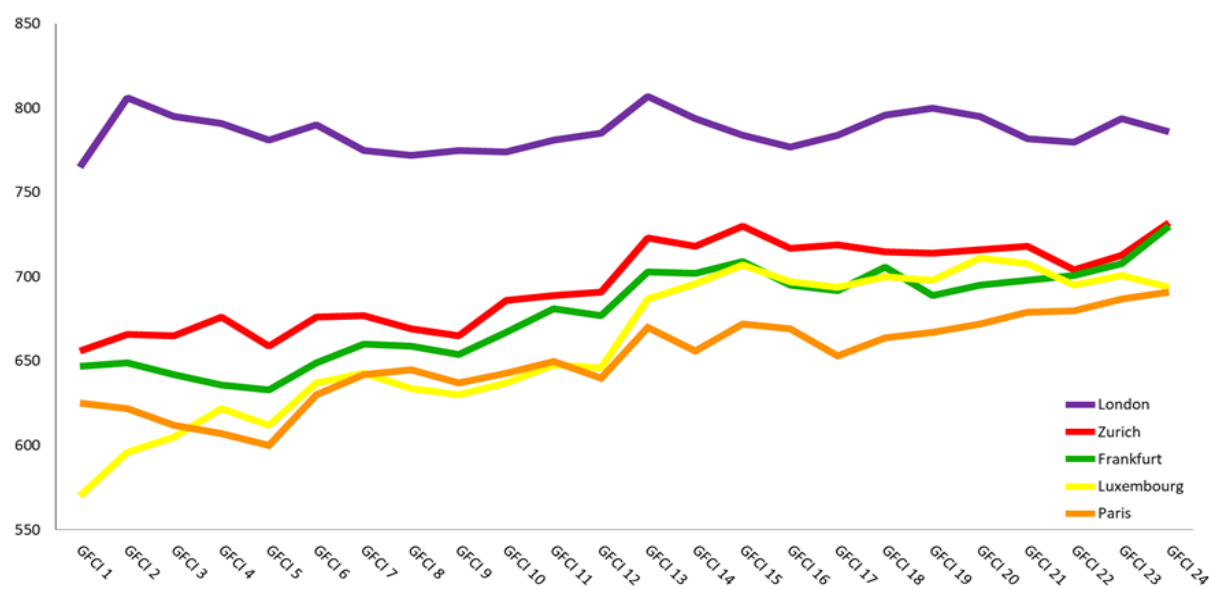
Assessments show a range of movement, with Zurich, Frankfurt, Amsterdam, Vienna moving up the rankings significantly. Dublin, Munich, Hamburg, and Stockholm fell in the rankings. These movements are likely to be the result of perceptions of the likely winners and losers from Brexit.

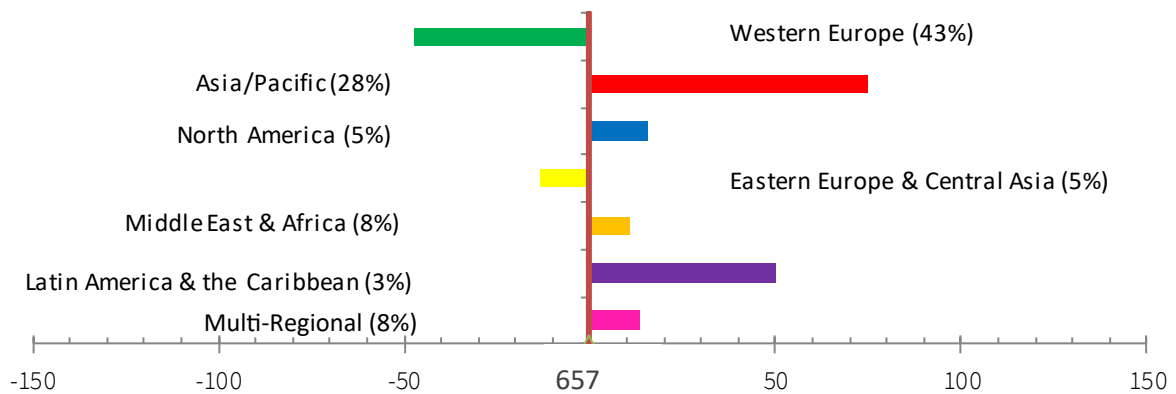
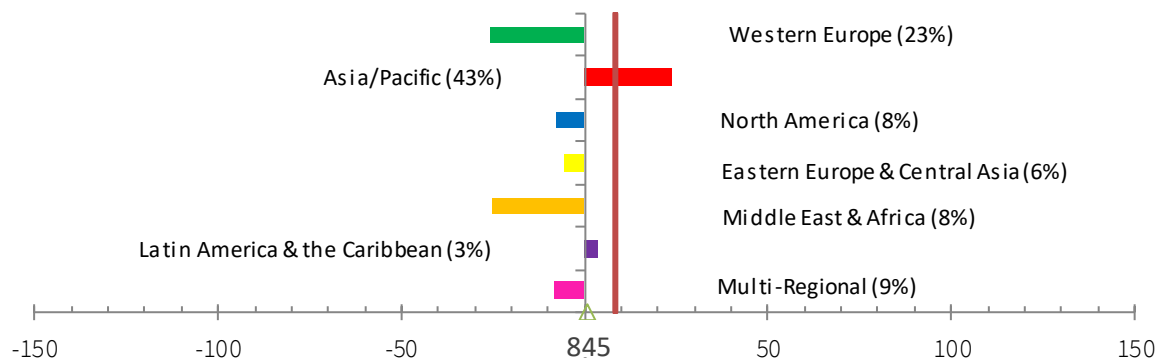
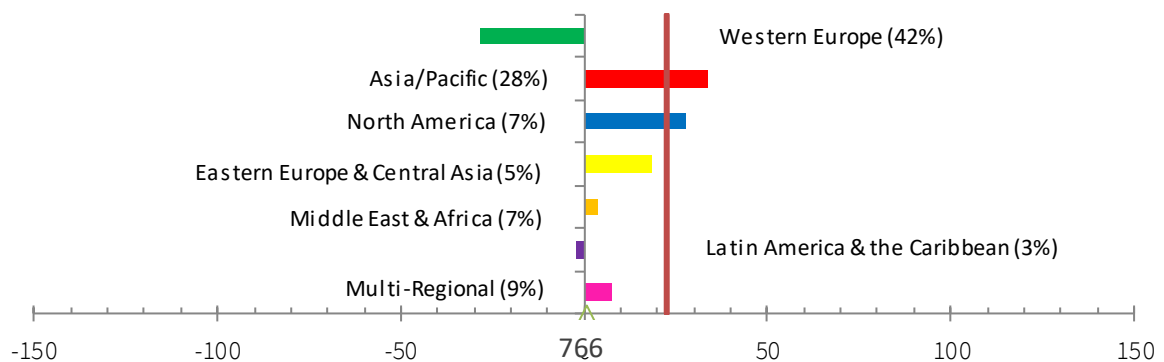
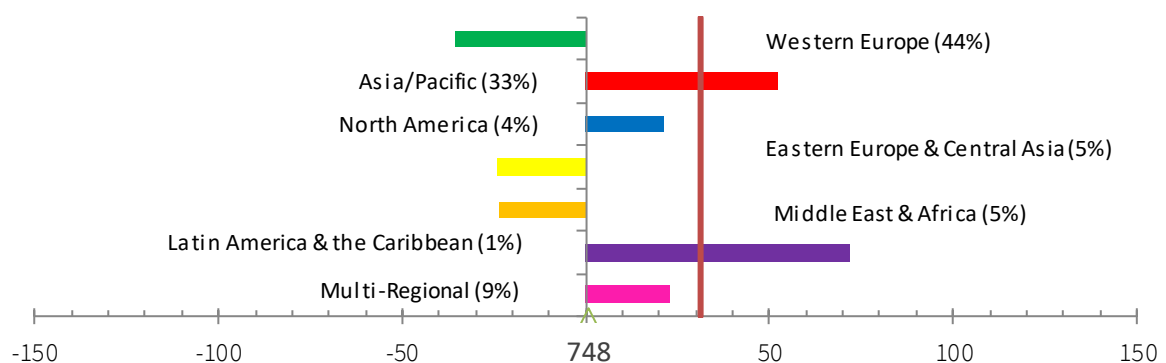
Western European centres were on average rated lower by other centres in the region and by centres in Eastern Europe & Central Asia. Other regions gave higher assessments than the overall mean.

**Table 7 | Western European Top 15 Centres In GFCI 24**

Centre	GFCI 24		GFCI 23		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
London	2	786	1	794	▼ 1	▼ 8
Zurich	9	732	16	713	▲ 7	▲ 19
Frankfurt	10	730	20	708	▲ 10	▲ 22
Luxembourg	21	694	21	701	0	▼ 7
Paris	23	691	24	687	▲ 1	▲ 4
Geneva	27	685	26	682	▼ 1	▲ 3
Amsterdam	35	657	50	613	▲ 15	▲ 44
Dublin	37	652	31	666	▼ 6	▼ 14
Munich	39	639	35	660	▼ 4	▼ 21
Hamburg	41	636	29	676	▼ 12	▼ 40
Edinburgh	43	634	43	628	0	▲ 6
Monaco	46	629	54	604	▲ 8	▲ 25
Jersey	47	628	39	637	▼ 8	▼ 9
Glasgow	50	622	49	614	▼ 1	▲ 8
Vienna	51	621	64	583	▲ 13	▲ 38

**Chart 11 | Top Five Western European Centres Over Time**



**Chart 12 | Average Assessments By Region For Western Europe – Difference From The Overall Mean**

**Chart 13 | Assessments By Region For London — Difference From The Overall Mean**

**Chart 14 | Assessments By Region For Zurich — Difference From The Overall Mean**

**Chart 15 | Assessments By Region For Frankfurt — Difference From The Overall Mean**


## Asia/Pacific

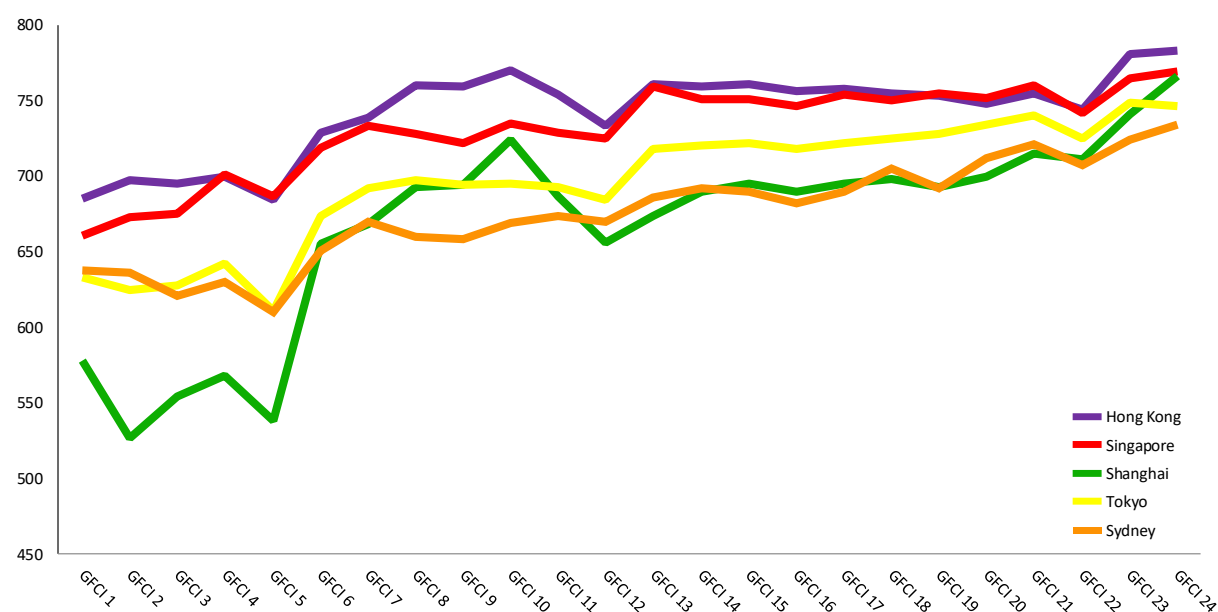
The majority of the leading centres in the Asia/Pacific region rose in the ratings. Shanghai overtook Tokyo to take fifth place in the index. Melbourne and Seoul fell in the rankings. GIFT City (Gujarat) and Hangzhou were new entrants to the index.

Respondents from centres in the Asia/Pacific region assessed other centres in the region slightly higher than the mean. All other regions other than Western Europe assessed Asia/Pacific centres higher than the mean.

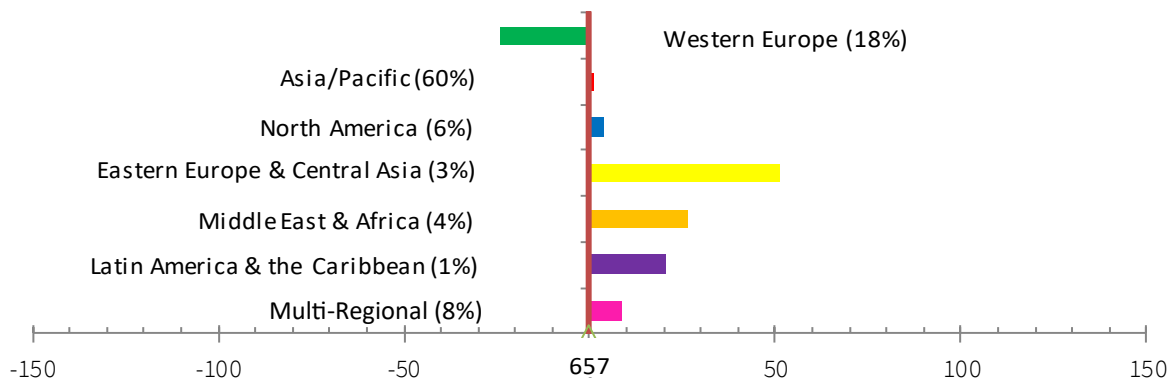
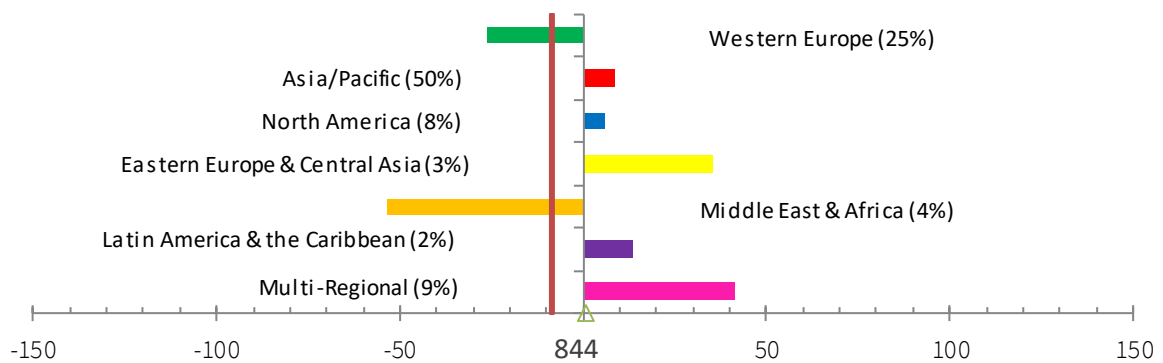
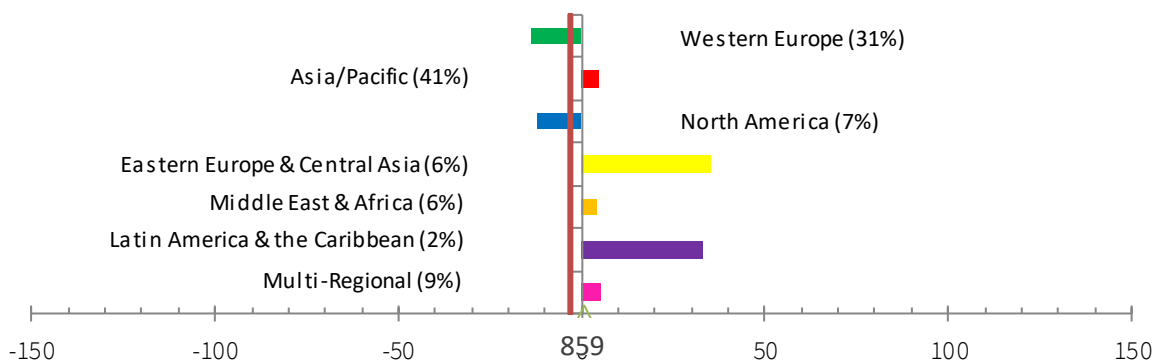
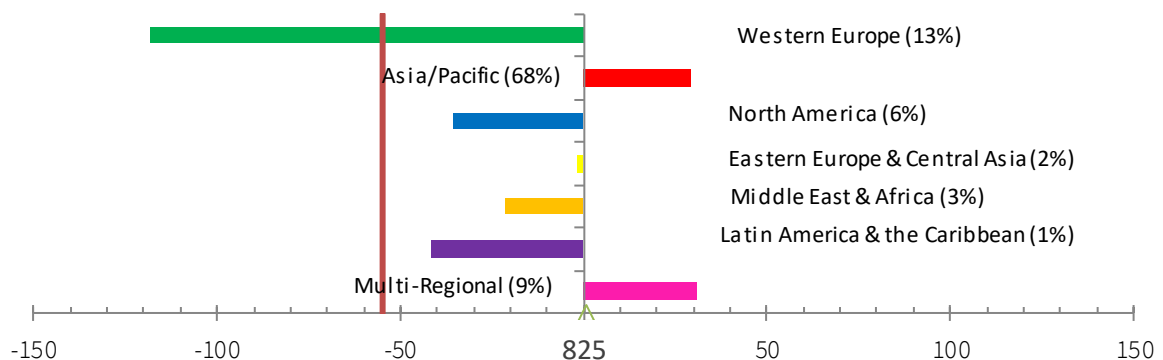
**Table 8 | Asia/Pacific Top 15 Centres In GFCI 24**

Centre	GFCI 24		GFCI 23		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
Hong Kong	3	783	3	781	0	▲2
Singapore	4	769	4	765	0	▲4
Shanghai	5	766	6	741	▲1	▲25
Tokyo	6	746	5	749	▼1	▼3
Sydney	7	734	9	724	▲2	▲10
Beijing	8	733	11	721	▲3	▲12
Shenzhen	12	726	18	710	▲6	▲16
Guangzhou	19	708	28	678	▲9	▲30
Melbourne	20	699	12	720	▼8	▼21
Osaka	22	693	23	692	▲1	▲1
Qingdao	31	679	33	662	▲2	▲17
Taipei	32	670	30	673	▼2	▼3
Seoul	33	668	27	679	▼6	▼11
Kuala Lumpur	40	638	40	632	0	▲6
Busan	44	631	46	618	▲2	▲13

**Chart 16 | Top Five Asia/Pacific Centres Over Time**





**Chart 17 | GFCI 24 Average Assessments By Region For Asia/Pacific – Difference From The Overall Mean****Chart 18 | Assessments By Region For Hong Kong — Difference From The Overall Mean****Chart 19 | Assessments By Region For Singapore — Difference From The Overall Mean****Chart 20 | Assessments By Region For Shanghai — Difference From The Overall Mean**

## North America

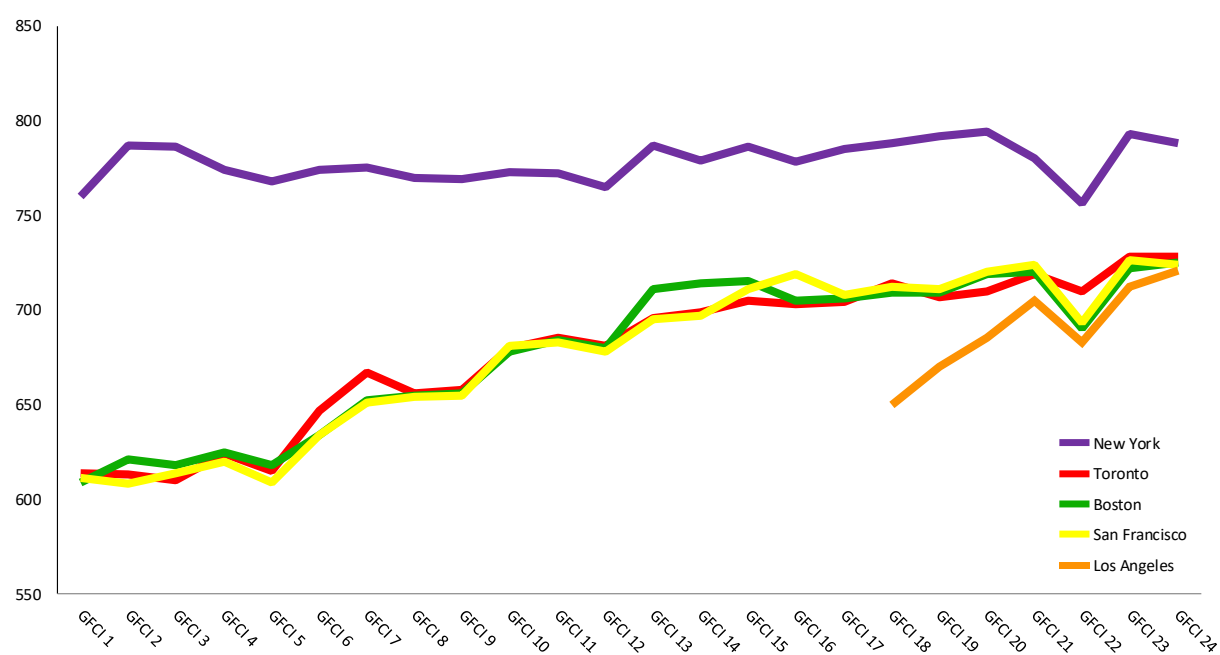
New York overtook London to take top place in the index. Most other North American centres fell in the rankings. Washington DC rose 12 places, regaining some of the ground it lost in GFCI 23.

Respondents from North American centres assessed other centres in the region very slightly higher than the average for all assessments. The Middle East and Africa and Western Europe scored North American centres lower than the mean.

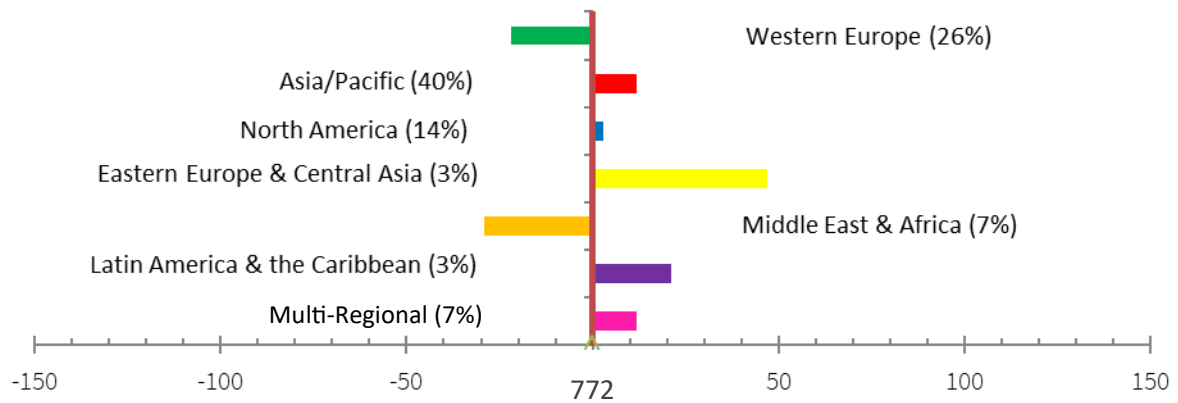
**Table 9 | North American Centres In GFCI 24**

Centre	GFCI 24		GFCI 23		Change in	Change in
	Rank	Rating	Rank	Rating	Rank	Rating
New York	1	788	2	793	▲1	▼5
Toronto	11	728	7	728	▼4	0
Boston	13	725	10	722	▼3	▲3
San Francisco	14	724	8	726	▼6	▼2
Los Angeles	16	721	17	712	▲1	▲9
Chicago	17	717	14	718	▼3	▼1
Vancouver	18	709	15	717	▼3	▼8
Montreal	24	690	13	719	▼11	▼29
Washington DC	36	655	48	616	▲12	▲39
Calgary	42	635	38	642	▼4	▼7

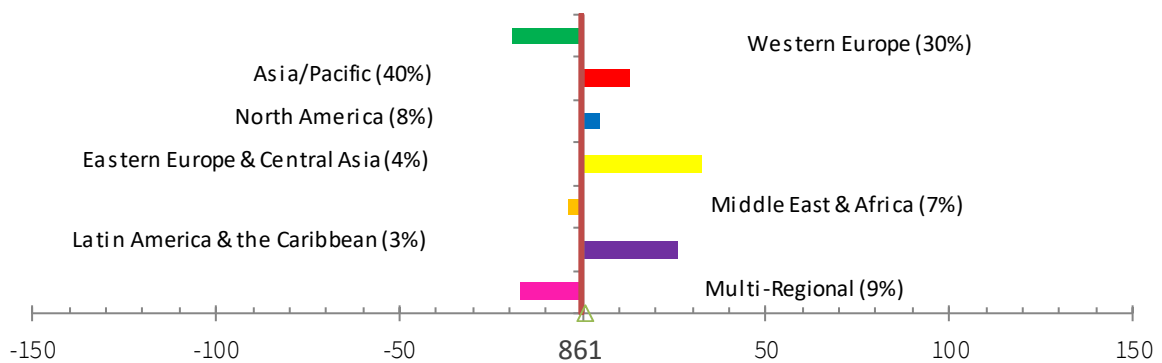
**Chart 21 | Top Five North American Centres Over Time**



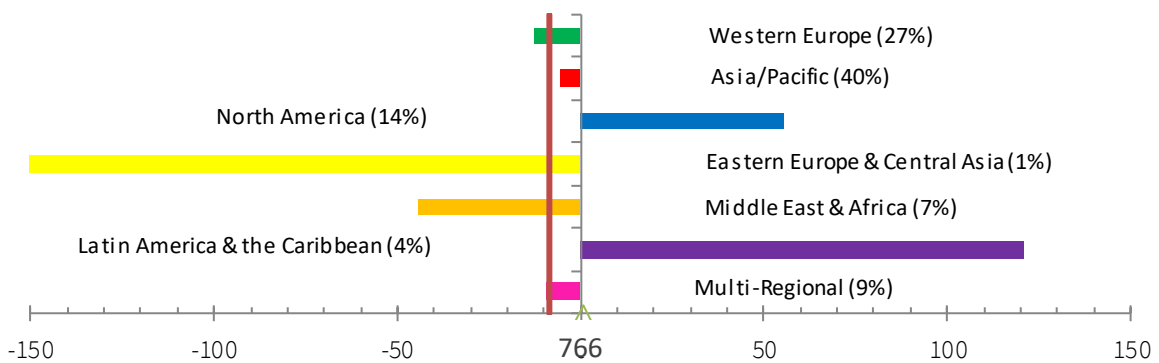
**Chart 22 | Average Assessments By Region For North America – Difference From The Overall Mean**



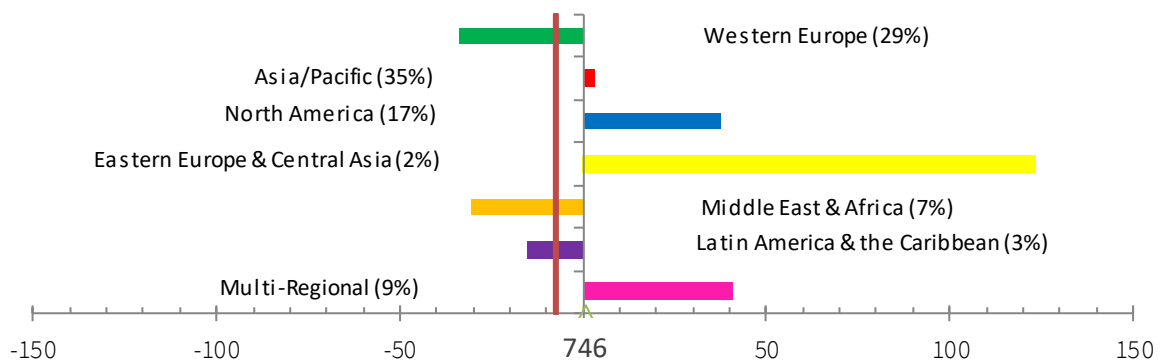
**Chart 23 | Assessments By Region For New York — Difference From The Overall Mean**



**Chart 24 | Assessments By Region for Toronto — Difference From The Overall Mean**



**Chart 25 | Assessments By Region For Boston — Difference From The Overall Mean**



## Eastern Europe And Central Asia

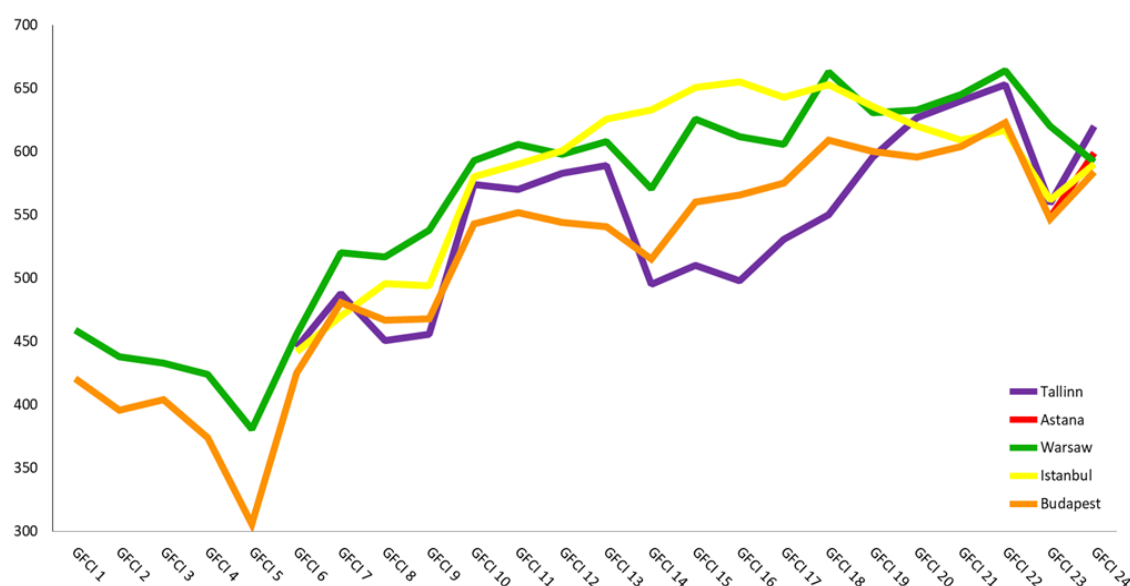
In Eastern Europe & Central Asia, Tallinn, Astana, Budapest and St Petersburg rose sharply in the index. Astana showed considerable gains following its launch at the beginning of 2018. Other centres reversed the trend from GFCI 23. Sofia entered the index for the first time.

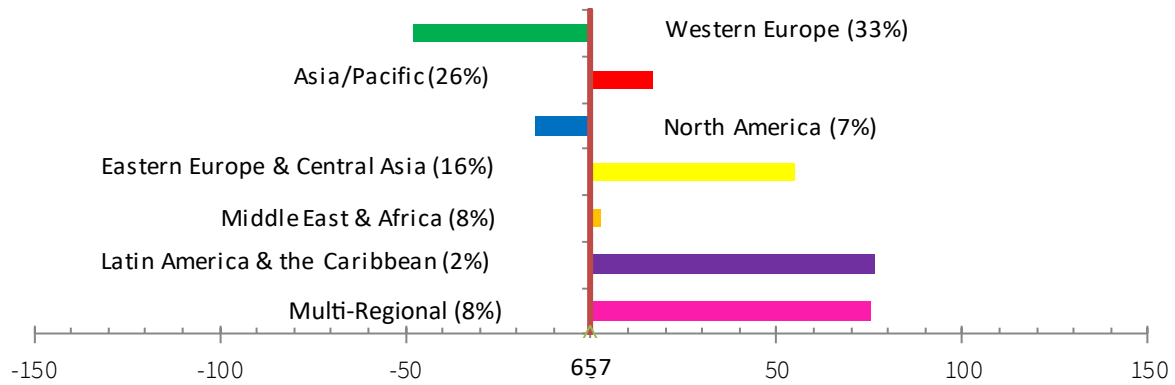
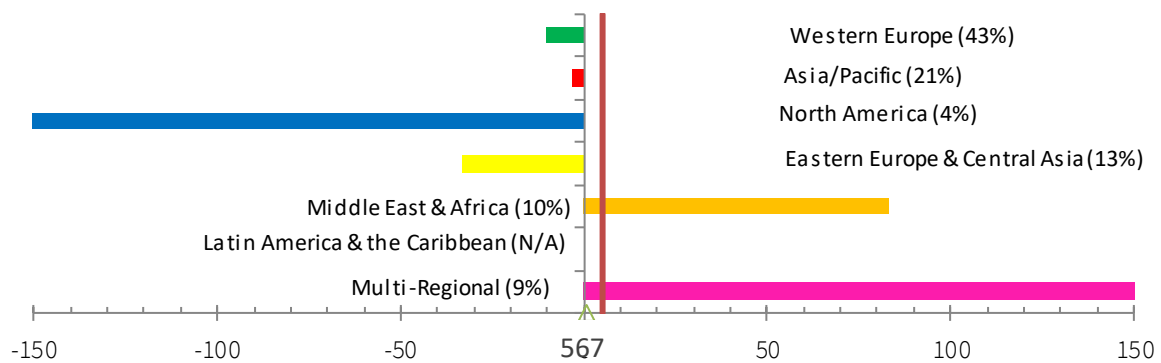
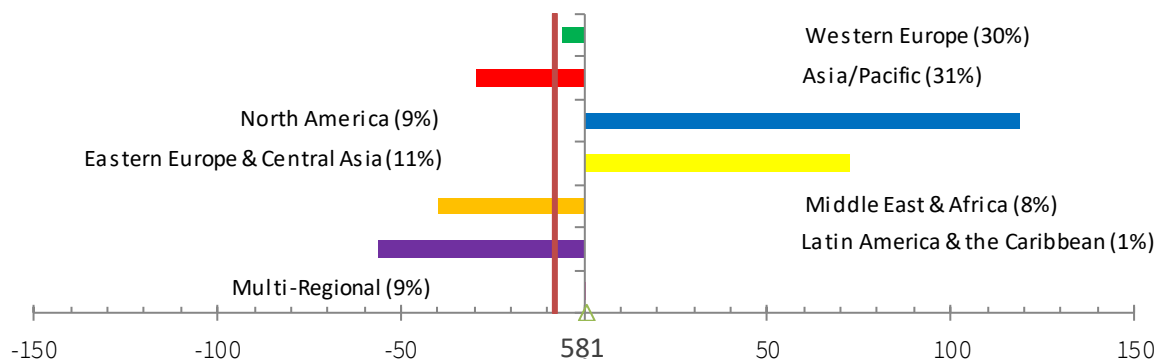
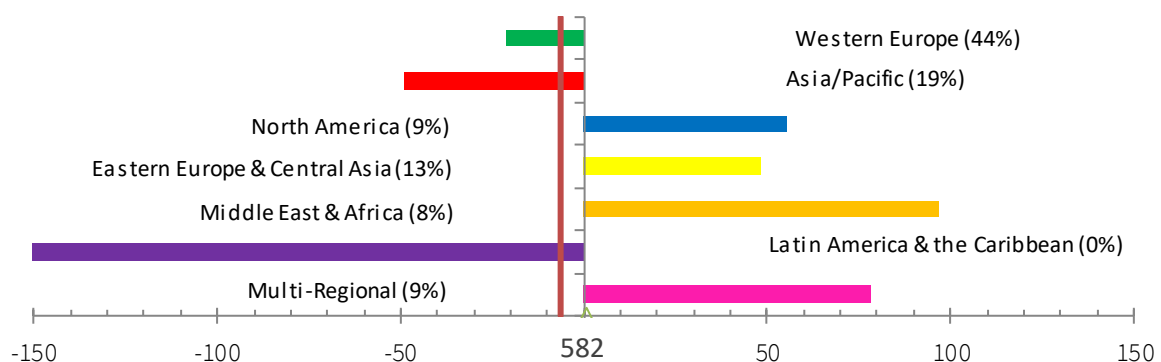
Respondents from centres in the Eastern Europe & Central Asia region assessed other regional centres higher than the mean, as did those from other regions except for Western Europe and North America.

**Table 10 | Eastern European And Central Asian Centres In GFCI 24**

Centre	GFCI 24		GFCI 23		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
Tallinn	52	620	79	559	▲ 27	▲ 61
Astana	61	599	88	548	▲ 27	▲ 51
Warsaw	66	592	45	620	▼ 21	▼ 28
Istanbul	68	590	76	562	▲ 8	▲ 28
Budapest	71	584	89	547	▲ 18	▲ 37
Prague	74	581	71	567	▼ 3	▲ 14
St Petersburg	80	575	91	531	▲ 11	▲ 44
Moscow	83	571	83	555	0	▲ 16
Riga	87	565	87	551	0	▲ 14
Cyprus	91	560	72	566	▼ 19	▼ 6
Baku	95	555	95	511	0	▲ 44
Almaty	96	550	94	519	▼ 2	▲ 31
Sofia	97	544	New	New	New	New
Athens	98	518	92	525	▼ 6	▼ 7

**Chart 26 | GFCI 24 Top Five Eastern European And Central Asian Centres Over Time**



**Chart 27 | Average Assessments By Region For Eastern Europe And Central Asia — Difference From The Overall Mean****Chart 28 | Assessments By Region For Tallinn — Difference From The Overall Mean****Chart 29 | Assessments By Region For Astana — Difference From The Overall Mean****Chart 30 | Assessments By Region For Warsaw — Difference From The Overall Mean**

## The Middle East and Africa

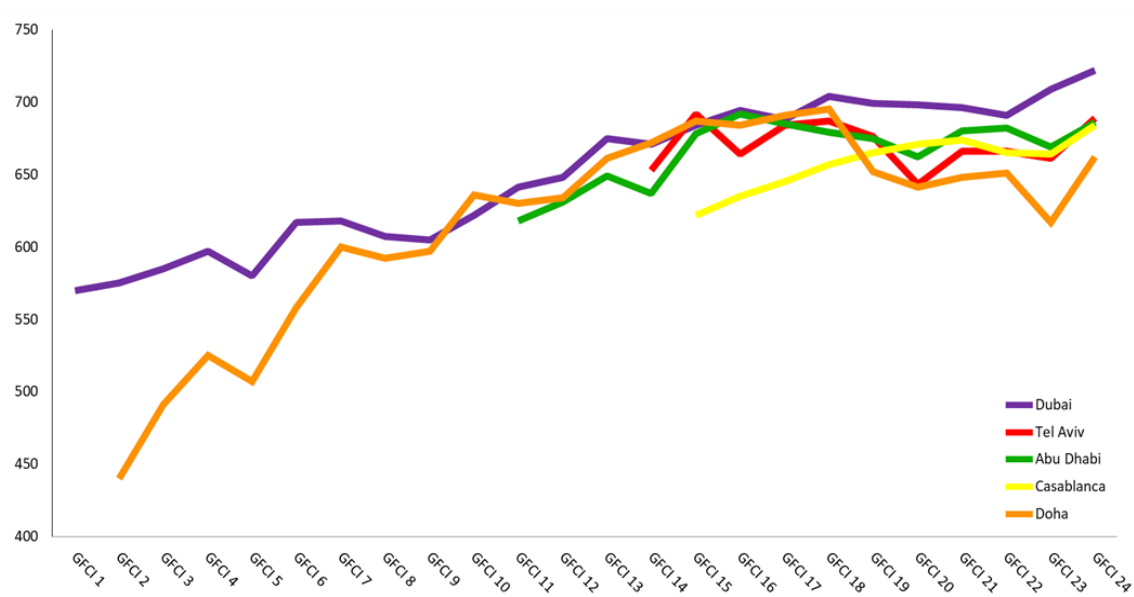
The leading centres in the Middle East and Africa rose in the index, while Johannesburg, Bahrain, and Riyadh fell. Cape Town entered the index for the first time with a high placement at 38 in the index.

Respondents from centres in the Middle East and Africa scored other regional centres lower than the mean, as did respondents from Western Europe and Latin America & the Caribbean.

**Table 11 | Middle East And African Centres In GFCI 24**

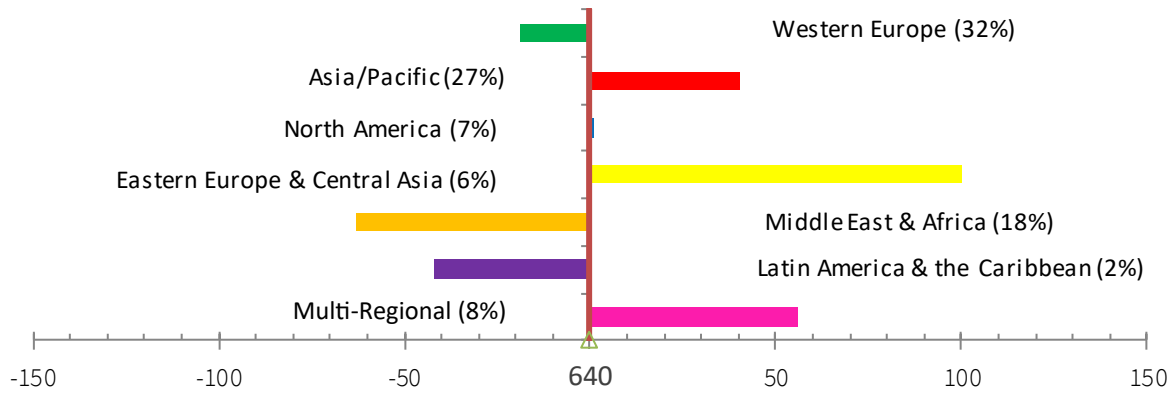
Centre	GFCI 24		GFCI 23		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
Dubai	15	722	19	709	▲ 4	▲ 13
Tel Aviv	25	689	34	661	▲ 9	▲ 28
Abu Dhabi	26	686	25	683	▼ 1	▲ 3
Casablanca	28	684	32	664	▲ 4	▲ 20
Doha	34	662	47	617	▲ 13	▲ 45
Cape Town	38	651	New	New	New	New
Mauritius	49	625	56	601	▲ 7	▲ 24
Johannesburg	57	612	52	610	▼ 5	▲ 2
Bahrain	59	607	51	612	▼ 8	▼ 5
Riyadh	69	588	68	573	▼ 1	▲ 15

**Chart 31 | GFCI 24 Top Five Middle East And African Centres Over Time**

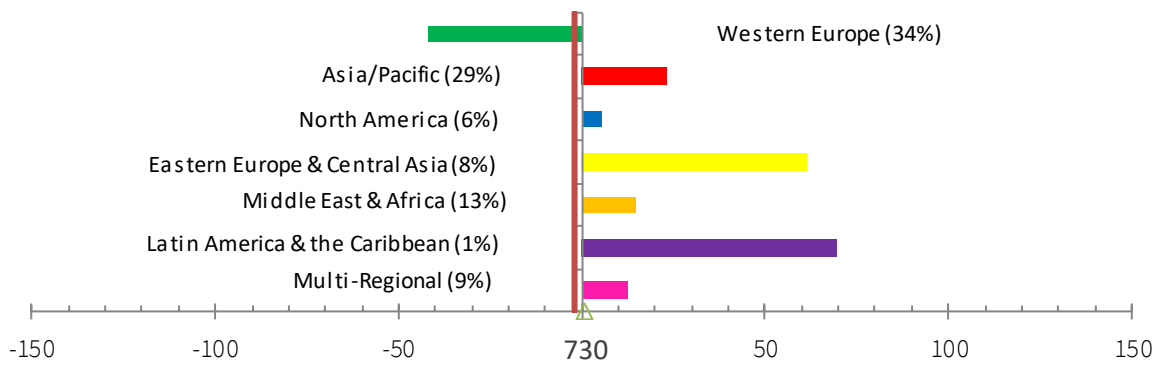




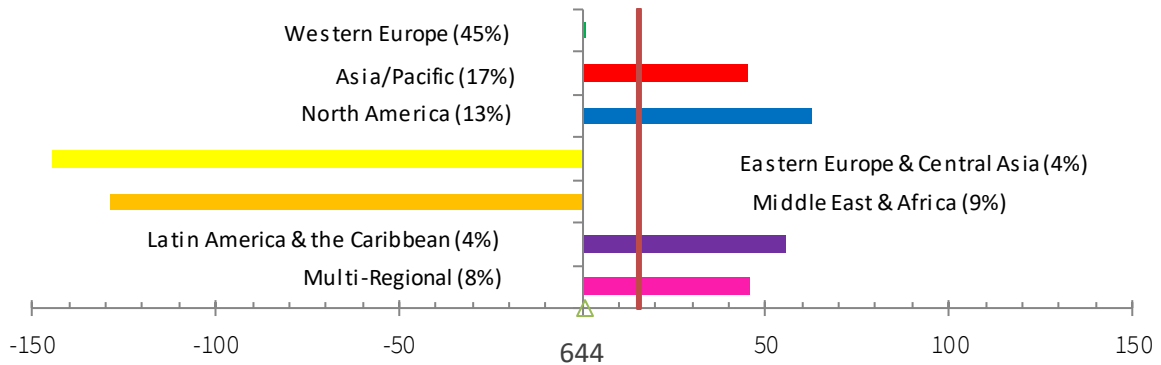
**Chart 32 | Average Assessments By Region For The Middle East And Africa — Difference From The Overall Mean**



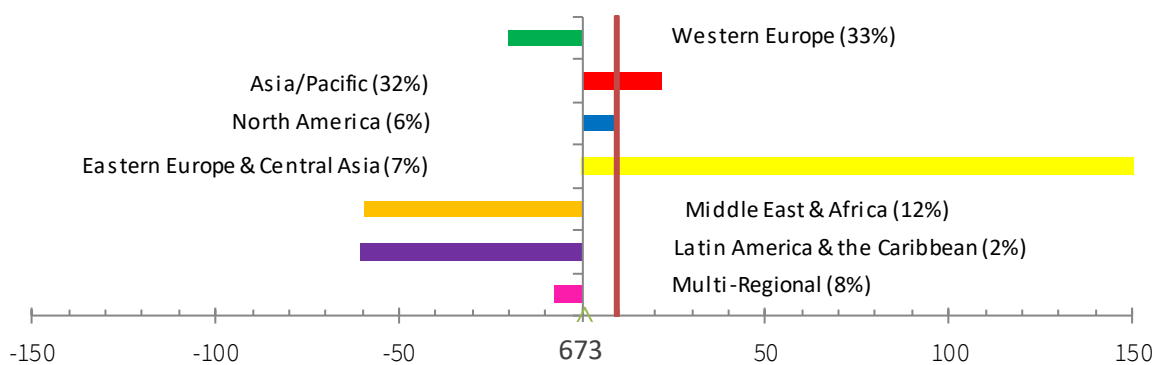
**Chart 33 | Assessments By Region For Dubai — Difference From The Overall Mean**



**Chart 34 | Assessments By Region For Tel Aviv — Difference From The Overall Mean**



**Chart 35 | Assessments By Region For Abu Dhabi — Difference From The Overall Mean**



## Latin America and the Caribbean

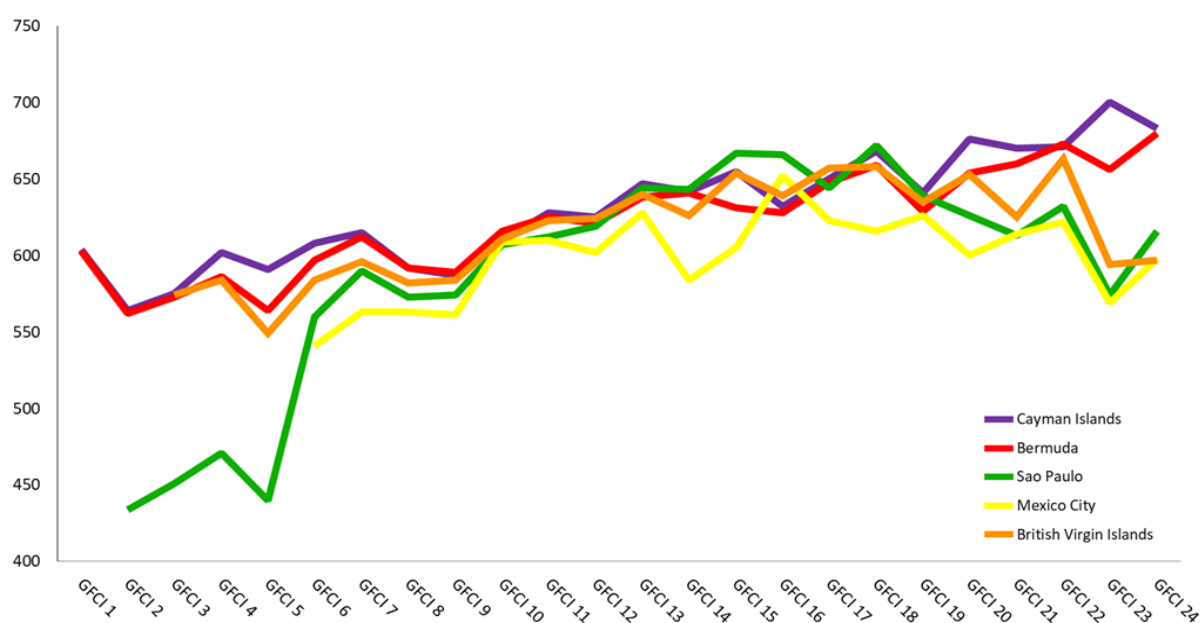
There were mixed results in Latin America and the Caribbean. Bermuda, Sao Paulo, Mexico City, and Rio de Janeiro all rose in the index, while other centres fell.

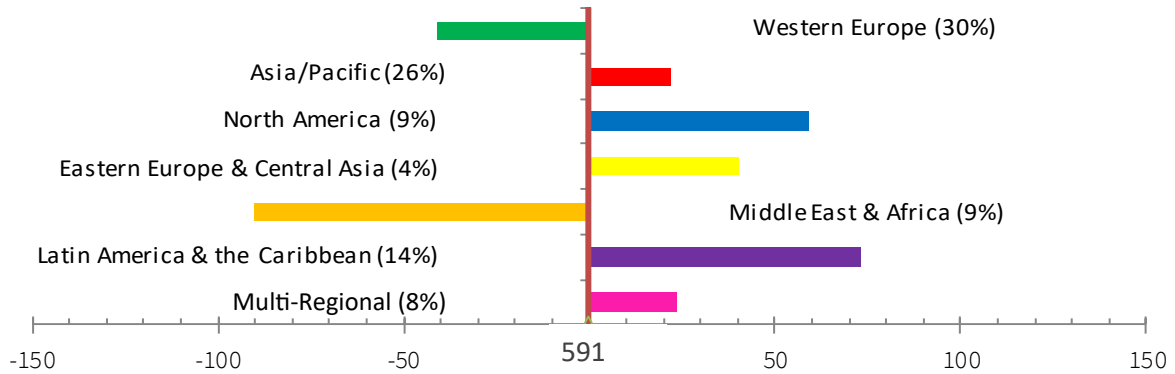
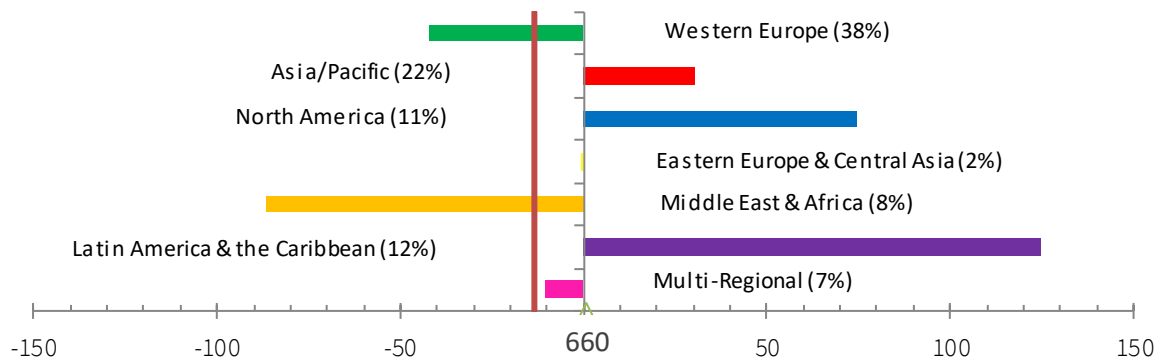
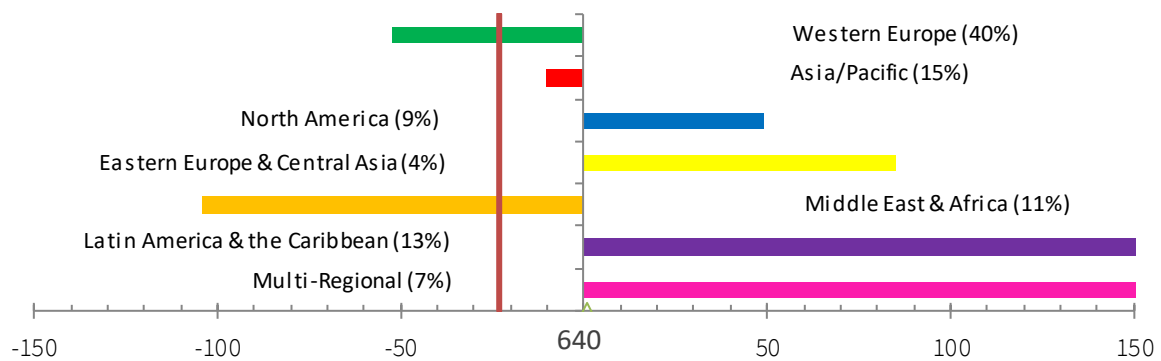
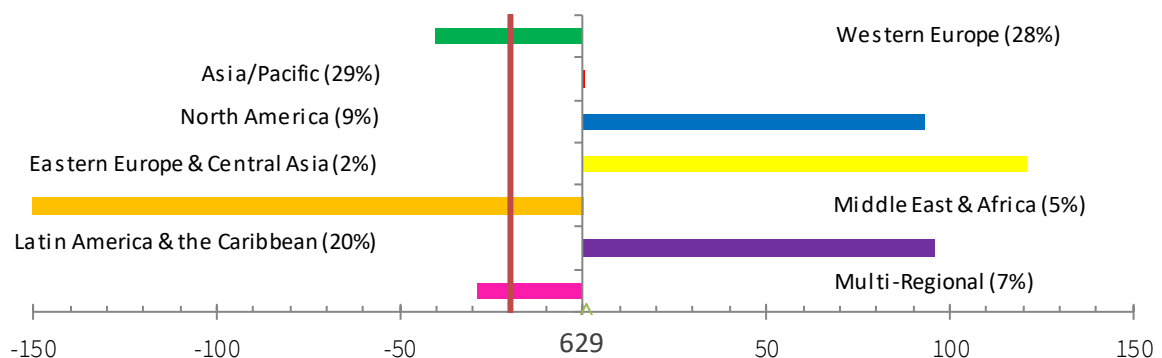
Centres in the region assessed other centres higher than the average assessments from other regions. Respondents from Western Europe and the Middle East and Africa gave lower assessments than the average.

**Table 12 | Latin American And Caribbean Centres In GFCI 24**

Centre	GFCI 24		GFCI 23		Change in	Change in
	Rank	Rating	Rank	Rating	Rank	Rating
Cayman Islands	29	683	22	700	▼ 7	▼ 17
Bermuda	30	680	36	656	▲ 6	▲ 24
Sao Paulo	55	616	67	574	▲ 12	▲ 42
Mexico City	62	598	70	569	▲ 8	▲ 29
British Virgin Islands	63	597	60	594	▼ 3	▲ 3
Rio de Janeiro	65	594	81	557	▲ 16	▲ 37
Bahamas	67	591	59	596	▼ 8	▼ 5
Panama	90	562	80	558	▼ 10	▲ 4
Buenos Aires	93	557	75	563	▼ 18	▼ 6
Trinidad and Tobago	99	510	86	552	▼ 13	▼ 42

**Chart 36 | Top Five Latin American And Caribbean Centres Over Time**



**Chart 37 | Average Assessments By Region For Latin America And The Caribbean – Difference From The Overall Mean****Chart 38 | Assessments By Region For The Cayman Islands — Difference From The Overall Mean****Chart 39 | Assessments By Region For Bermuda — Difference From The Overall Mean****Chart 40 | Assessments By Region For Sao Paulo — Difference From The Overall Mean**

## Home Centre Prospects

While the GFCI is calculated using only assessments from other centres, we ask respondents about the prospects of the centre in which they are based; and specifically whether their ‘home’ centre will become more or less competitive.

In general, people are more optimistic about the future of their own centre than people outside that centre. However, respondents in London are less optimistic than those in other centres, reflecting the uncertainty over Brexit.

Chart 41 | Home Centre Prospects — New York

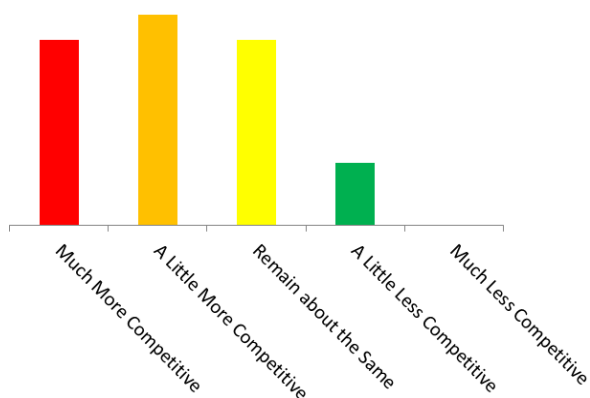


Chart 42 | Home Centre Prospects — London

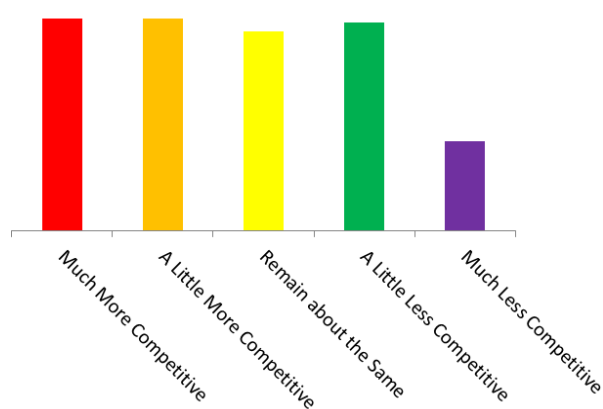


Chart 43 | Home Centre Prospects — Hong Kong

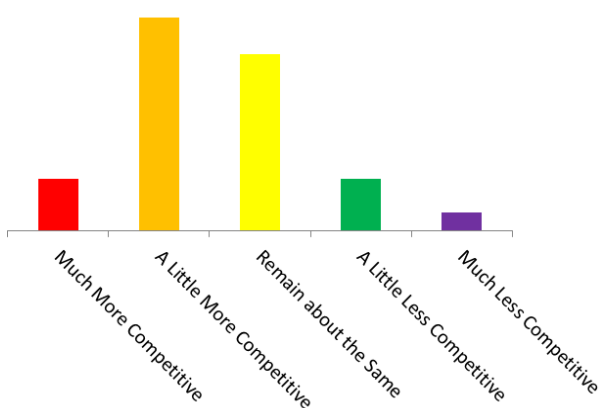
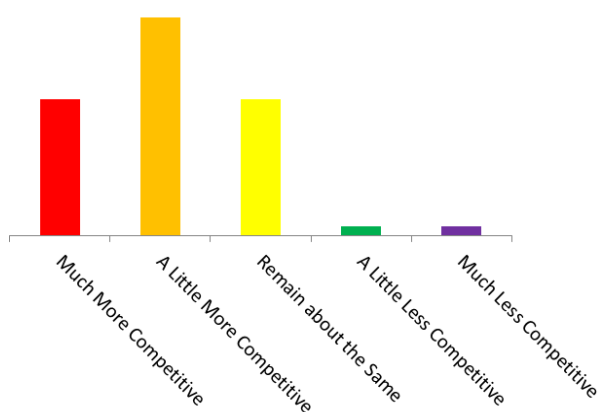


Chart 44 | Home Centre Prospects — Singapore



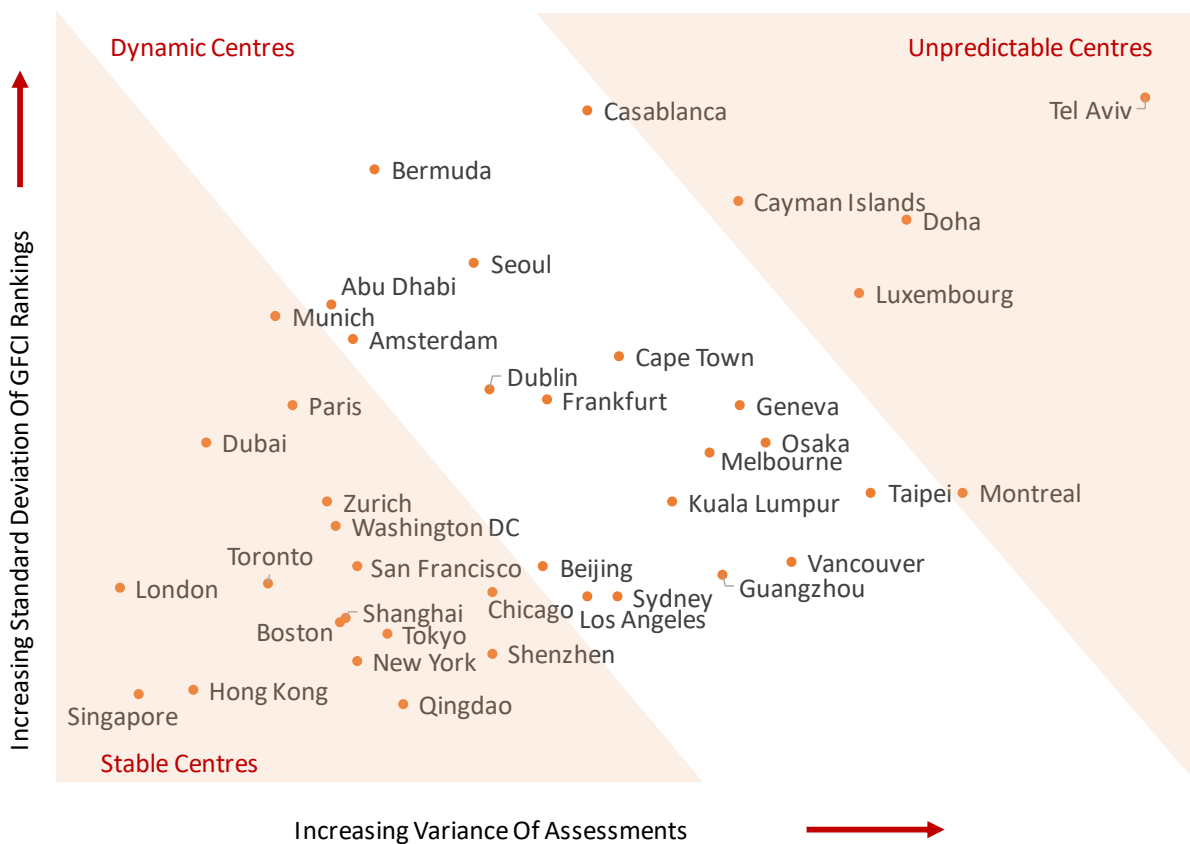
# Stability

The GFCI model allows for an analysis of the volatility in financial centre competitiveness. Chart 45 contrasts the 'spread' or variance of the individual assessments given to each of the top 40 centres with the sensitivity to changes in the instrumental factors.

The chart shows three bands of financial centres. The unpredictable centres in the top right of the chart have a higher sensitivity to changes in the instrumental factors and a higher variance of assessments. These centres have the highest potential future movement. The stable centres in the bottom left have a lower sensitivity to changes in the instrumental factors and a lower variance of assessments.

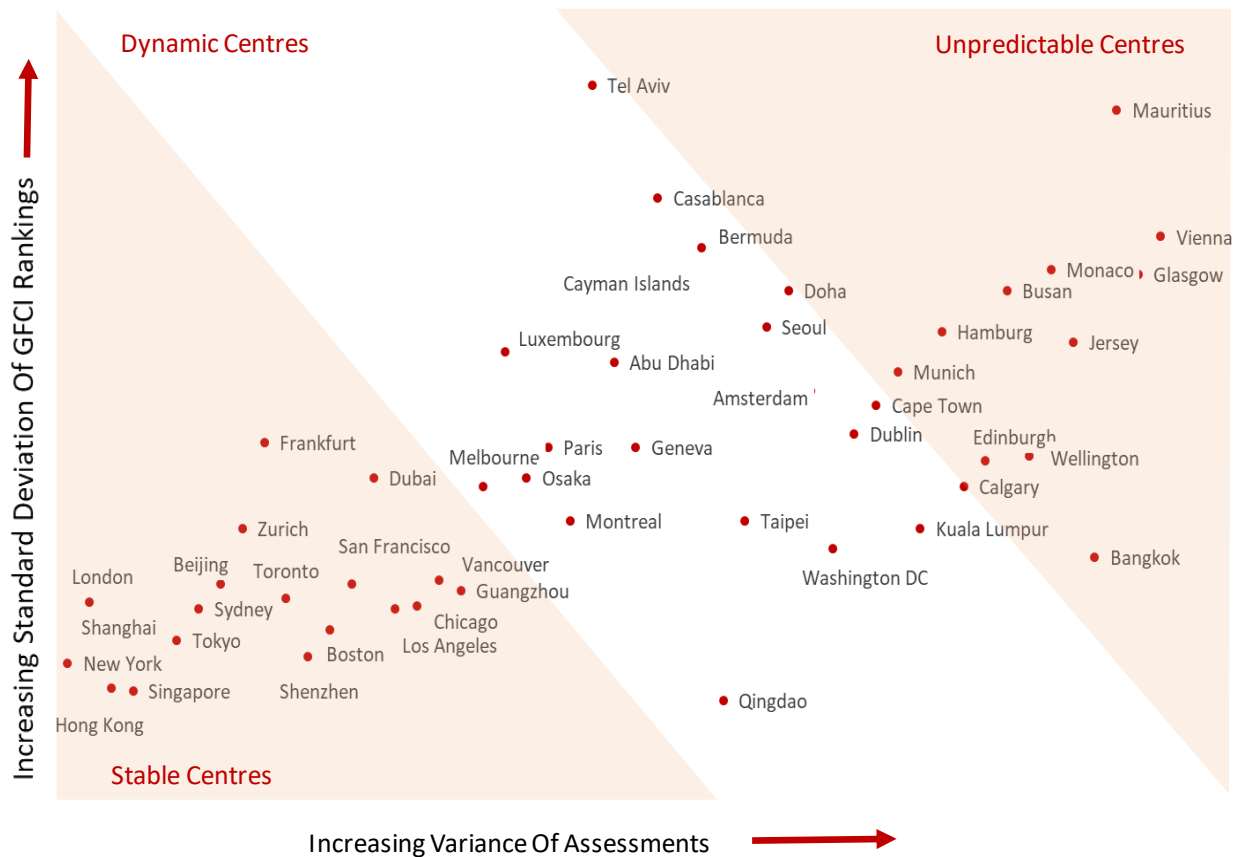
We have only plotted the top 40 centres (for clarity) but it is worth noting that most of the centres lower in the index would be in the dynamic and unpredictable areas of the chart if plotted.

**Chart 45 | The Stability Of The Top 40 Centres In GFCI 24**



We can also look at the stability of rankings in the index over time. Chart 46 shows the standard deviation of index rankings against the variance in assessments over the last 24 months.

**Chart 46 | Variance In Index Rankings And Assessments Over Time**



*“We all know about Hong Kong and Shanghai but a number of secondary Chinese centres are appearing on the radar now.”*

INVESTMENT BANKER BASED IN NEW YORK

# Reputation

We look at reputation in the GFCI model by examining the difference between the weighted average assessment given to a financial centre and the overall rating in the index.

The first measure reflects the average score a centre receives from financial professionals across the world, adjusted for time, with more recent assessments given more weight. (see Appendix 3 for details).

The second measure is the GFCI rating itself, which represents the assessments adjusted to take account of the instrumental factors. If a centre has a higher average assessment than its GFCI rating, this indicates that respondents' perceptions of a centre are more favourable than the quantitative measures alone suggest.

Table 13 shows the top 15 centres with the greatest positive difference between the average assessment and the GFCI rating. Ten of the top 15 centres in terms of reputational advantage are in the Asia/Pacific region. Washington DC, New York, and London also show a strong reputational advantage. This may be due to strong marketing or general awareness.

**Table 13 | GFCI 24 Top 15 Centres Assessments And Ratings — Reputational Advantage**

Centre - Top 15	Weighted Average Assessment	GFCI 24 Rating	GFCI 24 Reputational Advantage
Qingdao	816	679	137
Washington DC	775	655	120
Hangzhou	635	516	119
Wellington	731	630	101
Singapore	865	769	96
New York	862	788	74
Sydney	806	734	72
Tokyo	817	746	71
Shanghai	835	766	69
Hong Kong	848	783	65
London	848	786	62
San Francisco	776	724	52
Melbourne	745	699	46
Shenzhen	770	726	44
Zurich	773	732	41

Table 14 shows the 15 centres with the greatest reputational disadvantage. This indicates that respondents' perceptions of a centre are less favourable than the quantitative measures alone would suggest.

Five centres in Western Europe, and four each in Asia/Pacific and Eastern Europe and Central Asia appear in this list.

**Table 14 | GFCI 24 Bottom 15 Centres Assessments And Ratings — Reputational Disadvantage**

Centre - Bottom 15	Weighted Average Assessment	GFCI 24 Rating	GFCI 24 Reputational Advantage
Baku	510	555	-45
Athens	473	518	-45
Reykjavik	524	570	-46
Tallinn	571	620	-49
Guernsey	553	603	-50
Guangzhou	655	708	-53
Jersey	574	628	-54
Riyadh	529	588	-59
Trinidad and Tobago	446	510	-64
Riga	497	565	-68
Glasgow	550	622	-72
Sofia	469	544	-75
Chengdu	464	561	-97
Busan	478	631	-153
Dalian	339	499	-160

*“It seems strange to me that Jersey and Guernsey are not higher in your index. They have been marketing strongly in the last year.”*

ASSET MANAGER BASED IN LONDON



# Industry Sectors

We investigate the differing assessments provided by respondents working in relevant industry sectors by building the index separately using the responses provided only from those industries. This creates separate sub-indices for Banking, Investment Management, Insurance, Professional Services and Government & Regulatory Sectors. Table 15 shows the top 15 financial centres in these five industry sectors.

**Table 15 | GFCI 24 Industry Sector Sub-Indices — Top Fifteen**

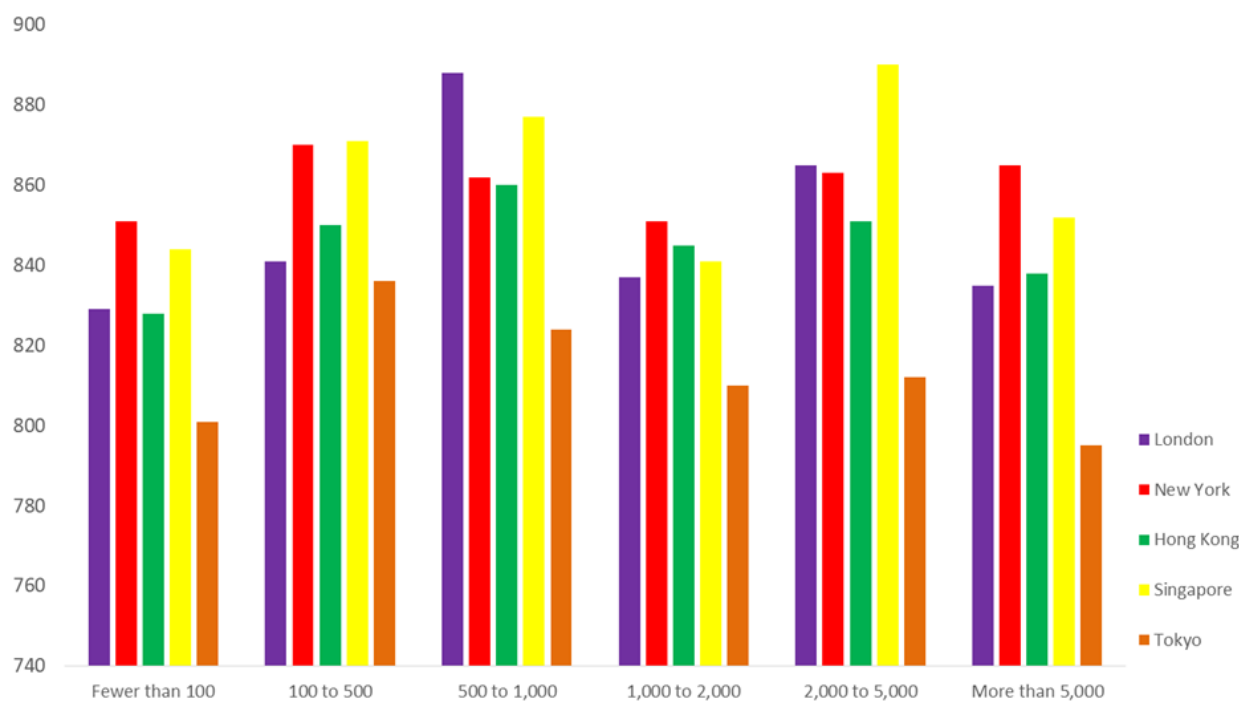
Rank	Banking	Investment Management	Insurance	Professional Services	Government & Regulatory
1	London	Hong Kong	London	New York	London
2	Hong Kong	New York	New York	London	Hong Kong
3	New York	London	Singapore	Hong Kong	New York
4	Shanghai	Shanghai	Hong Kong	Singapore	Singapore
5	Singapore	Singapore	Shanghai	Shanghai	Zurich
5	Tokyo	Tokyo	Tokyo	Tokyo	Tokyo
7	Beijing	Toronto	Zurich	Sydney	Shanghai
8	Dubai	Sydney	Shenzhen	Zurich	San Francisco
9	Frankfurt	Beijing	San Francisco	Dubai	Frankfurt
10	Chicago	Zurich	Sydney	Boston	Boston
11	Sydney	Boston	Frankfurt	San Francisco	Toronto
12	Boston	Shenzhen	Paris	Los Angeles	Vancouver
13	Zurich	San Francisco	Boston	Toronto	Luxembourg
14	Shenzhen	Melbourne	Beijing	Frankfurt	Seoul
15	Toronto	Dubai	Dubai	Shenzhen	Sydney



# Size of Organisation

We have analysed how the leading centres in the index are viewed by respondents working for organisations of difference sizes. New York is favoured over London in four of the size categories that we use. London has a strong lead in mid-sized organisations (500 to 1,000 employees) but remains significantly behind New York in terms of the largest organisations. Singapore scores consistently high across all categories. Singapore scores consistently high across all categories.

Chart 47 | Average Assessments By Respondents' Organisation Size (Number Of Employees)



# Appendix 1: Assessment Details

**Table 16 | GFCI 24 Details Of Assessments By Centre**

Centre	GFCI 24 Rank	GFCI 24 Rating	----- Assessments ----- Number Average St. Dev	Centre	GFCI 24 Rank	GFCI 24 Rating	----- Assessments ----- Number Average St. Dev
New York	1	788	1,107 861 136	Vienna	51	621	226 589 234
London	2	786	1,090 845 154	Tallinn	52	620	90 567 260
Hong Kong	3	783	1,049 844 128	Madrid	53	619	287 627 186
Singapore	4	769	708 859 127	Brussels	54	617	407 608 205
Shanghai	5	766	814 825 147	Sao Paulo	55	616	117 629 187
Tokyo	6	746	477 810 143	Milan	56	613	266 634 182
Sydney	7	734	381 800 152	Johannesburg	57	612	145 594 206
Beijing	8	733	816 754 159	Stockholm	58	611	197 586 234
Zurich	9	732	542 766 173	Bahrain	59	607	145 590 202
Frankfurt	10	730	741 748 193	Guernsey	60	603	223 556 217
Toronto	11	728	395 766 155	Astana	61	599	264 581 270
Shenzhen	12	726	605 768 138	Mexico City	62	598	122 575 199
Boston	13	725	467 746 146	British Virgin Islands	63	597	180 604 233
San Francisco	14	724	452 769 159	Oslo	64	596	153 567 216
Dubai	15	722	526 730 185	Rio de Janeiro	65	594	81 590 208
Los Angeles	16	721	412 743 152	Warsaw	66	592	193 582 236
Chicago	17	717	449 732 153	Bahamas	67	591	135 577 216
Vancouver	18	709	247 739 160	Istanbul	68	590	187 561 219
Guangzhou	19	708	438 660 157	Riyadh	69	588	120 525 239
Melbourne	20	699	260 738 183	Lisbon	70	585	209 567 230
Luxembourg	21	694	361 668 212	Budapest	71	584	121 558 202
Osaka	22	693	189 714 185	Rome	72	583	239 563 209
Paris	23	691	585 687 192	Liechtenstein	73	582	171 557 238
Montreal	24	690	209 699 175	Prague	74	581	160 566 203
Tel Aviv	25	689	122 644 260	Gibraltar	75	580	176 532 248
Abu Dhabi	26	686	383 673 210	Jakarta	76	579	136 572 206
Geneva	27	685	402 686 192	GIFT City-Gujarat	77	578	143 513 271
Casablanca	28	684	110 670 241	Tianjin	78	577	185 610 203
Cayman Islands	29	683	204 660 227	Chengdu	79	576	753 474 210
Bermuda	30	680	108 640 232	St Petersburg	80	575	172 553 232
Qingdao	31	679	1,033 809 124	Copenhagen	81	573	241 556 202
Taipei	32	670	183 666 175	New Delhi	82	572	201 539 192
Seoul	33	668	399 657 217	Moscow	83	571	382 553 219
Doha	34	662	199 656 224	Reykjavik	84	570	116 523 229
Amsterdam	35	657	461 648 204	Isle of Man	85	568	187 538 226
Washington DC	36	655	436 769 168	Manila	86	566	183 556 185
Dublin	37	652	430 646 195	Riga	87	565	87 503 238
Cape Town	38	651	132 626 201	Malta	88	564	201 542 222
Munich	39	639	283 659 208	Hangzhou	89	563	235 640 175
Kuala Lumpur	40	638	311 646 173	Panama	90	562	127 560 247
Hamburg	41	636	283 623 216	Cyprus	91	560	152 511 219
Calgary	42	635	139 612 183	Mumbai	92	558	222 533 189
Edinburgh	43	634	367 640 189	Buenos Aires	93	557	69 516 234
Busan	44	631	202 500 224	Helsinki	94	556	146 541 202
Wellington	45	630	76 717 190	Baku	95	555	138 500 212
Monaco	46	629	213 623 228	Almaty	96	550	143 528 227
Jersey	47	628	252 575 214	Sofia	97	544	79 466 236
Bangkok	48	626	283 620 166	Athens	98	518	125 458 234
Mauritius	49	625	125 588 256	Trinidad and Tobago	99	510	43 456 263
Glasgow	50	622	190 548 227	Dalian	100	499	915 348 165

## Appendix 2: Respondents' Details

**Table 17 | GFCI 24 Respondents By Industry Sector**

Industry Sector	Number of Respondents
Banking	694
Finance	129
Government & Regulatory	131
Insurance	189
Investment Management	326
Professional Services	382
Trade Association	97
Trading	159
Other	346
<b>Total</b>	<b>2453</b>

**Table 18 | GFCI 24 Respondents By Region**

Region	Number of Respondents
Western Europe	653
Asia/Pacific	1099
North America	168
Middle East & Africa	159
Eastern Europe & Central Asia	125
Latin America & the Caribbean	54
Multi-Regional	195
<b>Total</b>	<b>2453</b>

**Table 19 | GFCI 24 Respondents By Size Of Organisation**

Size of Organisation	Number of Respondents
Fewer than 100	601
100 to 500	433
500 to 1,000	399
1,000 to 2,000	281
2,000 to 5,000	188
More than 5,000	487
Not Specified	64
<b>Total</b>	<b>2453</b>

## Appendix 3: Methodology

The GFCI provides ratings for financial centres calculated by a ‘factor assessment model’ that uses two distinct sets of input:

**Instrumental factors:** objective evidence of competitiveness was sought from a wide variety of comparable sources. For example, evidence about the telecommunications infrastructure competitiveness of a financial centre is drawn from the ICT Development Index (supplied by the United Nations), the Networked Readiness Index (supplied by the World Economic Forum), the Telecommunication Infrastructure Index (by the United Nations) and the Web Index (supplied by the World Wide Web Foundation). Evidence about a business-friendly regulatory environment is drawn from the Ease of Doing Business Index (supplied by the World Bank), the Government Effectiveness rating (supplied by the World Bank) and the Corruption Perceptions Index (supplied by Transparency International) amongst others.

A total of 137 instrumental factors are used in GFCI 24 of which 51 were updated since GFCI 23 and 35 are new to the GFCI). Not all financial centres are represented in all the external sources, and the statistical model takes account of these gaps.

**Financial centre assessments:** by means of an online questionnaire, running continuously since 2007, We received 3,301 responses to the questionnaire in the 24 months to June 2018. Of these, 2,453 respondents provided 31,326 valid assessments of financial centres. Financial centres are added to the GFCI questionnaire when they receive five or more mentions in the online questionnaire in response to the question: “Are there any financial centres that might become significantly more important over the next two to three years?”

A centre is only given a GFCI rating and ranking if it receives more than 150 assessments from other centres within the previous 24 months in the online survey. Centres in the GFCI that do not receive 50 assessments in a 24 month period are removed and added to the Associate list until the number of assessments increases.

At the beginning of our work on the GFCI, a number of guidelines were set out. Additional Instrumental Factors are added to the GFCI model when relevant and meaningful ones are discovered:

- indices should come from a reputable body and be derived by a sound methodology;
- indices should be readily available (ideally in the public domain) and be regularly updated;
- updates to the indices are collected and collated every six months;
- no weightings are applied to indices;
- Indices are entered into the GFCI model as directly as possible, whether this is a rank, a derived score, a value, a distribution around a mean or a distribution

around a benchmark;

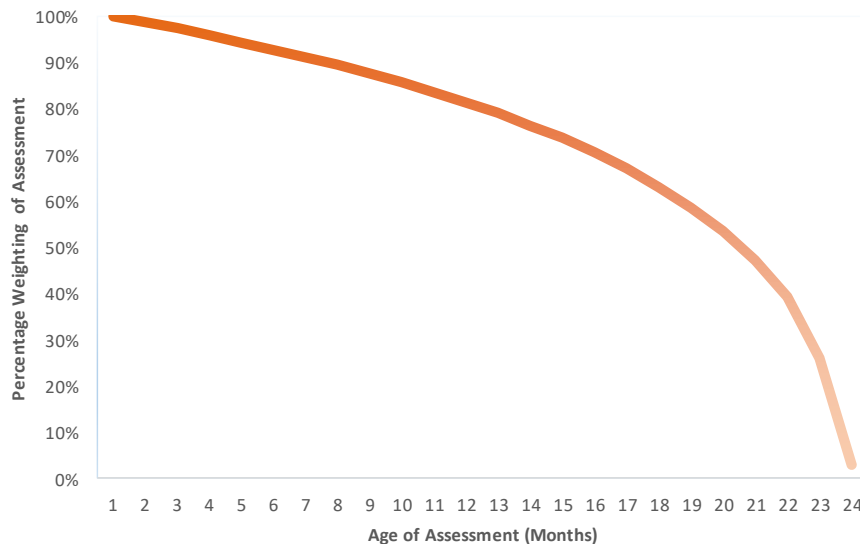
- if a factor is at a national level, the score will be used for all centres in that country; nation-based factors will be avoided if financial centre (city) - based factors are available;
- if an index has multiple values for a city or nation, the most relevant value is used (and the method for judging relevance is noted);
- if an index is at a regional level, the most relevant allocation of scores to each centre is made (and the method for judging relevance is noted);
- if an index does not contain a value for a particular city, a blank is entered against that centre (no average or mean is used).

Creating the GFCI does not involve totalling or averaging scores across instrumental factors. An approach involving totalling and averaging would involve a number of difficulties:

- indices are published in a variety of different forms: an average or base point of 100 with scores above and below this; a simple ranking; actual values (e.g. \$ per square foot of occupancy costs); a composite 'score';
- indices would have to be normalised, e.g. in some indices a high score is positive while in others a low score is positive;
- not all centres are included in all indices;
- the indices would have to be weighted.

The guidelines for financial centre assessments by respondents are:

- responses are collected via an online questionnaire which runs continuously. A link to this questionnaire is emailed to the target list of respondents at regular intervals and other interested parties can fill this in by following the link given in the GFCI publications;
- financial centre assessments will be included in the GFCI model for 24 months after they have been received;
- respondents rating fewer than three or more than half of the centres are excluded from the model;
- respondents who do not say where they work are excluded;
- financial centre assessments from the month when the GFCI is created are given full weighting and earlier responses are given a reduced weighting on a log scale.

**Chart 48 | Reduction In Weighting As Assessments Get Older**

The financial centre assessments and instrumental factors are used to build a predictive model of centre competitiveness using a support vector machine (SVM). SVMs are based upon statistical techniques that classify and model complex historic data in order to make predictions of new data. SVMs work well on discrete, categorical data but also handle continuous numerical or time series data. The SVM used for the GFCI provides information about the confidence with which each specific classification is made and the likelihood of other possible classifications.

A factor assessment model is built using the centre assessments from responses to the online questionnaire. Assessments from respondents' home centres are excluded from the factor assessment model to remove home bias. The model then predicts how respondents would have assessed centres they are not familiar with, by answering questions such as:

- If an investment banker gives Singapore and Sydney certain assessments then, based on the relevant data for Singapore, Sydney and Paris, how would that person assess Paris?

Or

- If a pension fund manager gives Edinburgh and Munich a certain assessment then, based on the relevant data for Edinburgh, Munich and Zurich, how would that person assess Zurich?

Financial centre predictions from the SVM are re-combined with actual financial centre assessments (except those from the respondents' home centres) to produce the GFCI – a set of financial centre ratings.

The GFCI is dynamically updated either by updating and adding to the instrumental factors or through new financial centre assessments. These updates permit, for

instance, a recently changed index of rental costs to affect the competitiveness rating of the centres.

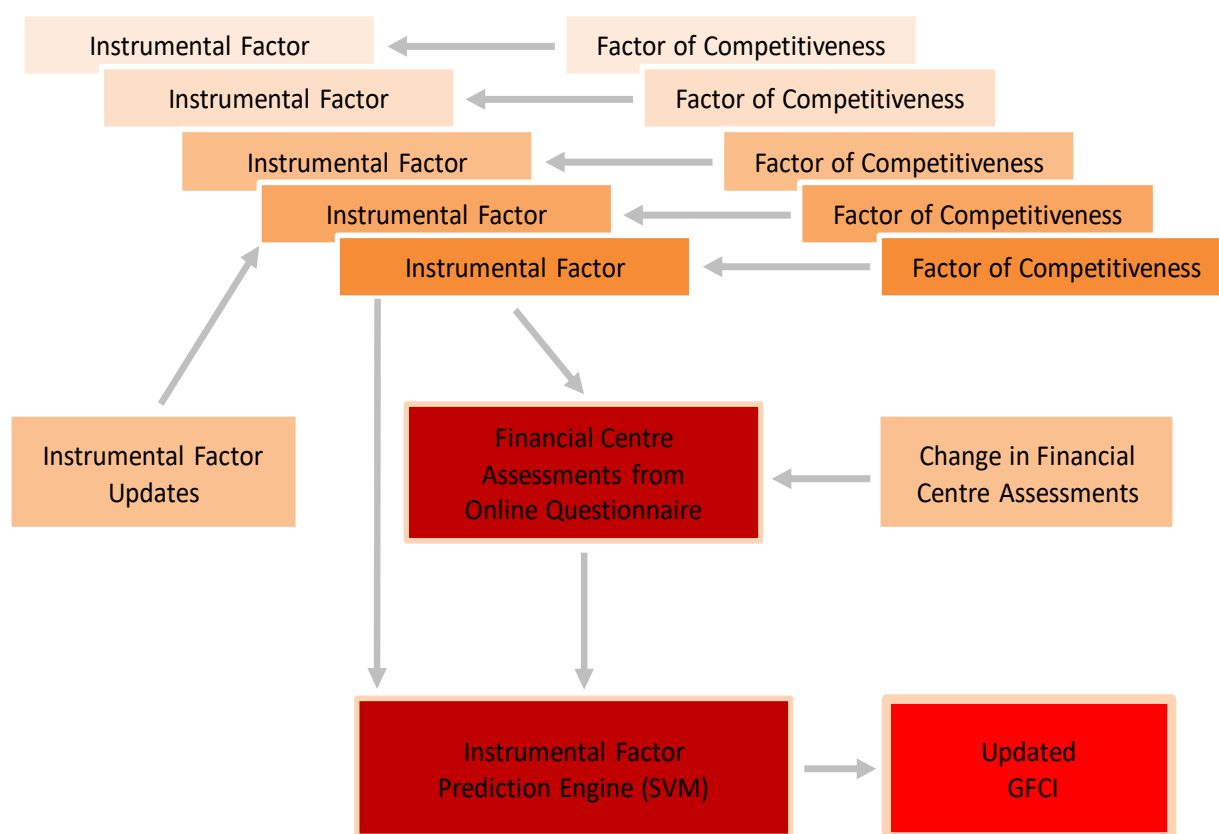
It is worth drawing attention to a few consequences of basing the GFCI on instrumental factors and questionnaire responses:

- several indices can be used for each competitive factor;
- a strong international group of ‘raters’ has developed as the GFCI progresses;
- sector-specific ratings are available using the business sectors represented by questionnaire respondents. This makes it possible to rate Frankfurt as competitive in Banking (for example) while less competitive Insurance (for example);
- the factor assessment model can be queried in a ‘what if’ mode – “how much would London rental costs need to fall in order to increase London’s ranking against New York?”

Part of the process of building the GFCI is extensive sensitivity testing to changes in factors of competitiveness and financial centre assessments.

There are over ten million data points in the current GFCI model. The accuracy of predictions given by the SVM are regularly tested against actual assessments.

**Chart 49 | The GFCI Process**





## Appendix 4: Instrumental Factors

**Table 20 | Top 30 Instrumental Factors By Correlation With GFCI 24**

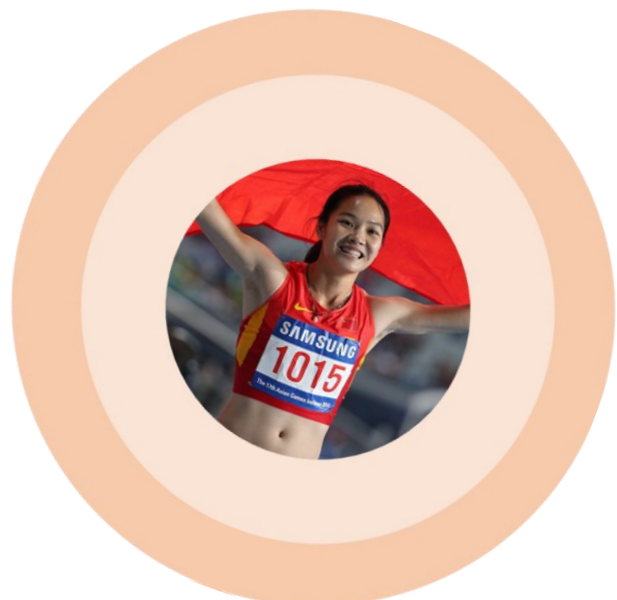
Instrumental Factor	R-squared
Household net financial wealth	0.422
Citizens Domestic Purchasing Power	0.404
Household net adjusted disposable income	0.374
Global Competitiveness Index	0.364
Wage Comparison Index	0.355
Logistics Performance Index	0.349
World Competitiveness Scoreboard	0.347
Innovation Cities Global Index	0.338
Financial Secrecy Index	0.338
Quality of Roads	0.330
Business Environment Rankings	0.320
Price Levels	0.312
GRESB Energy intensities KWH/m2	0.288
Government Effectiveness	0.286
IESE cities in motion index	0.282
Global Cities Index	0.280
Global Cybersecurity Index	0.277
Global Enabling Trade Report	0.268
Office Occupancy Cost	0.253
Cost of Living City Rankings	0.251
Networked Readiness Index	0.251
JLL Real Estate Transparency Index	0.251
Best Countries for Business	0.250
Global Innovation Index	0.249
Business Process Outsourcing Location Index	0.246
Domestic Credit Provided by Banking Sector (% of GDP)	0.238
Quality of Domestic Transport Network	0.227
Rule of Law	0.224
Regulatory Quality	0.224
Regulatory Enforcement	0.219

**Table 21 | GFCI 24 Business Environment Factors**

Instrumental Factor	Source	Website	Change Since GFCI 23
Business Environment Rankings	EIU	<a href="http://www.eiu.com/public/thankyou_download.aspx?activity=download&amp;campaignid=bizenviro2014">http://www.eiu.com/public/thankyou_download.aspx?activity=download&amp;campaignid=bizenviro2014</a>	
Ease of Doing Business Index	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=doing-business">http://databank.worldbank.org/data/reports.aspx?source=doing-business</a>	Updated
Operational Risk Rating	EIU	<a href="http://www.viewswire.com/index.asp?layout=homePubTypeRK">http://www.viewswire.com/index.asp?layout=homePubTypeRK</a>	Updated
Real Interest Rate	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	
Global Services Location	AT Kearney	<a href="https://www.atkearney.com/digital-transformation/gsl">https://www.atkearney.com/digital-transformation/gsl</a>	
Corruption Perception Index	Transparency International	<a href="http://www.transparency.org/policy_research/surveys_indices/cpi">http://www.transparency.org/policy_research/surveys_indices/cpi</a>	Updated
Wage Comparison Index	UBS	<a href="http://www.ubs.com/1/e/wealthmanagement/wealth_management_research/prices_earnings.html">http://www.ubs.com/1/e/wealthmanagement/wealth_management_research/prices_earnings.html</a>	Updated
Corporate Tax Rates	PWC	<a href="http://www.doingbusiness.org/reports/thematic-reports/paying-taxes/">http://www.doingbusiness.org/reports/thematic-reports/paying-taxes/</a>	Updated
Individual Income tax rates	KPMG	<a href="https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/individual-tax-rates/">https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/individual-tax-rates/</a>	Updated
Personal Tax Rates	OECD	<a href="http://www.oecd.org/tax/tax-policy/tax-database.htm">http://www.oecd.org/tax/tax-policy/tax-database.htm</a>	Updated
Tax as Percentage of GDP	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	Updated
Bilateral Tax Information Exchange Agreements	OECD	<a href="http://www.oecd.org/ctp/exchange-of-tax-information/taxinformationexchangeagreementstie">http://www.oecd.org/ctp/exchange-of-tax-information/taxinformationexchangeagreementstie</a>	
Economic Freedom of the World	Fraser Institute	<a href="http://www.freetheworld.com/release.html">http://www.freetheworld.com/release.html</a>	
Government Debt as % of GDP	CIA	<a href="https://www.cia.gov/library/publications/the-world-factbook/rankorder/2186rank.html">https://www.cia.gov/library/publications/the-world-factbook/rankorder/2186rank.html</a>	Updated
OECD Country Risk Classification	OECD	<a href="http://www.oecd.org/tad/xcred/crc.htm">http://www.oecd.org/tad/xcred/crc.htm</a>	Updated
Global Peace Index	Institute for Economics & Peace	<a href="http://www.visionofhumanity.org/">http://www.visionofhumanity.org/</a>	Updated
Financial Secrecy Index	Tax Justice Network	<a href="http://www.financialsecrecyindex.com/">http://www.financialsecrecyindex.com/</a>	Updated
Government Effectiveness	The World Bank	<a href="http://info.worldbank.org/governance/wgi/index.aspx#home">http://info.worldbank.org/governance/wgi/index.aspx#home</a>	
Open Government	World Justice Project	<a href="http://worldjusticeproject.org/rule-of-law-index">http://worldjusticeproject.org/rule-of-law-index</a>	Updated
Regulatory Enforcement	World Justice Project	<a href="http://worldjusticeproject.org/rule-of-law-index">http://worldjusticeproject.org/rule-of-law-index</a>	Updated
Press Freedom Index	Reporters Without Borders (RSF)	<a href="http://en.rsf.org/">http://en.rsf.org/</a>	Updated
Currencies	Swiss Association for Standardization (SNV)	<a href="http://www.currency-iso.org/en/home/tables/table-a1.html">http://www.currency-iso.org/en/home/tables/table-a1.html</a>	Updated
Commonwealth Countries	The Commonwealth	<a href="http://thecommonwealth.org/member-countries">http://thecommonwealth.org/member-countries</a>	
Common Law Countries	CIA	<a href="https://www.cia.gov/library/publications/the-world-factbook/fields/2100.html">https://www.cia.gov/library/publications/the-world-factbook/fields/2100.html</a>	
Inflation, GDP Deflator	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	Updated
Rule of Law	The World Bank	<a href="http://info.worldbank.org/governance/wgi/index.aspx#home">http://info.worldbank.org/governance/wgi/index.aspx#home</a>	
Political Stability and Absence of Violence/Terrorism	The World Bank	<a href="http://info.worldbank.org/governance/wgi/index.aspx#home">http://info.worldbank.org/governance/wgi/index.aspx#home</a>	
Regulatory Quality	The World Bank	<a href="http://info.worldbank.org/governance/wgi/index.aspx#home">http://info.worldbank.org/governance/wgi/index.aspx#home</a>	
Control of Corruption	The World Bank	<a href="http://info.worldbank.org/governance/wgi/index.aspx#home">http://info.worldbank.org/governance/wgi/index.aspx#home</a>	
Best Countries for Business	Forbes	<a href="http://www.forbes.com/best-countries-for-business/list/#tab:overall">http://www.forbes.com/best-countries-for-business/list/#tab:overall</a>	
Lloyd's City Risk Index 2015-2025	Lloyd's	<a href="https://cityriskindex.lloyds.com/explore/">https://cityriskindex.lloyds.com/explore/</a>	Updated
Global Cybersecurity Index	ITU	<a href="http://www.itu.int/en/ITU-D/Cybersecurity/Pages/GCI.aspx">http://www.itu.int/en/ITU-D/Cybersecurity/Pages/GCI.aspx</a>	
Open Budget Survey	International Budget Partnership	<a href="http://survey.internationalbudget.org/#download">http://survey.internationalbudget.org/#download</a>	New
Crude oil input to refineries	Enerdata Statistical Yearbook	<a href="https://yearbook.enerdata.net/download/">https://yearbook.enerdata.net/download/</a>	New
Share of wind and solar in electricity production	Enerdata Statistical Yearbook	<a href="https://yearbook.enerdata.net/download/">https://yearbook.enerdata.net/download/</a>	New
Energy Intensity of GDP	Enerdata Statistical Yearbook	<a href="https://yearbook.enerdata.net/download/">https://yearbook.enerdata.net/download/</a>	New
Share of renewables in electricity production	Enerdata Statistical Yearbook	<a href="https://yearbook.enerdata.net/download/">https://yearbook.enerdata.net/download/</a>	New
City Commitment to Carbon Reduction (Individual Action)	UNFCCC	<a href="http://climateaction.unfccc.int/cities">http://climateaction.unfccc.int/cities</a>	New
City Commitment to Carbon Reduction (Cooperative Action)	UNFCCC	<a href="http://climateaction.unfccc.int/cities">http://climateaction.unfccc.int/cities</a>	New

**Table 22 | GFCI 24 Human Capital Factors**

Instrumental Factor	Source	Website	Change Since GFCI 23
Graduates in social Science, Business and Law (as % of total graduates)	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics">http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics</a>	
Gross Tertiary Graduation Ratio	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics">http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics</a>	
Visa Restrictions Index	Henley Partners	<a href="http://www.henleyglobal.com/citizenship/visa-restrictions/">http://www.henleyglobal.com/citizenship/visa-restrictions/</a>	Updated
Human Development Index	UN Development Programme	<a href="http://hdr.undp.org/en/2016-report">http://hdr.undp.org/en/2016-report</a>	
Citizens Domestic Purchasing Power	UBS	<a href="http://www.ubs.com/1/e/wealthmanagement/wealth_management_research/prices_earnings.html">http://www.ubs.com/1/e/wealthmanagement/wealth_management_research/prices_earnings.html</a>	Updated
Number of High Net Worth Individuals	Capgemini	<a href="https://www.worldwealthreport.com/">https://www.worldwealthreport.com/</a>	Updated
Homicide Rates	UN Office of Drugs & Crime	<a href="https://data.unodc.org/">https://data.unodc.org/</a>	
Top Tourism Destinations	Euromonitor	<a href="http://blog.euromonitor.com/2017/01/top-100-city-destination-ranking-2017.html">http://blog.euromonitor.com/2017/01/top-100-city-destination-ranking-2017.html</a>	
Average precipitation in depth	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	
Quality of Living City Rankings	Mercer	<a href="https://www.mercer.com/newsroom/2017-quality-of-living-survey.html">https://www.mercer.com/newsroom/2017-quality-of-living-survey.html</a>	Updated
Health Care Index	Numbeo	<a href="http://www.numbeo.com/health-care/rankings.jsp">http://www.numbeo.com/health-care/rankings.jsp</a>	Updated
Global Skills Index	Hays	<a href="http://www.hays-index.com/">http://www.hays-index.com/</a>	
Linguistic Diversity	Ethnologue	<a href="http://www.ethnologue.com/statistics/country">http://www.ethnologue.com/statistics/country</a>	Updated
Global Terrorism Index	Institute for Economics & Peace	<a href="http://www.visionofhumanity.org/">http://www.visionofhumanity.org/</a>	
World Talent Rankings	IMD	<a href="http://www.imd.org/wcc/news-talent-report/">http://www.imd.org/wcc/news-talent-report/</a>	
Cost of Living City Rankings	Mercer	<a href="http://www.mercer.com">http://www.mercer.com</a>	Updated
Quality of Life Index	Numbeo	<a href="http://www.numbeo.com/quality-of-life/rankings.jsp">http://www.numbeo.com/quality-of-life/rankings.jsp</a>	Updated
Crime Index	Numbeo	<a href="http://www.numbeo.com/crime/rankings.jsp#">http://www.numbeo.com/crime/rankings.jsp#</a>	Updated
Household net adjusted disposable income	OECD	<a href="https://stats.oecd.org/Index.aspx?DataSetCode=BLI">https://stats.oecd.org/Index.aspx?DataSetCode=BLI</a>	New
Household net financial wealth	OECD	<a href="https://stats.oecd.org/Index.aspx?DataSetCode=BLI">https://stats.oecd.org/Index.aspx?DataSetCode=BLI</a>	New
Education attainment	OECD	<a href="https://stats.oecd.org/Index.aspx?DataSetCode=BLI">https://stats.oecd.org/Index.aspx?DataSetCode=BLI</a>	New
Life Expectancy	OECD	<a href="https://stats.oecd.org/Index.aspx?DataSetCode=BLI">https://stats.oecd.org/Index.aspx?DataSetCode=BLI</a>	New
Employees working very long hours	OECD	<a href="https://stats.oecd.org/Index.aspx?DataSetCode=BLI">https://stats.oecd.org/Index.aspx?DataSetCode=BLI</a>	New
Human Freedom Index	Cato Institute	<a href="https://www.cato.org/human-freedom-index">https://www.cato.org/human-freedom-index</a>	New



**Table 23 | GFCI 24 Infrastructure Factors**

Instrumental Factor	Source	Website	Change Since GFCI 23
Office Occupancy Cost	CBRE Research	<a href="http://www.cbre.com/research-and-reports?PUBID=3bea3691-f8eb-4382-9c6f-">http://www.cbre.com/research-and-reports?PUBID=3bea3691-f8eb-4382-9c6f-</a>	Updated
Prime International Residential Index	Knight Frank	<a href="http://www.knightfrank.com/wealthreport">http://www.knightfrank.com/wealthreport</a>	Updated
JLL Real Estate Transparency Index	Jones Lang LaSalle	<a href="http://www.jll.com/gret/Pages/Rankings.aspx">http://www.jll.com/gret/Pages/Rankings.aspx</a>	Updated
ICT Development Index	United Nations	<a href="http://www.itu.int/net4/ITU-D/idi/2017/index.html">http://www.itu.int/net4/ITU-D/idi/2017/index.html</a>	
Telecommunication Infrastructure Index	United Nations	<a href="http://unpan3.un.org/egovkb/Data-Center">http://unpan3.un.org/egovkb/Data-Center</a>	
Quality of Domestic Transport Network	World Economic Forum	<a href="https://www.weforum.org/reports/the-travel-tourism-competitiveness-report-2017">https://www.weforum.org/reports/the-travel-tourism-competitiveness-report-2017</a>	
Quality of Roads	World Economic Forum	<a href="https://www.weforum.org/reports/the-travel-tourism-competitiveness-report-2017">https://www.weforum.org/reports/the-travel-tourism-competitiveness-report-2017</a>	
Roadways per Land Area	CIA	<a href="https://www.cia.gov/library/publications/the-world-factbook/rankorder/2085rank.html">https://www.cia.gov/library/publications/the-world-factbook/rankorder/2085rank.html</a>	
Railways per Land Area	CIA	<a href="https://www.cia.gov/library/publications/the-world-factbook/rankorder/2121rank.html">https://www.cia.gov/library/publications/the-world-factbook/rankorder/2121rank.html</a>	
Networked Readiness Index	World Economic Forum	<a href="http://reports.weforum.org/global-information-technology-report-2016/">http://reports.weforum.org/global-information-technology-report-2016/</a>	
Energy Sustainability Index	World Energy Council	<a href="https://trilemma.worldenergy.org/">https://trilemma.worldenergy.org/</a>	
Metro Network Length	Metro Bits	<a href="http://mic-ro.com/metro/table.html">http://mic-ro.com/metro/table.html</a>	Updated
Open Data Barometer	World Wide Web Foundation	<a href="http://opendatabarometer.org/?_year=2016&amp;indicator=ODB">http://opendatabarometer.org/?_year=2016&amp;indicator=ODB</a>	
Environmental Performance Index	Yale University	<a href="http://epi.yale.edu/epi/country-rankings">http://epi.yale.edu/epi/country-rankings</a>	Updated
Global Sustainable Competitiveness Index	Solability	<a href="http://solability.com/the-global-sustainable-competitiveness-index/the-index">http://solability.com/the-global-sustainable-competitiveness-index/the-index</a>	
Logistics Performance Index	The World Bank	<a href="http://lpi.worldbank.org/international/global">http://lpi.worldbank.org/international/global</a>	
Networked Society City Index	Ericsson	<a href="https://www.ericsson.com/res/docs/2016/2016-networked-society-city-index.pdf">https://www.ericsson.com/res/docs/2016/2016-networked-society-city-index.pdf</a>	
TomTom Traffic Index	TomTom	<a href="https://www.tomtom.com/en_gb/trafficindex/">https://www.tomtom.com/en_gb/trafficindex/</a>	
Sustainable Cities Mobility Index	Arcadis	<a href="https://www.arcadis.com/en/global/our-perspectives/sustainable-cities-mobility-index-">https://www.arcadis.com/en/global/our-perspectives/sustainable-cities-mobility-index-</a>	
Water Quality	OECD	<a href="https://stats.oecd.org/Index.aspx?DataSetCode=BLI">https://stats.oecd.org/Index.aspx?DataSetCode=BLI</a>	New
INRIX Traffic Scorecard	INRIX	<a href="http://inrix.com/scorecard/">http://inrix.com/scorecard/</a>	New
Air Quality Data	WHO	<a href="http://www.who.int/airpollution/data/cities/en/">http://www.who.int/airpollution/data/cities/en/</a>	New
Protected Land Area % of land area	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=2&amp;series=ER.LND.PTLD.ZS&amp;country=">http://databank.worldbank.org/data/reports.aspx?source=2&amp;series=ER.LND.PTLD.ZS&amp;country=</a>	New
Forestry Area	World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=2&amp;series=AG.LND.FRST.ZS&amp;country=">http://databank.worldbank.org/data/reports.aspx?source=2&amp;series=AG.LND.FRST.ZS&amp;country=</a>	New
CO2 Emissions Per Capita	World Bank	<a href="https://data.worldbank.org/indicator/EN.ATM.CO2E.PC">https://data.worldbank.org/indicator/EN.ATM.CO2E.PC</a>	New
Buildings Energy Efficiency Policies Database(Y/N)	IEA	<a href="https://www.iea.org/beep/">https://www.iea.org/beep/</a>	New
GRESB Green Real Estate and Infrastructure Investment Score	Corporate Knights	Provided by Corporate Knights	New

*“Air travel infrastructure and having direct flights into and out of centres is becoming ever more important.”*

INVESTMENT PROFESSIONAL BASED IN SEOUL

**Table 24 | GFCI 24 Financial Sector Development Factors**

Instrumental Factor	Source	Website	Change Since GFCI 23
Capitalisation of Stock Exchanges	The World Federation of Stock Exchanges	<a href="http://www.world-exchanges.org/home/index.php/statistics/monthly-">http://www.world-exchanges.org/home/index.php/statistics/monthly-</a>	Updated
Value of Share Trading	The World Federation of Stock Exchanges	<a href="http://www.world-exchanges.org/home/index.php/statistics/monthly-">http://www.world-exchanges.org/home/index.php/statistics/monthly-</a>	Updated
Volume of Share Trading	The World Federation of Stock Exchanges	<a href="http://www.world-exchanges.org/home/index.php/statistics/monthly-">http://www.world-exchanges.org/home/index.php/statistics/monthly-</a>	Updated
Broad Stock Index Levels	The World Federation of Stock Exchanges	<a href="http://www.world-exchanges.org/home/index.php/statistics/monthly-">http://www.world-exchanges.org/home/index.php/statistics/monthly-</a>	Updated
Value of Bond Trading	The World Federation of Stock Exchanges	<a href="http://www.world-exchanges.org/home/index.php/statistics/monthly-">http://www.world-exchanges.org/home/index.php/statistics/monthly-</a>	Updated
Domestic Credit Provided by Banking Sector (% of GDP)	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	Updated
Percentage of Firms Using Banks to Finance Investment	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	Updated
Total Net Assets of Regulated Open-End Funds	Investment Company Institute	<a href="http://www.icifactbook.org/">http://www.icifactbook.org/</a>	Updated
Islamic Finance Country Index	Islamic Banks and Financial Institutions	<a href="http://www.gifr.net/publications">http://www.gifr.net/publications</a>	
Net External Positions of Banks	The Bank for International Settlements	<a href="http://www.bis.org/statistics/annex_map.htm">http://www.bis.org/statistics/annex_map.htm</a>	Updated
External Positions of Central Banks as a share of GDP	The Bank for International Settlements	<a href="http://www.bis.org/statistics/annex_map.htm">http://www.bis.org/statistics/annex_map.htm</a>	Updated
Liner Shipping Connectivity Index	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	
Global Connectedness Index	DHL	<a href="http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/glo">http://www.dhl.com/en/about_us/logistics_insights/studies_research/global_connectedness_index/glo</a>	
City GDP composition (Business/Finance)	The Brookings Institution	<a href="https://www.brookings.edu/research/global-metro-monitor/">https://www.brookings.edu/research/global-metro-monitor/</a>	
Business Process Outsourcing Location Index	Cushman & Wakefield	<a href="http://www.cushmanwakefield.com/en/research-and-insight/2016/business-process-outsourcing-">http://www.cushmanwakefield.com/en/research-and-insight/2016/business-process-outsourcing-</a>	
Financial institutions clean revenue to fossil-related	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Financial Institutions Conventional to new Energy Data	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Financial Centre Sustainability Disclosure	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Financial centre carbon intensity	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Financial system green alignment	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Climate -aligned Bonds Outstanding by Country of Issuer	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Green Bond Issued by Country of Issuer	Corporate Knights	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Total issuance of labelled green bonds to July 2018, USDm	CBI	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Total number of labelled green bonds issued to July 2018	CBI	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Certified Climate Bond issued to July 2018, % of centre total	CBI	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Externally reviewed (excl CCB) labelled green bonds issued to July 2018, % of centre total	CBI	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Not-externally-reviewed labelled green bonds issued to July 2018, % of centre total	CBI	<a href="http://www.finance-watch.org/our-work/dossiers?fid=192">http://www.finance-watch.org/our-work/dossiers?fid=192</a>	New
Sustainable Stock Exchanges(Y/N)	UN Sustainable Stock Exchange Initiative	<a href="http://www.sseinitiative.org/sse-partner-exchanges/list-of-partner-exchanges/">http://www.sseinitiative.org/sse-partner-exchanges/list-of-partner-exchanges/</a>	New
Green Bond Segments on Stock Exchanges(Y/N)	CBI	<a href="https://www.climatebonds.net/green-bond-segments-stock-exchanges">https://www.climatebonds.net/green-bond-segments-stock-exchanges</a>	New

Table 25 | GFCI 24 Reputation Factors

Instrumental Factor	Source	Website	Change Since GFCI 23
World Competitiveness Scoreboard	IMD	<a href="https://www.imd.org/wcc/world-competitiveness-center-rankings/world-competitiveness-ranking">https://www.imd.org/wcc/world-competitiveness-center-rankings/world-competitiveness-ranking</a>	Updated
Global Competitiveness Index	World Economic Forum	<a href="http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/">http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/</a>	
Foreign Direct Investment Inflows	UNCTAD	<a href="http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96740">http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96740</a>	
FDI Confidence Index	AT Kearney	<a href="https://www.atkearney.com/foreign-direct-investment-confidence-index">https://www.atkearney.com/foreign-direct-investment-confidence-index</a>	Updated
GDP per Person Employed(constant 2011 PPP \$)	The World Bank	<a href="http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators">http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators</a>	
Global Innovation Index	INSEAD	<a href="http://www.globalinnovationindex.org/content.aspx?page=GII-Home">http://www.globalinnovationindex.org/content.aspx?page=GII-Home</a>	
Global Intellectual Property Index	Taylor Wessing	<a href="http://www.taylorwessing.com/ipindex/">http://www.taylorwessing.com/ipindex/</a>	
RPI (% change on year ago)	The Economist	<a href="https://www.economist.com/economic-and-financial-indicators/2018/06/21/output-prices-and">https://www.economist.com/economic-and-financial-indicators/2018/06/21/output-prices-and</a>	Updated
Price Levels	UBS	<a href="https://www.ubs.com/global/en/about_ubs/about_us/news/news.html.html/en/2018/05/29/prices">https://www.ubs.com/global/en/about_ubs/about_us/news/news.html.html/en/2018/05/29/prices</a>	Updated
Number of International Association Meetings	World Economic Forum	<a href="http://reports.weforum.org/travel-and-tourism-competitiveness-report-2017/">http://reports.weforum.org/travel-and-tourism-competitiveness-report-2017/</a>	
Innovation Cities Global Index	2ThinkNow Innovation Cities	<a href="http://www.innovation-cities.com/innovation-cities-index-2016-2017-global/9774">http://www.innovation-cities.com/innovation-cities-index-2016-2017-global/9774</a>	
Big Mac Index	The Economist	<a href="http://www.economist.com/content/big-mac-index">http://www.economist.com/content/big-mac-index</a>	Updated
Sustainable Economic Development	Boston Consulting Group	<a href="https://www.bcg.com/en-gb/publications/2017/economic-development">https://www.bcg.com/en-gb/publications/2017/economic-development</a>	
Global Enabling Trade Report	World Economic Forum	<a href="http://www.weforum.org/issues/international-trade">http://www.weforum.org/issues/international-trade</a>	
Good Country Index	Good Country Party	<a href="http://www.goodcountry.org/overall">http://www.goodcountry.org/overall</a>	
Legatum Prosperity Index	Legatum Institute	<a href="http://www.prosperity.com/#/ranking">http://www.prosperity.com/#/ranking</a>	
IESE cities in motion index	IESE	<a href="http://citiesinmotion.iese.edu/indicecim/?lang=en">http://citiesinmotion.iese.edu/indicecim/?lang=en</a>	Updated
FDI Inward Stock as a Percentage of GDP	UNCTAD	<a href="http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx">http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx</a>	Updated
Sustainable Cities Index	Arcadis	<a href="https://www.arcadis.com/en/global/our-perspectives/sustainable-cities-index-2016/">https://www.arcadis.com/en/global/our-perspectives/sustainable-cities-index-2016/</a>	
Global Cities Index	AT Kearney	<a href="https://www.atkearney.com/2018-global-cities-report">https://www.atkearney.com/2018-global-cities-report</a>	Updated
Quality of Nationality Index	Henley Partners	<a href="https://nationalityindex.com/#">https://nationalityindex.com/#</a>	Updated



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Long Finance is a Z/Yen initiative designed to address the question “**When would we know our financial system is working?**” This question underlies Long Finance’s goal to improve society’s understanding and use of finance over the long-term. In contrast to the short-termism that defines today’s economic views the Long Finance timeframe is roughly 100 years.



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