September 2007

THE GLOBAL FINANCIAL CENTRES INDEX 2

CITY OF LONDON

The Global Financial Centres Index is published by the City of London. The authors of the report are Mark Yeandle, Michael Mainelli and Ian Harris of Z/Yen Group Limited.

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Contents

Foreword

Michael Snyder

Chairman, Policy and Resources Committee, City of London

The current volatility in global financial markets and the strong impact of this volatility on the real economy through raised credit costs highlights what a central role financial services play in maintaining the health and development of the UK and global economies. In making the most effective passage through these troubled waters it is more important than ever that policy makers should seek to safeguard and improve the resilience and competitiveness of financial centres.

I therefore welcome the Global Financial Centres Index 2 (GFCI 2), the second report produced by Z/Yen Group Limited in an ongoing series, which ranks financial centres based on external benchmarking data and current views of competitiveness. The GFCI 2 highlights those factors of most importance to financial services business.

The GFCI 2 shows similar findings to GFCI 1, with London edging slightly further ahead of New York. London is seen as remaining foremost in all areas of competitiveness – people, business environment, market access, infrastructure and general competitiveness. The UK's recent 2% cut in corporation tax should assist London's attractiveness as an international business centre. It also demonstrates the UK Government's commitment to ensuring a supportive international business environment.

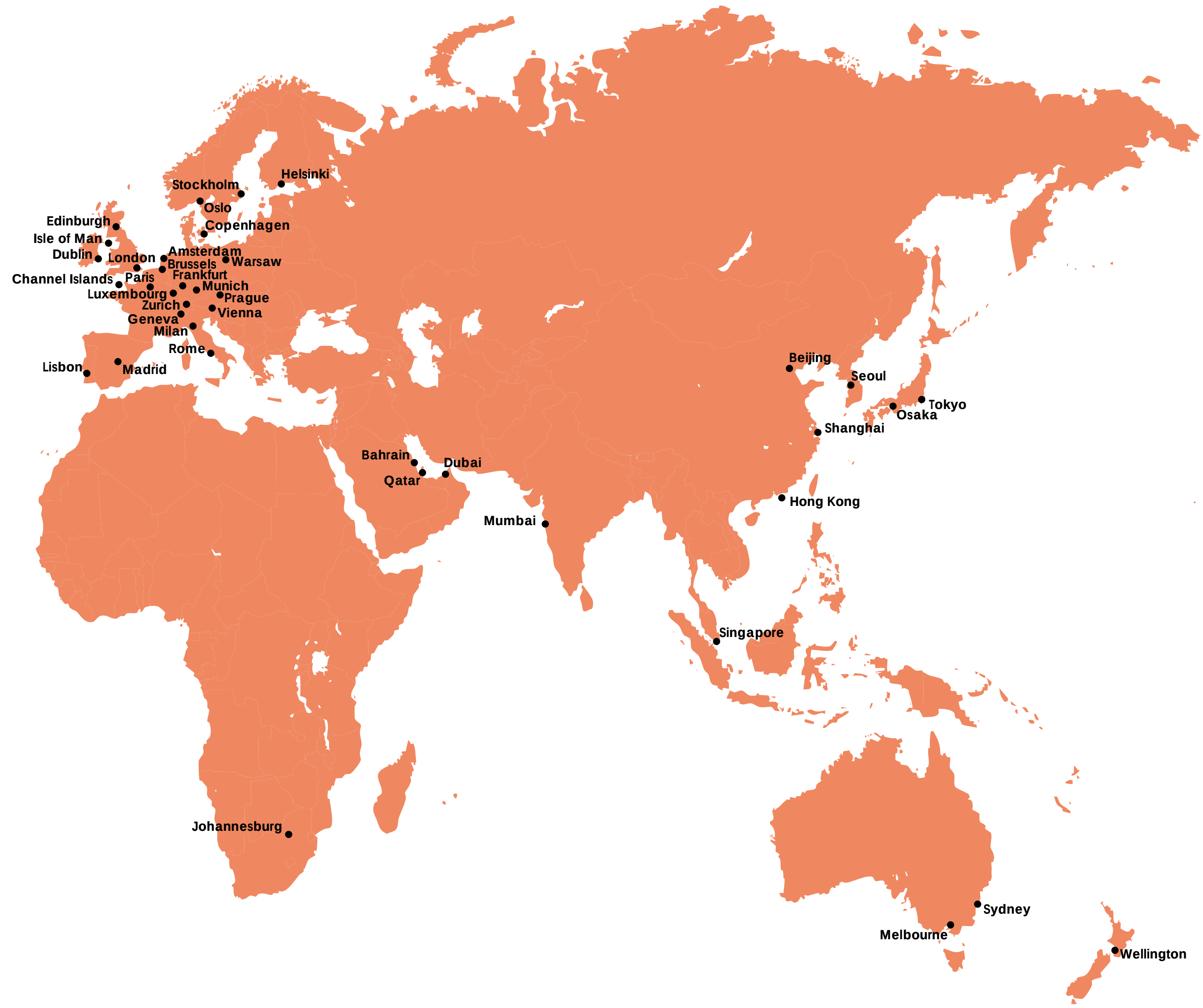
However, London and its policy makers cannot afford to be complacent. The scale and cost of regulation remains the overriding issue of importance to international financial services. For London, transport issues have now become as important a concern as the availability of skilled people, among the factors driving business competitiveness.

The GFCI is already proving to be an invaluable tool in tracking issues pertinent to business, generating debate about the factors improving the competitive position of global financial centres and keeping issues important to business high on the political agenda. It is also keeping us focussed on the best ways in which the City of London can pursue its vision for a world class city which is constantly being enhanced.

I encourage financial services industry professionals around the globe to participate in our ongoing survey at www.cityoflondon.gov.uk/GFCI to reinforce the comprehensive nature of the overall Index.

Michael Snyder
City of London
September 2007

Chart 1
The GFCI World


Helsinki
Stockholm
Oslo
Edinburgh
Copenhagen
Isle of Man
Dublin
London
Amsterdam
Brussels
Warsaw
Channel Islands
Paris
Frankfurt
Luxembourg
Munich
Zurich
Prague
Geneva
Vienna
Milan
Rome
Lisbon
Madrid
Beijing
Seoul
Tokyo
Osaka
Shanghai
Bahrain
Dubai
Qatar
Hong Kong
Mumbai
Singapore
Johannesburg
Sydney
Melbourne
Wellington

1. Executive Summary

The Global Financial Centres Index (GFCI) was first published in March 2007 to produce an indicative rating of the competitiveness of each major financial centre in the world. The GFCI enables financial centres to be ranked against each other and identifies the changing priorities and concerns of finance professionals. This report, the second in the series (GFCI 2), includes updates to the external indices used in the GFCI model, additional indices, and changes reflecting the perceptions of financial services professionals. GFCI 2 also includes some enhancements to the GFCI methodology; GFCI 1 results are restated throughout GFCI 2 to reflect those enhancements.

The top six centres in GFCI 2 have maintained the same rankings as in GFCI 1. London leads New York slightly in all five areas of competitiveness; people, business environment, market access, infrastructure and general competitiveness. London is a little further ahead of New York than it was in GFCI 1. In GFCI 1 the gap was seven points on a 1,000 point scale. The gap is now 19 points although this is still not a significant margin. GFCI 2 shows, again, that London and New York are the two leading global financial centres. London and New York have slightly increased their lead over the next two strongest centres, Hong Kong and Singapore, and are now 90 points ahead (compared with 88 points ahead in GFCI 1).

In GFCI 1, it was clear that Hong Kong and Singapore were the leading Asian centres. These two financial centres are still well ahead of Tokyo. Zurich, a financial centre strongly focused on the two niche sectors of private banking and asset management, is in 5th place. Frankfurt remains in 6th place and Geneva has moved three places up the rankings to 7th place.

Centres that have moved significantly since GFCI 1 include Luxembourg which has risen by nine positions to 17th, whilst Wellington, Hamilton (Bermuda), Warsaw and Lisbon have all fallen.

Dubai, Mumbai, Shanghai and Beijing are centres that respondents to the online questionnaire believe will become increasingly important and these centres will need to be monitored closely in future updates of the GFCI. Dubai and Mumbai both gained slightly in the GFCI 2 ratings, while Shanghai and Beijing declined.

In GFCI 2, in which we publish the top 50 rated financial centres, 18 centres have higher ratings than GFCI 1, 24 centres have lower ratings and one rating has remained unchanged. Seven new financial centres – the Isle of Man, Munich, Osaka,

1 To understand the methodology used to create the GFCI, including the enhancements made to the methodology between GFCI 1 and GFCI 2, please refer to Appendix A.

Johannesburg, Bahrain, Qatar and Sao Paulo – have been added to the GFCI model and all seven now feature in the top 50 financial centres. Of the original 46 centres in GFCI 1, Moscow, Budapest and Athens have now fallen outside the top 50.

GFCI 1 revealed concerns about the level and quality of regulation in the USA and about the increasing levels of corporate taxation in the UK. In GFCI 2, regulatory issues are again identified as the single most important area of competitiveness. The availability of skilled people was the second most important issue in GFCI 1. Since then, infrastructure issues, with a particular emphasis on transport, have become significantly more prominent and are now in equal second place with skills.

Please participate in the GFCI by rating the financial centres you are familiar with at: www.cityoflondon.gov.uk/GFCI

Table 1
The GFCI 2 Ratings of the Top 10 Financial Centres
(figures in brackets are the ranks and ratings of GFCI 1 restated on a GFCI 2 basis)

London	1 (1)	806 (785)	London remains in first place and is particularly well rated with regard to the availability of skilled people, regulation and market access. Nearly all key success areas are strong – London is in the top quartile in over 80% of its instrumental factors. The main concerns for future competitiveness are corporate tax rates and transport infrastructure. London has increased its lead over New York from seven to 19 points.
New York	2 (2)	787 (778)	New York is also in the top quartile in over 80% of its instrumental factors. People and market access are particularly strong. Respondents still regard Sarbanes-Oxley as the most outstanding negative factor. New York is now 90 points ahead of the third placed centre (slightly further ahead than in GFCI 1 where the gap was 88 points).
Hong Kong	3 (3)	697 (690)	Hong Kong continues to be a thriving international centre. It has a strong regulatory environment and performs well in all of the key competitiveness areas. As with the other leading centres, costs are high but this does not seem to detract from overall competitiveness. If any Asian centre is to join London and New York as a global financial centre, Hong Kong is the strongest contender.
Singapore	4 (4)	673 (666)	Singapore performs well in the key competitiveness areas. Banking regulation is regarded as excellent. It is definitely the second Asian centre and remains 24 points behind Hong Kong – the same gap as in GFCI 1.
Zurich	5 (5)	666 (660)	Zurich is the strongest niche centre in the GFCI. Private banking and asset management are its key areas of focus. Zurich continues to perform well in three of the key competitiveness areas but loses out slightly on people factors.
Frankfurt	6 (6)	649 (648)	Frankfurt is the second general financial services centre in Europe and retains a strong banking focus. Frankfurt continues to suffer from an inflexible labour market. Market access, infrastructure and business environment are good.
Geneva	7 (10)	645 (633)	Geneva is a strong niche centre similar to Zurich. Private banking and asset management continue to thrive. Geneva scores well for its business environment and general competitiveness, gaining 12 points in GFCI 2. It is now in 7th place and only four points behind Frankfurt.
Chicago	8 (8)	639 (638)	The number two centre in the USA remains in 8th place. Chicago scores highly for people but is let down by its infrastructure and market access rankings. It is also affected by the same regulatory regime as New York. Chicago will not overtake New York, but remains a powerful regional centre.
Sydney	9 (7)	636 (640)	Sydney is a strong national centre with good regulation. It benefits from offering a particularly high quality of life. Sydney is strong in most of the key competitiveness areas although the availability of skilled financial services professionals is rated as low – many leave for larger English-speaking centres such as London and New York. Sydney has dropped by two places to 9th but is only three points behind Chicago.
Tokyo	10 (9)	625 (634)	Tokyo does not fare as well as the other major Asian centres. The reputation of its regulatory environment is poor and it does not do well on people factors. It scores well in terms of infrastructure and market access. The size of the Japanese economy means that Tokyo will always remain significant. It has dropped nine points since GFCI 1 and is now in 10th place.

The theoretical maximum GFCI rating is 1,000

2. Background

The Global Financial Centres Index[2] (GFCI) was first published in March 2007 to evaluate the competitiveness of financial centres worldwide. The March report (GFCI 1) showed London and New York to be the two key global financial centres, with significantly higher ratings than the third placed centre, Hong Kong. The GFCI was designed to be a dynamically updated index and this report, GFCI 2, shows the current position and changes in competitiveness since GFCI 1.

The City of London regularly commissions research on financial centre competitiveness. The GFCI was designed to extend the City of London's research by providing an ongoing rating system for financial centres worldwide. In addition to comprehensive coverage of financial centres, the advantages of the GFCI over the previous studies are: the use of a wide range of instrumental factors which enables better analysis of the factors of competitiveness; a shorter and more direct questionnaire which leads to a greater response rate; and more frequent updates for comparison.

The main aim of the GFCI is to generate further debate about which factors are the most influential in making a financial centre competitive by providing an ongoing rating system. GFCI 1 generated much comment from financial centres around the world. The response to GFCI 1 has enabled enhancements to the index – a greater number of financial centres are included in GFCI 2, some new instrumental factors are used and a greater number of centre assessments have been obtained from questionnaire respondents.

The GFCI is based on factors of competitiveness which were determined by previous research in 2003[3] and 2005[4], grouped into five key areas – People; the Business Environment; Market Access; Infrastructure and General Competitiveness.

Each of the key indicators covers several aspects of competitiveness:

- **People** considers the availability of good personnel, the flexibility of the labour market, business education and the development of 'human capital'. The 2005 research mentioned above highlighted this factor as the single most important factor in financial centre competitiveness;

- **Business Environment** looks at regulation, tax rates, levels of corruption, economic freedom and the ease of doing business. Regulation, a major component of the business environment, is cited by questionnaire respondents as a decisive factor in the

2 Z/Yen Group Limited, *The Global Financial Centres Index 1*, City of London (March 2007).
3 Centre for the Study of Financial Innovation, *Sizing up the City – London's Ranking as a Financial Centre*, Corporation of London (June 2003).
4 Z/Yen Limited, *The Competitive Position of London as a Global Financial Centre*, Corporation of London (November 2005).

competitiveness of London and New York. The online questionnaire poses a question about the most important competitive factors for financial centres. In GFCI 2 regulation was mentioned by more questionnaire respondents than any other factor. Too onerous a regulatory environment directly affects the competitiveness of a financial centre;

- **Market Access** examines the levels of securitisation, volume and value of trading in equities and bonds, as well as the clustering effect of having many firms involved in the financial services sector together in one centre;

- **Infrastructure** is mainly concerned with the cost and availability of buildings and office space, although reliable indicators to act as measures of other infrastructure factors such as transport are being sought;

- **General Competitiveness** compares the overall competitiveness levels of centres in terms of more general economic factors such as price levels, economic sentiment and how centres are perceived as places to live.

3. The GFCI

The GFCI provides ratings for financial centres calculated by a 'factor assessment model'; a combination of externally sourced rankings and ratings (instrumental factors), and the responses of financial services professionals to a comprehensive questionnaire (financial centre assessments):

- **instrumental factors** – drawn from external sources. For example, infrastructure competitiveness for a financial centre is indicated by 'instrumental factors' including a cost of property survey and an occupancy costs index; a fair and just business environment is indicated by ratings such as a corruption perception index and an opacity index. Objective evidence of competitive factors has been sought in instrumental factors drawn from a wide variety of comparative sources – 54 instrumental factors were used to construct the GFCI 2, detailed in Appendix C. These include, for example, Mercer's Quality of Living Survey, UBS's Wage Comparison Index, Transparency International's Corruption Perceptions Index and Anholt's City Brands Index. Not all financial centres included in the GFCI have data for all instrumental factors and the statistical model takes account of these gaps;

- **financial centre assessments** – the GFCI 2 incorporates responses to an ongoing online questionnaire completed by international financial services professionals (see Section 6 for details of respondents). Each respondent assessed the financial centres they knew and in total 825 respondents provided 11,685 individual financial centre assessments. The online questionnaire is running continuously to keep the GFCI up-to-date with people's changing assessments.

The instrumental factors and financial centre assessments are combined using statistical techniques to build a predictive model of financial centre competitiveness using support vector machine mathematics. The predictive model was used to answer questions such as "If an investment banker gives Singapore and Sydney certain assessments, then, based on the instrumental factors for Singapore, Sydney and Paris, how would that person assess Paris?" Full details of the methodology behind the GFCI can be found in Appendix A. The GFCI 2 top 50 rated financial centres are shown in Table 2.

Table 2
The GFCI Financial Centre Ratings

Financial Centre	GFCI 2 Rank	Change in Rank since GFCI 1	GFCI 2 Rating	Change in Rating since GFCI 1
London	1	-	806	▲21
New York	2	-	787	▲9
Hong Kong	3	-	697	▲7
Singapore	4	-	673	▲7
Zurich	5	-	666	▲6
Frankfurt	6	-	649	▲1
Geneva	7	▲3	645	▲12
Chicago	8	-	639	▲1
Sydney	9	▼2	636	▼4
Tokyo	10	▼1	625	▼9
Paris	11	-	622	▼4
Boston	12	▲2	621	▲11
Toronto	13	▼1	613	▲1
San Francisco	14	▼1	608	▼3
Dublin	15	▲7	605	▲26
Amsterdam	16	▲7	599	▲21
Luxembourg	17	▲9	596	▲25
Washington D.C.	18	▲2	589	▼5
Melbourne	19	▼1	588	▼14
Edinburgh	20	▼5	587	▼18
Isle of Man	21	New	583	New
Dubai	22	▲3	575	▲3
Channel Islands	23	▼4	572	▼28
Cayman Islands	24	▼8	564	▼40
Hamilton (Bermuda)	25	▼8	562	▼41
Stockholm	26	▲3	554	▼2
Brussels	27	▲4	546	▲3
Montreal	28	▼7	538	▼42
Munich	29	New	535	New
Shanghai	30	▼6	527	▼49
Vancouver	31	▼4	525	▼33
Milan	32	▼2	519	▼27
Helsinki	33	▼1	518	▼19
Madrid	34	▼6	516	▼41
Vienna	35	-	515	▼3
Osaka	36	New	502	New
Oslo	37	▼4	500	▼29
Copenhagen	38	▼4	488	▼37
Beijing	39	▼3	482	▼31
Rome	40	▼2	479	▲2
Mumbai	41	▼2	470	▲5
Seoul	42	▲1	464	▲15
Johannesburg	43	New	463	New
Bahrain	44	New	455	New
Prague	45	▼4	454	Unchanged
Wellington	46	▼9	447	▼61
Qatar	47	New	440	New
Warsaw	48	▼8	438	▼22
Sao Paulo	49	New	434	New
Lisbon	50	▼8	422	▼31

GFCI 1 ratings figures used in this table are restated to reflect methodological enhancements – refer to Appendix A

GFCI 2 shows that the ratings for 18 centres have risen from GFCI 1, the ratings for 24 centres have fallen, one rating is unchanged and there are seven new centres within the GFCI top 50. There are some movements in the ratings which may partly reflect methodological changes from GFCI 1:

- There has been a considerable rise in the number of centre assessments included in the model. GFCI 2 is based on 11,685 centre assessments, nearly three times as many as the original 3,992 assessments in GFCI 1;
- 23 instrumental factors have been updated (out of the original 47); and
- Seven new financial centres have been added to the GFCI model.

In addition, the publication of GFCI 1 may have had an impact on the perceptions of financial service professionals, as it received widespread press coverage and was distributed extensively to the financial services community.

What change in the ratings is significant? At this stage in the GFCI development, a movement of less than 25 points (2.5% on a scale of 1,000) is considered insignificant[5]. A movement of between 25 and 50 points signifies that the competitiveness of a financial centre needs to be watched. A movement of over 50 points shows that a significant change in the competitiveness of a financial centre may be occurring, although only Wellington falls into this category here.

The top six centres have not changed position. The centres that have displayed sizeable movements in the ratings [the largest changes here being for Wellington, Shanghai, Montreal, Hamilton (Bermuda), and the Cayman Islands] were identified in GFCI 1 as having either: a large variance in centre assessments (some respondents rate them highly and some respondents rate them poorly), or a high sensitivity to instrumental factors (their ratings react strongly to changes in instrumental factors), or both. As such they were classified in GFCI 1 as either ‘volatile’ or ‘evolving’ centres.

Wellington is a good example of a centre classed as volatile – it fell by 61 points in the GFCI ratings, the largest change. Wellington was classified in GFCI 1 as one of the most volatile centres and between GFCI 1 and GFCI 2 the average of the centre assessments it received fell sharply. In the instrumental factors that were updated between GFCI 1 and GFCI 2, Wellington’s performance in several of the most influential factors (the Capital Access Index, the Index of

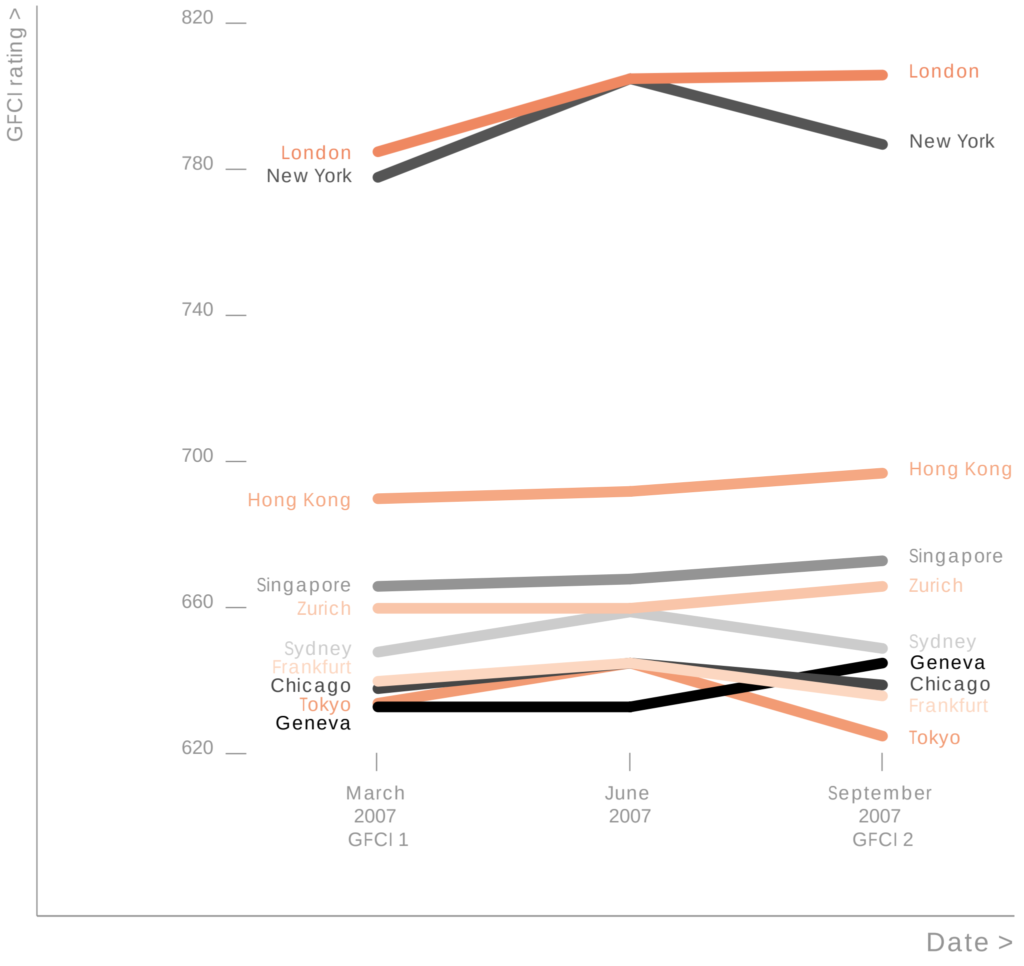
5 It is likely that a movement of this size will become more significant when the GFCI model contains a greater number of financial centre assessments and is less volatile.

Economic Freedom and Global Office Occupancy Costs), also declined.

Shanghai is another good example of a centre identified in GFCI 1 as one of the most volatile. Shanghai fell by 49 points in the ratings, due mainly to the questionnaire respondents giving it much lower assessments on average than previously. When, however, respondents to the questionnaire were asked which centres they felt might become significantly more important in the next two to three years, Shanghai was mentioned more frequently than any other centre except Dubai.

Chart 1 displays the movement in ratings of the top 10 GFCI 2 centres since the publication of GFCI 1 in March 2007. As the model was run quarterly, it is possible to include the figures from June 2007, giving a snapshot of the change in ratings over time.

Chart 1
The GFCI
Top 10 Financial Centre Ratings March 2007 to September 2007



The GFCI reinforces the point made in earlier studies; London and New York are the two leading financial centres. The two top-rated cities, London (806) and New York (787), are 19 points apart on a scale of 1,000, 90 points higher than the next financial centre, Hong Kong. London and New York are distinct – they are global financial centres.

As discussed in GFCI 1, successful financial centres can fulfil one or more of five different roles:

- **Global financial centres** incorporates only London and New York. Global financial centres have sufficient critical mass of financial services institutions to act as an intermediary, connecting international, national and regional financial services participants directly. An asset manager in Munich, for example, can trade in financial instruments directly with a broker in New York without having to go via an intermediary in, for example, Frankfurt.
- **International financial centres** conduct a significant volume of cross-border transactions – those transactions that involve at least two locations in different jurisdictions. Hong Kong, for example, is an international financial centre that is involved in a significant proportion of Asian financial transactions.
- **Niche financial centres** are worldwide leaders in one sector; several centres score highly on the basis of being strong in one particular niche of financial services, such as Zurich for private banking or Hamilton (Bermuda) for reinsurance. Whilst these niche financial centres will almost certainly never rival London or New York as global financial centres, they are often as strong as London or New York within their own specialist area.
- **National financial centres** conduct a significant proportion of a particular country's financial business. Toronto, for example, is the national financial centre of Canada. Where there are multiple financial centres in a country, e.g. Canada, Australia, Germany or the USA, the situation is complicated. In Canada, for instance, the GFCI covers Toronto (ranked 13th), Montreal (ranked 28th) and Vancouver (ranked 31st). All three are sizeable financial centres, but Toronto is the national centre. In countries where there are multiple financial centres, the national centre is frequently tied with foreign exchange connections.
- **Regional financial centres** are defined here as centres that conduct a large proportion of regional business within one country. Chicago, as well as being an international centre is also a regional centre for the mid-western USA.

Examples of the roles that the top 10 financial centres can play are shown in Table 3.

Table 3
The Different Roles of Financial Centres

Centre	Global	International	Niche	National	Regional
London	■	■	■	■	■
New York	■	■	■	■	■
Hong Kong		■		■	
Singapore		■		■	
Zurich		■	■	■	
Frankfurt		■		■	
Geneva		■	■		
Chicago		■		■	■
Sydney		■		■	■
Tokyo		■		■	

In the past it has been assumed that international financial centres developed because of strong domestic economies. Yet the domestic markets affiliated with London and New York do not seem to be a dominant factor in the GFCI. The USA economy is at least five times that of Britain's, but London and New York are rated similarly as financial centres.

GFCI 2 shows that London is 19 points ahead of New York; this is not, however, a significant lead. Both London and New York are competitive in their own ways:

- London is undergoing the biggest building redevelopment since the post-war reconstruction as demand for office space increases. Over 40% of the world's foreign equities are traded in London, over 30% of world currency exchanges take place in London ($1.2 trillion a day of foreign exchange transactions are traded in London – more than New York and Tokyo combined)[6], and London has taken a worldwide lead in over-the-counter (OTC) derivatives and metals trading. London is now attracting a greater proportion of foreign Initial Public Offerings (IPOs) than New York. London is also catching up with the USA in terms of hedge funds and private equity – 21% of global hedge funds are managed out of London. There are other signs that London is a popular financial centre at the moment. It has been reported[7], for example, that Morgan Stanley is moving two of its most senior positions to London – their Global Head of Investment Banking and the Global Head of Mergers & Acquisitions. London's Alternative Investment Market (AIM) attracted more listings than

6 International Financial Services, London – www.ifsl.org.uk
7 Wall Street Journal – http://online.wsj.com

all its global rivals combined last year, raising $29 billion in primary and secondary listings.

- New York still towers above London in the size of funds under management and volume of stock traded. 79 of the world's 100 largest public companies are listed on the New York Stock Exchange/Euronext. Whatever its international position, New York remains the centre of the world's largest national economy.

Financial centre competitiveness is not a 'zero-sum' game where one centre's gain is another's loss. London and New York are complementary to each other and each thrives on the other's success. As one respondent says, in the GFCI questionnaire:

> *"I can't see London and New York ever being overtaken – New York survived 9/11 and Sarbanes-Oxley; London thrives despite its transport infrastructure – nowhere else can come close."*

4. Analysis of Financial Centres

Section 4a, "Sensitivity", sets out the statistical analysis of factors used by the GFCI to assess the competitiveness of financial centres; this subsection assesses the sensitivity of the GFCI ratings to GFCI's instrumental factors. It also examines the potential vulnerability of the ratings to future changes in perception and circumstances. This form of analysis was set out in GFCI 1 and is updated here in GFCI 2. It is interesting to note that those financial centres that were identified as volatile and evolving in GFCI 1 have tended to be the financial centres whose rating has changed the most between GFCI 1 and GFCI 2.

Section 4b, "Industry Sectors", sets out some sub-analysis of financial centres by industry sectors (banking, asset management, insurance, professional services and government & regulatory). This sub-analysis was suggested in GFCI 1, but there was insufficient data at that time to produce meaningful results. There is now sufficient data in some of those categories.

Section 4c, "Connectivity" was one of the key themes to emerge from GFCI 1. This section sets out some further discussion and analysis on that theme.

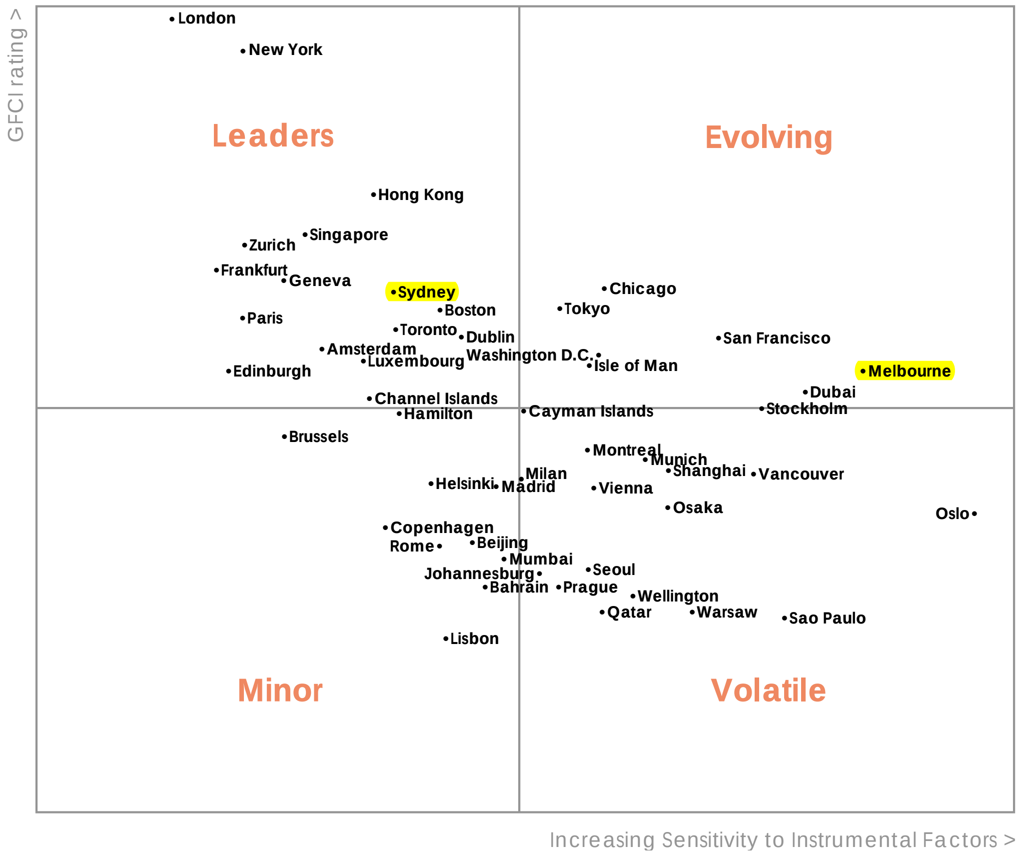
4a. Sensitivity

GFCI 2 continues to show that a centre needs to be good at most things to be a leading centre. Where the top centres appear uncompetitive in a particular factor this is often a problem associated with success. For example, commercial and domestic property prices are high and rising in London because demand exceeds supply. If people did not want to locate in London, property prices would fall. The top financial centres, such as London and New York, have lower sensitivity to instrumental factors and narrower variances in their assessments than other cities; therefore their future GFCI ratings are likely to be fairly stable.

Other centres, such as Oslo, Sao Paulo and Wellington, though poorly ranked today, have great sensitivity to instrumental factors and a wide variance in assessments, thus they may change position significantly in the future.

In order to examine how stable the rankings might be over time, the overall GFCI rating is contrasted with a centre's sensitivity to changes in instrumental factors. Each set of instrumental factors was examined to see how it changed financial centre rankings. The variance of the scores from the five sets of instrumental factors (people, business environment, market access, infrastructure and general competitiveness) is termed 'sensitivity'. If a centre's ranking changed markedly by using only one of the five groups of factors, it might be anticipated that it had a lot of potential to improve, or decline. If a centre's ranking remained stable despite using only one set of factors, it is more likely to remain near its present position. Chart 2 contrasts GFCI ratings against sensitivity to instrumental factors.

Chart 2
The Top 50 Financial Centres GFCI rating versus Sensitivity to Instrumental Factors



This categorisation identifies four types of financial centre:

- **Leaders:** obviously London and New York, but also centres with strong sub-sectors and strong domestic markets;
- **Minor:** centres that are not rated as highly, and are unlikely to improve in the near term. It is interesting to note that Rome, Lisbon and Copenhagen fall into this category. These centres have large domestic markets, but seem unlikely to change their ratings soon;
- **Volatile:** centres that are not currently highly rated, but which might be able to move upwards rapidly if they could address some factors. Interestingly, Sao Paulo, a centre that many of the questionnaire respondents rated as 'up and coming' is in this category. It has a low rating at present but has the potential to improve its competitive position rapidly;
- **Evolving:** centres that have high ratings, but which are susceptible to change. It is interesting to see that Dubai and San Francisco are already scoring as highly as some of the established centres and have the sensitivity to instrumental factors to move towards the group of 'leaders'. Stockholm is now on the border between volatile and evolving and it will be interesting to track its progress. Tokyo is classified as evolving and is a centre that used to count itself as a leader but is still recovering from difficulties during the 1990s.

Another measure of how volatile a financial centre's ranking might be is the 'spread' or variance of the individual assessments given to each centre. This variance is plotted against the GFCI rating in Chart 3.

Chart 3

The Top 50 Financial Centres GFCI rating versus Variance of Assessments

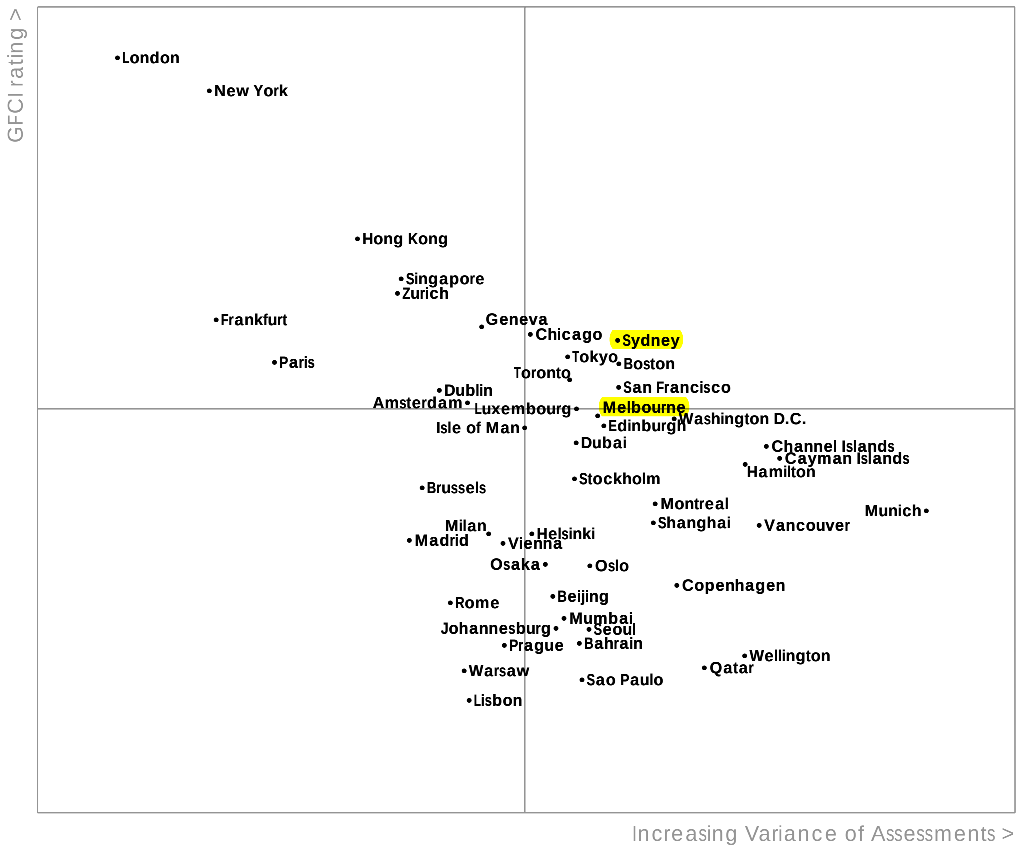


Chart 3 shows that some centres tend to receive a far broader range of assessments than others. On the far right are centres such as Munich, Channel Islands, Cayman Islands, Vancouver and Wellington indicating that their assessments had a significantly higher variance (that is, some respondents assessed them highly and other respondents assessed them poorly). These centres have the most to gain or lose in future GFCI questionnaire ratings. The centres on the far left of the chart had much more consistent assessments. For London and New York, these assessments were consistently high. In the case of centres such as Frankfurt, Paris, Zurich, Hong Kong, Singapore and Geneva, assessments were fairly consistent but lower than for London and New York.

In Chart 4 the sensitivity to instrumental factors (from Chart 2) and the variance of assessments (from Chart 3) are compared.

Chart 4
The Top 50 Financial Centres Variance of Assessments versus Sensitivity to Instrumental Factors

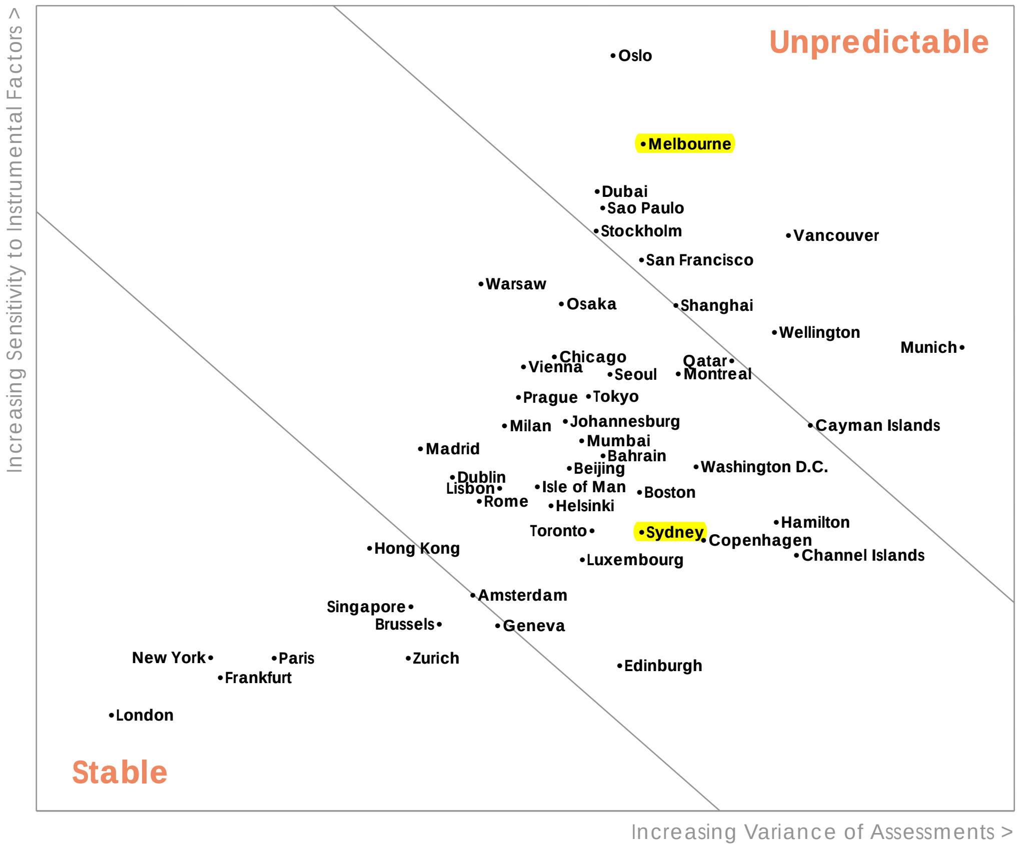


Chart 4 shows three 'bands' of financial centres. The 'Unpredictable' centres in the top right of the chart, such as Oslo, Melbourne, Vancouver and Munich, have both a high sensitivity to changes in the instrumental factors and a high variance of assessments. These centres have the highest potential volatility in GFCI ratings.

The 'Stable' centres in the bottom left of the chart, (including London, New York, Paris, Frankfurt, Hong Kong, Singapore, Zurich and Geneva) have both a low sensitivity to changes in the instrumental factors and a lower variance of assessments. These centres are likely to exhibit the lowest volatility in future GFCI ratings.

When this analysis was conducted for GFCI 1, the financial centres in the 'Unpredictable' category then (those with most potential to improve or decline) included Wellington, Shanghai, Warsaw, Budapest and Lisbon. These centres have moved considerably in GFCI 2. The standard deviation of the movements in GFCI ratings for the 'Unpredictable' centres is 21.1. This figure compares with a standard deviation of just 7.4 for the 'Stable' centres in the bottom left. Of the centres mentioned, Wellington has declined by nine places, Shanghai by six places with Warsaw, Budapest and Lisbon all falling by eight places. Dubai and Stockholm both rose by three places in the GFCI.

It is hard to predict what will happen to Shanghai in future GFCI ratings. There is also considerable speculation as to whether Shanghai or any other centre will emerge as an Asian global financial centre. It may be that the financial services activity generated by the growth of the main Asian economies is split between several international centres. Shanghai was the most commented-upon Asian centre in the 2005 Corporation of London study[8] and GFCI 2 seems to indicate that Shanghai, Beijing and Tokyo are unlikely to become global centres in the immediate future. Hong Kong and Singapore are clear leaders in Asia at present.

Another interesting group of financial centres are the offshore centres. Several observers of GFCI 1 were slightly surprised to see the Channel Islands, the Cayman Islands and Hamilton (Bermuda) in the top 20 GFCI 1 ratings. In GFCI 2, they have dropped slightly in the rankings, and the Isle of Man, a new entrant in 21st place, is now the leading offshore centre. Offshore centres are very important financial centres that offer low (or no) taxes, political stability, 'business-friendly' regulation and, above all, discretion. The positions

8 Z/Yen Limited, *op. cit.*, (November 2005).

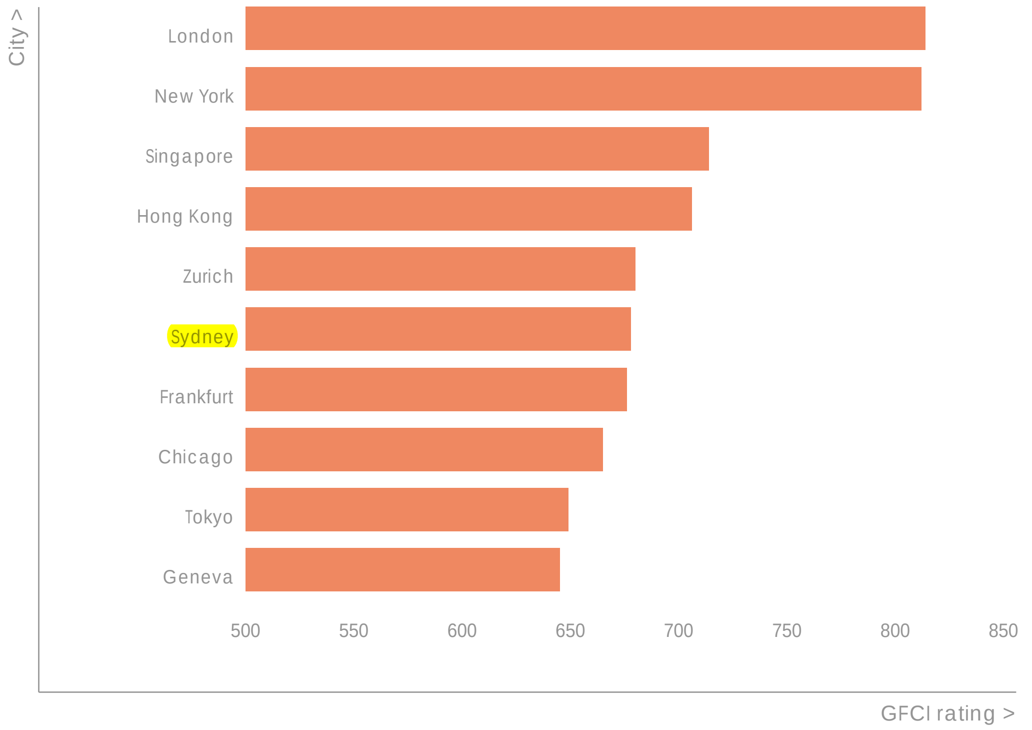
of the leading offshore centres are remarkably clustered with Isle of Man, Dubai, Channel Islands, Cayman Islands and Hamilton (Bermuda) in 21st, 22nd, 23rd, 24th and 25th positions. Some see offshore centres as a weak link in the financial services industry but there is no denying their importance. Offshore holdings are estimated at between $5 trillion and $7 trillion[9] – five times as much as twenty years ago and representing up to 8% of total global wealth. The Cayman Islands alone are home to $1.4 trillion in assets. Financial services have served these centres well and Gross Domestic Product (GDP) per person in these islands is very high. Hamilton (Bermuda) heads the global list of GDP per person[10]. This list of GDP per person features five offshore centres in the top 11 entries.

9 The Economist, *A Place in the Sun, A Special Report on Offshore Finance*, (24 February 2007).
10 Central Intelligence Agency, *World Factbook*, (July 2007).

4b. Industry Sectors

The GFCI can now provide 'industry sector indices'. Initially there are five industry sector indices: banking, asset management, insurance, professional services and regulatory and government bodies. These analyses are at an early stage. The indices below were created by building the GFCI statistical model with only respondents from the relevant industry sectors. As might be expected of the two global financial centres, London and New York retain 1st and 2nd places respectively in all sector-specific indices.

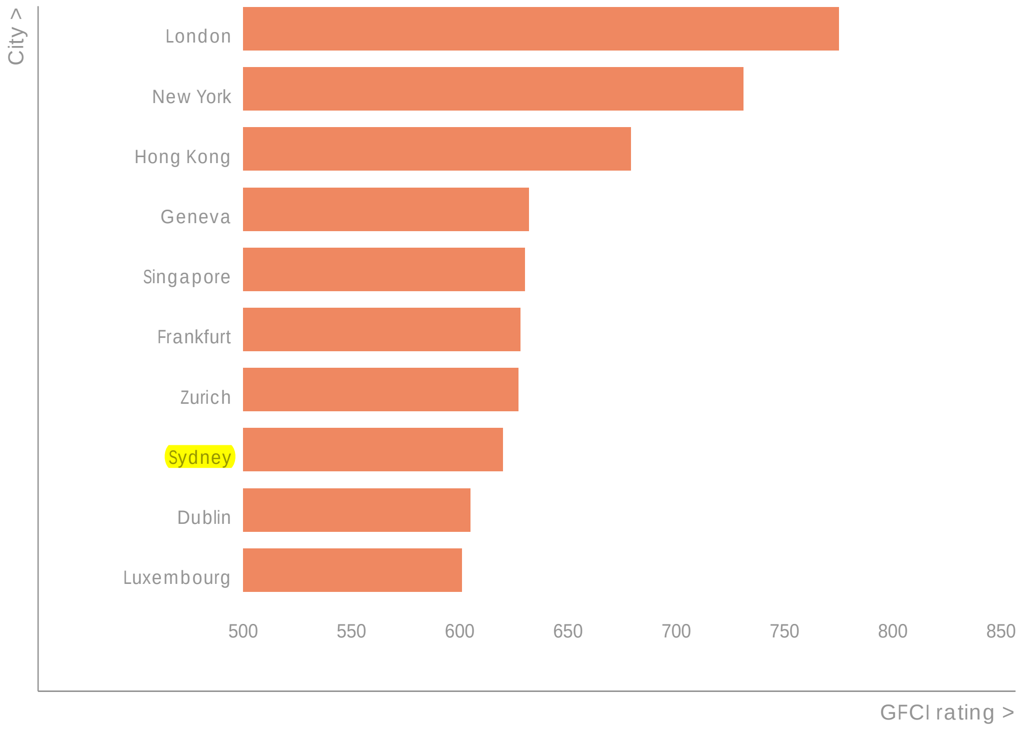
Chart 5
The Top 10 Financial Centres – Banking Respondents



The banking sector index shows Singapore just ahead of Hong Kong in 3rd place and Sydney jumping from 9th to 6th. Tokyo moves up a place at the expense of Geneva which is more strongly associated with asset management. Bankers clearly do not seem to rate niche centres as highly as other respondents.

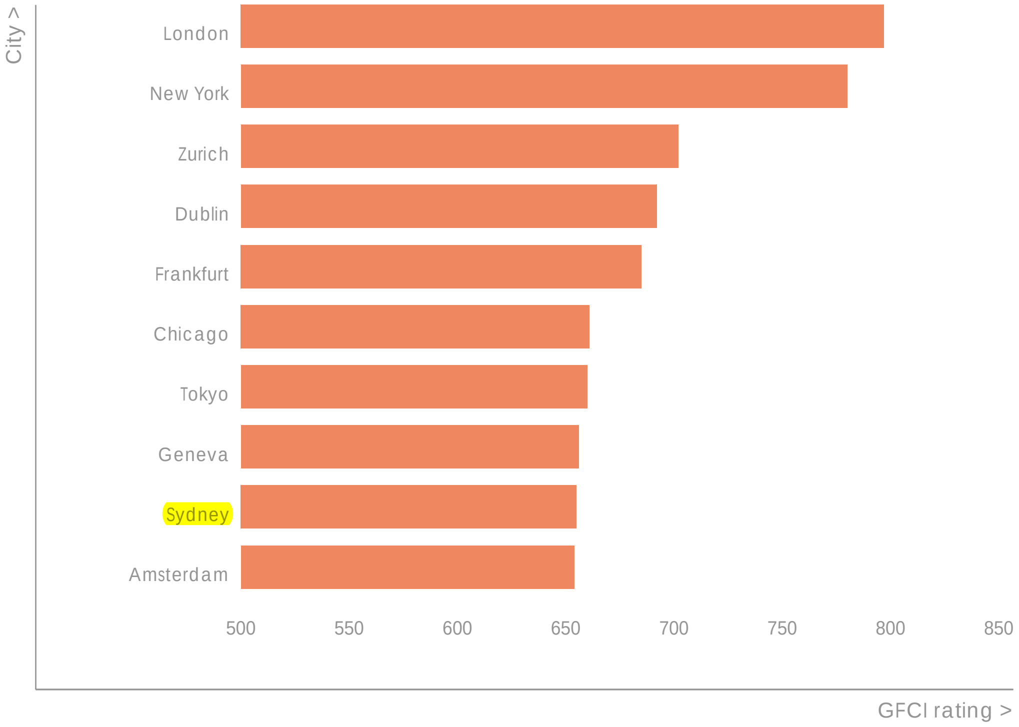
The asset management sector-specific index shows Geneva jumping from 7th place to 4th. Luxembourg rises to 10th place and Zurich is still well placed at 7th position. The offshore centres, which tend to be strong on asset management, all rise in this sector-specific index.

Chart 6
The Top 10 Financial Centres – Asset Management Respondents



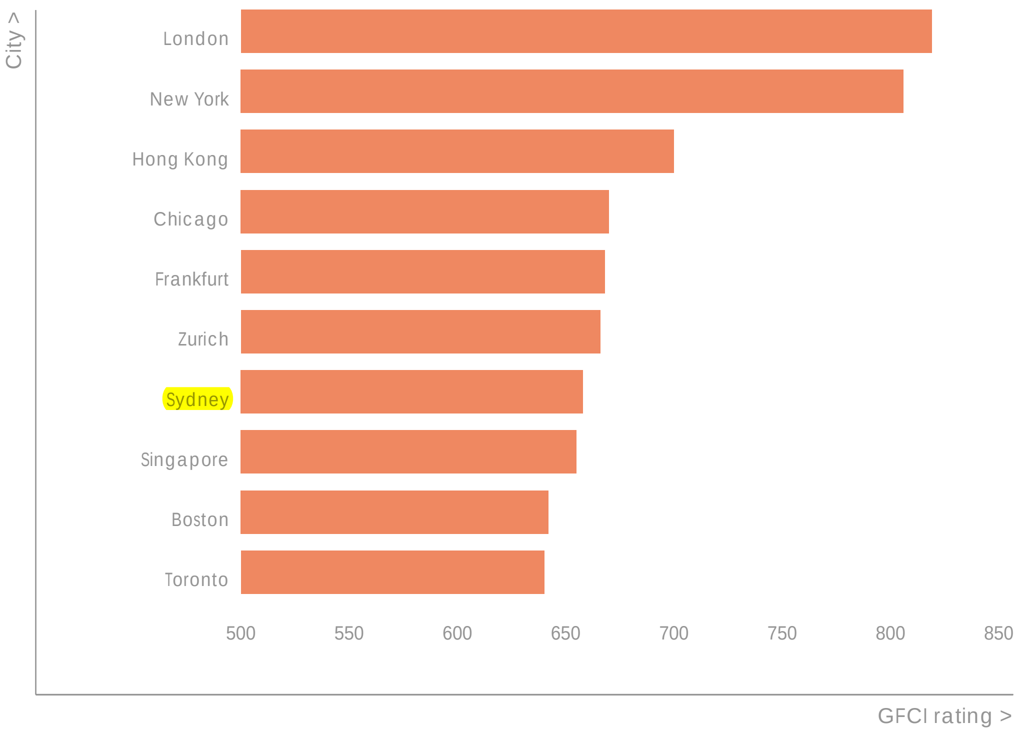
The insurance sector index (although based on a small sample and hence, not statistically significant at this stage in the development of the GFCI), shows significant rises for Dublin (into 4th place), Hamilton (Bermuda) (up 72 points into 15th place), Stockholm (into 13th place) and Oslo (into 16th place). Hong Kong and Singapore both fall quite sharply to 12th and 21st places respectively, as they are not recognised as important centres for the insurance industry.

Chart 7
The Top 10 Financial Centres – Insurance Respondents



The professional services sector index shows fewer large movements in the ratings than the banking, asset management and insurance sector-specific indices. This relative lack of movement implies that all major financial centres require and have good professional services support.

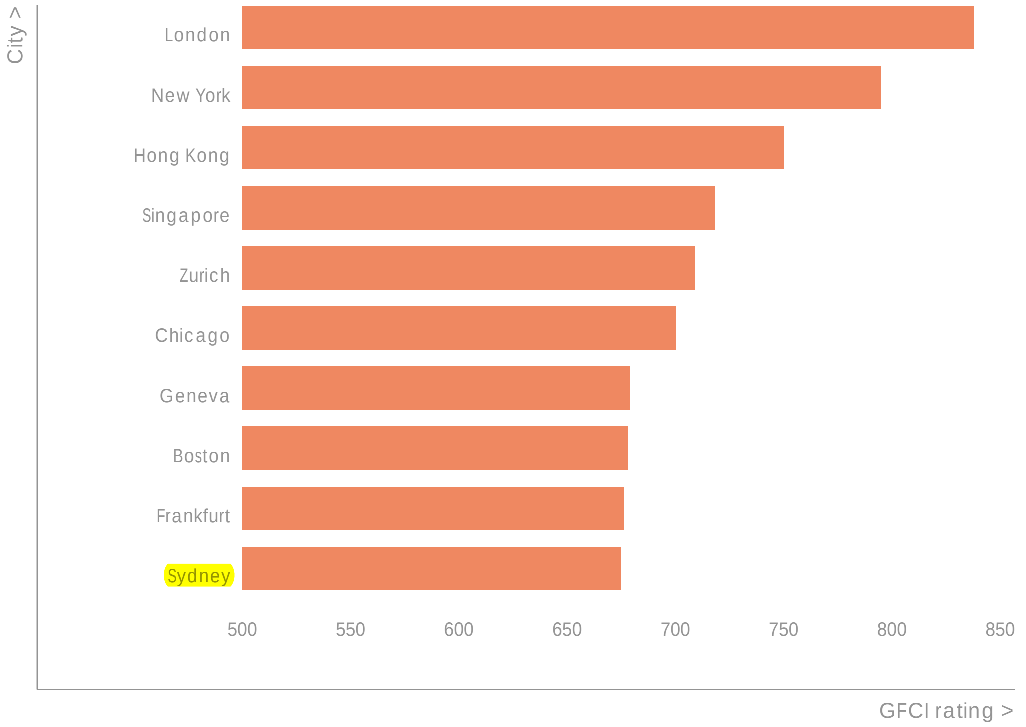
Chart 8
The Top 10 Financial Centres – Professional Services Respondents



Most of the North American centres gain places with Chicago up to 4th place, Boston to 9th and Toronto to 10th. Washington D.C. also climbed five places to 13th.

The government and regulatory sector index, based on a very small sample, shows few large movements in the ratings and the top five placings remain unchanged.

Chart 9
The Top 10 Financial Centres – Government and Regulatory Respondents



4c. Connectivity

Financial centres may be usefully viewed as the functional centres of connected financial networks. The connectivity of these centres can be expressed and measured in terms of flows of information, people and traded services and the position of any individual centre will reflect its role in linking firms and individuals to other centres and into the functional global economy. Principal financial centres are better connected on the many dimensions that make for sustained agglomeration gains and indeed it is the breadth and depth of global connectivity that makes London and New York so important as emphasised by Sassen[11]. As noted earlier, London and New York, acting as global financial centres, often connect regional participants directly, without using national or regional financial centres.

The key areas of competitiveness examined in the GFCI – people, business environment, market access, infrastructure and general competitiveness – all play a role in connectivity. For example:

- **people** improve their skills and marketability by making connections in strong financial centres;
- **the business environment** in well connected centres promotes rapid information flows encouraging the exchange of best practice, innovation and trust;
- **the market access** in major financial centres allows more financial institutions to be seen, compared and evaluated quickly;
- **infrastructure** that facilitates communication such as telecommunications, and physical transport (both within the centre and externally) are essential;
- **the general competitiveness** overall of financial centres is greater where financial services businesses are well connected.

Beaverstock et al[12] studied the connectivity of two European centres (London and Frankfurt). The conclusions indicate that the global financial services 'industry' can be thought of as a network of centres that are connected by flows of financial transactions, people, knowledge and innovation.

Financial centres do not operate as separate 'islands' of financial activity but as part of a network of financial centres. The genuinely global financial centres of London and New York are extremely complex networks of connectivity. Global centres continuously connect with international and national centres. They also connect regional and niche participants directly with each other, without using international or national financial centres as hubs. Often centres are specialised and deal in a limited number of types of transaction.

11 Sassen, Saskia. *The Global City*. Princeton University Press, (1999).
12 Beaverstock et al, *Comparing London and Frankfurt as World Cities: A Relational Study of Contemporary Urban Change*, Anglo-German Foundation for the Study of Industrial Society, (August 2001).

One measure of connectivity is how familiar financial services professionals are with financial centres other than their home centre. Respondents to the GFCI questionnaire only assess financial centres with which they are familiar. The number of times that each financial centre is assessed is a basic measure of how well known that centre is and how well connected it is.

For the purposes of Chart 10, the financial centres are sub-divided into three major regions; Europe, North America and Asia-Pacific. For each of these three regions individually, Chart 10 lists the top five most frequently assessed financial centres by respondents based in different regions.

Chart 10 shows that, for example, respondents based in Europe were able to assess (and were therefore familiar with) London more than any other European centre, New York more than any other North American centre and Hong Kong more than any other Asia-Pacific centre.

Chart 10
The Top Five Most Frequently Assessed Financial Centres by Location of Respondent

	European Centres most Frequently Assessed	North American Centres most Frequently Assessed	Asia-Pacific Centres most Frequently Assessed
Assessed By Respondents Based in Europe	1 – London 2 – Paris 3 – Frankfurt 4 – Dublin 5 – Zurich	1 – New York 2 – Chicago 3 – Boston 4 – Toronto 5 – Washington D.C.	1 – Hong Kong 2 – Singapore 3 – Tokyo 4 – Sydney 5 – Mumbai
Assessed By Respondents Based in North America	1 – London 2 – Frankfurt 3 – Paris 4 – Zurich 5 – Amsterdam	1 – New York 2 – Chicago 3 – Washington D.C. 4 – San Francisco 5 – Toronto	1 – Hong Kong 2 – Singapore 3 – Tokyo 4 – Shanghai 5 – Sydney
Assessed By Respondents Based in Asia-Pacific	1 – London 2 – Paris 3 – Frankfurt 4 – Zurich 5 – Dublin	1 – New York 2 – Chicago 3 – Boston 4 – San Francisco 5 – Vancouver	1 – Singapore 2 – Hong Kong 3 – Shanghai 4 – Tokyo 5 – Beijing
Assessed By Respondents – Globally	1 – London 2 – Paris 3 – Frankfurt 4 – Zurich 5 – Dublin	1 – New York 2 – Chicago 3 – Boston 4 – Washington D.C. 5 – San Francisco	1 – Hong Kong 2 – Singapore 3 – Tokyo 4 – Sydney 5 – Shanghai

It is interesting to note that respondents based in all three regions rated London more frequently than any other European centre and New York more frequently than any other North American centre. See also Table 25 in Section 6, which sets out the total number of assessments made for each financial centre.

Travel to centres is another useful indicator of how well they are connected. The flight arrivals instrumental factor shown in Table 4 was used in GFCI 1 and has been updated here.

Table 4
Overall Flight Arrivals – Selected Financial Centres

Financial Centre	Cities ranked by Number of Flight Arrivals
Paris	1
London	3
Singapore	4
New York	5
Frankfurt	8
Tokyo	9
Hong Kong	12
Toronto	14
Sao Paulo	16
Amsterdam	17
Johannesburg	19
Seoul	21

Source: World Tourist Organisation (www.unwto.org)

It should be noted that the rankings in Table 4 are based on flight arrivals into different cities and a number of these are tourist arrivals; for this reason this factor is used as a 'people' instrumental factor rather than a 'market access' factor. This is perhaps why Paris is rated above London and New York. Two of the new entrants into the GFCI top 50, Johannesburg and Sao Paulo, are both 'well connected' by these measures.

Mastercard Worldwide published some intriguing research[13] into connectivity earlier in 2007. Mastercard's research has been built into the GFCI model as a new Market Access instrumental factor for GFCI 2. The research is based on inter-city connectivity of the 100 richest global corporate services firms including those specialising in law, advertising, management consulting, accounting, and insurance. A measure of connectivity is derived from the office networks of these firms and is shown in Table 5.

Table 5
Relative Global Network Connectivity – Selected Financial Centres

Financial Centre	Connectivity Ranking (out of 24 cities)	Relative connectivity (London = 1.000)
London	1	1.000
New York	2	0.978
Tokyo	3	0.724
Milan	4	0.609
Los Angeles	5	0.600
Sao Paulo	6	0.557
Mumbai	10	0.473
Shanghai	11	0.449
Seoul	12	0.442
Moscow	13	0.431
Johannesburg	14	0.426
Dubai	21	0.342

Source: Mastercard Worldwide

The relative connectivity figures in Table 5 mirror the GFCI ratings – London and New York are in a league of their own with far greater connectivity than any other centre.

13 Mastercard Worldwide, *The Dynamics of Global Cities and Global Commerce*, (Quarter 2 2007).

5. Instrumental Factors

This section examines the externally sourced rankings and ratings, grouped by the five key areas of financial centre competitiveness identified in previous research (see Section 2 above). Those five areas are People, Business Environment, Market Access, Infrastructure and General Competitiveness. The GFCI factor assessment model was run with one set of factors at a time and the results compared to identify which factors influence which centres.

Instrumental factors are used as proxies for something that is not directly measurable. 33 of the 54 instrumental factors used in the GFCI are based on country ratings rather than financial centre ratings. There are often regional variations within countries which are not accounted for by the country ratings. Overall, however, and in most of the groupings analysed below, there are sufficient financial centre ratings to provide an accurate reflection. Details of all the instrumental factors used in the GFCI are shown in Appendix C.

5a. People Factors

The people related instrumental factors (people factors) used in the GFCI are:

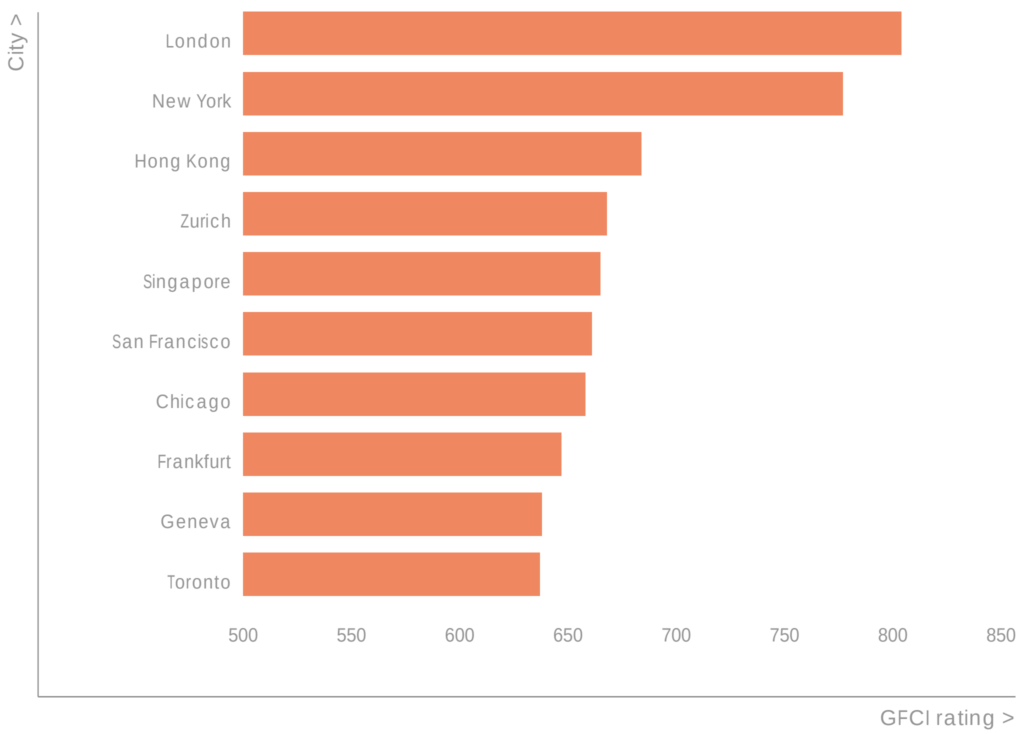
- Executive MBA Global Rankings, Financial Times
- European Human Capital Index, Lisbon Council
- Human Development Index, UNDP
- Labour Productivity, OECD
- Education Expenditure, OECD
- Quality of Living Survey, Mercer HR°
- Happiness Scores, NationMaster
- World's Top Tourism Destination, World Tourism Organisation°
- Average Days with Precipitation per Year, Sperling's Best Places*

° – these indices have been updated since GFCI 1

* – this index has been added since GFCI 1

Chart 11 shows the top ten centres by GFCI rating when only using the people factors in the prediction model.

Chart 11
The Top 10 Financial Centres using Only People Factors



London and New York occupy 1st and 2nd positions respectively on people factors. It is no coincidence that the two global centres are consistently assessed as having the best people. Hong Kong remains in 3rd place. San Francisco moved up nine places to 6th and Chicago moved up one place to 7th. The North American centres generally fare well in the people factors. As well as San Francisco and Chicago, the Canadian centres Toronto, Montreal and Vancouver all move up the rankings when considering people factors alone.

These Canadian centres score well in the Quality of Living Survey, NationMaster's Happiness Scores and the Human Development Index. Other centres that do well on people factors are Oslo and Wellington, centres known for their quality of life. Frankfurt and Sydney are both lower in this sectoral-index than in the GFCI, although they are still above most other regional and national centres.

Earlier research[14] ranked the availability of skilled personnel and the flexibility of the labour market as the most important factors in the competitiveness of a financial centre. Financial services professionals are often flexible about where they work and factors such as the quality of life, culture and language seem to play an increasingly significant part in their location decisions. One quote from the online questionnaire sums this up well:

> *" 'Softer' people factors, such as culture, openness, diversity and quality of life often influence decisions to open operations in new locations."*

Mercer HR assesses 215 cities in its Quality of Living Survey each year (39 criteria are used and New York is used as a benchmark with a score of 100). These figures have been updated since GFCI 1 and the latest scores for selected financial centres of interest are shown in Table 6 alongside the scores from when GFCI 1 was created.

14 Z/Yen Limited, *op. cit.*, (November 2005).

Table 6
Quality of Living Survey – Selected Scores

Financial Centre	Quality of Living Index GFCI 2	Quality of Living Index GFCI 1
Zurich	108.1	108.2
Geneva	108.0	108.1
Vancouver	107.7	107.7
Vienna	107.7	107.5
Frankfurt	107.1	107.0
Sydney	106.5	106.5
Wellington	105.8	105.8
Amsterdam	105.7	105.7
Brussels	105.6	105.6
Toronto	105.4	105.4
Melbourne	105.0	105.0
Luxembourg	104.8	104.8
Stockholm	104.7	104.7
Montreal	104.3	104.3
Oslo	103.5	102.8
Dublin	103.3	103.8
San Francisco	103.2	103.2
Helsinki	103.1	103.1
Paris	102.7	102.7
Singapore	102.5	102.5
Tokyo	102.3	102.3
Boston	101.9	101.9
London	101.2	101.2
Madrid	100.5	100.1
Washington D.C.	100.4	100.4
Chicago	100.4	100.4
New York	100.0	100.0

Source: www.mercerhr.com

The scores of the Swiss centres at the top of the rankings both fell very slightly in the new Quality of Living Survey. London appears within the top quartile of the 215 cities covered, just above New York.

Another factor which affects the quality of living in a financial centre is the weather. Several observers suggested that an indicator of weather was missing from GFCI 1. If all other factors are equal, people are likely to choose to live and do business in a more pleasant climate. A factor added to the GFCI model was precipitation. Some selected measurements are shown in Table 7.

Table 7

Average days with Precipitation – Selected Scores

Financial Centre	Average days with Precipitation per annum
Cayman Islands	59
Johannesburg	74
Beijing	99
Madrid	104
San Francisco	118
Rome	127
Melbourne	129
Sydney	132
Seoul	135
Milan	137
Lisbon	147
Zurich	154
Shanghai	160
New York	165
Washington D.C.	168
Boston	187
Wellington	188
Chicago	191
Paris	193
Vancouver	193
Geneva	199
Toronto	206
Montreal	213
Singapore	224
Luxembourg	229
Frankfurt	234
Munich	234
Brussels	236
Copenhagen	238
Tokyo	239
Budapest	242
London	242
Channel Islands	247
Stockholm	248
Amsterdam	249
Dublin	271
Osaka	274
Moscow	275
Edinburgh	279
Isle of Man	283
Hong Kong	341

Source: www.bestplaces.net

A further instrumental factor used in building the GFCI is the European Human Capital Index which seeks to measure the ability of countries to develop their human capital through efficient development, deployment and utilisation. The UK is in 3rd place in this index, behind Sweden and Denmark, with France in 8th place and Germany in 10th. The UK's placing supports the widely held perception that the availability of skilled personnel is better in the UK than in most other European countries.

PricewaterhouseCoopers (PwC) and the Partnership for New York City have recently published a relevant report[15] looking at different measurements of competitiveness for 11 cities. Although these factors were not included in GFCI 2, they are worthy of discussion in this sub-section and shall be considered for inclusion in future versions of the GFCI. One ranking created in this report is called 'Intellectual Capital' and incorporates the number of top universities, the percentage of the population with higher education qualifications and even the number of Nobel Prize winners. The results are shown in Table 8.

Table 8
Intellectual Capital

Financial Centre	Rank	Intellectual Capital Score
London	1	23
Paris	2	22
Tokyo	3	19
New York	4	18
Toronto	5	17
Atlanta	6	15
Los Angeles	7	12
Chicago	8	11
Frankfurt	9	9
Singapore	10	8
Shanghai	11	4

Source: PricewaterhouseCoopers & the Partnership for New York City

London comes out on top in this particular measure, with New York in 4th place. Another ranking created by PwC was entitled 'Technology IQ and Innovation' and included the percentage of internet users with broadband connections, employment in high-technology industries, the percentage of the population who are self-employed and the number of patents registered per one million population. The results are shown in Table 9.

15 PricewaterhouseCoopers, *Cities of Opportunity*, PricewaterhouseCoopers & the Partnership for New York City, (March 2007).

Table 9
Technology IQ and Innovation

Financial Centre	Rank	Technology IQ and Innovation Score
Tokyo	1	35
London	2	30
Paris	3	29
Atlanta	4	28
Frankfurt	5	24
New York	6	24
Toronto	7	23
Los Angeles	8	22
Chicago	9	17
Shanghai	10	17
Singapore	11	15

Source: PricewaterhouseCoopers & the Partnership for New York City

On this measure, Tokyo leads London, with New York in 6th place. By these PwC measures, London is still clearly a leader in innovation although in other studies, New York comes out more strongly. To be a successful global financial centre, a centre clearly needs to have a business environment that supports and encourages innovation.

5b. Business Environment Factors

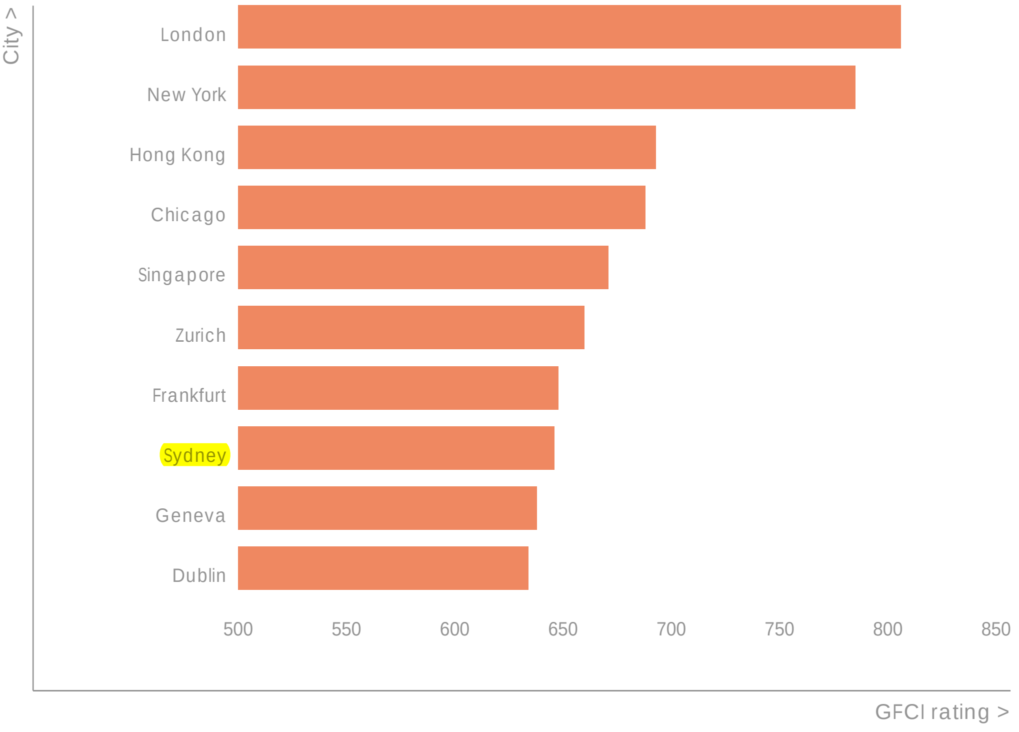
The business environment related instrumental factors (business environment factors) used in the GFCI are:

- Administrative and Economic Regulation, OECD
- Business Environment, Economist Intelligence Unit
- Total Tax Rates, World Bank/PwC
- Corporate Tax Rates, OECD
- Employee Effective Tax Rates, PwC ⚬
- Wage Comparison Index, UBS
- Personal Tax Rates, OECD
- Total Tax Receipts (As a Percentage of GDP), OECD ⚬
- Ease of Doing Business Index, World Bank ⚬
- Opacity Index, Kurtzman Group
- Corruption Perceptions Index, Transparency International ⚬
- Index of Economic Freedom, Heritage Foundation ⚬
- Economic Freedom of the World Index, Fraser Institute
- Financial Markets Index, Maplecroft
- Political Risk Score, Exclusive Analysis ⚬

⚬ – these indices have been updated since GFCI 1

Chart 12 shows the top ten centres by GFCI ranking when only using the business environment factors in the prediction model.

Chart 12
The Top 10 Financial Centres using only Business Environment Factors



Again, London and New York are placed 1st and 2nd respectively. Previous research has indicated that the regulatory environment, a strong component of what is referred to here as the 'business environment', is one of the most important competitiveness factors for a financial centre. London and New York are seen as having generally good regulatory environments, although many people are critical of the USA because of what is seen as a 'heavy-handed' approach to regulating financial services. One quote from a respondent to the online questionnaire mentions two reasons why New York is less competitive than it used to be:

> *"New York is positioning itself out of the global market because of Sarbanes-Oxley and the increased risk of litigation."*

A London based investment banker who responded to the online questionnaire is concerned that European legislation could harm London:

> *"If the UK Government raises taxes any further or imposes further European regulatory burdens it will be detrimental to London's growth."*

There are two sides to the regulatory environment, namely the quantity and rigour of the regulations themselves, and the way in which firms are expected to comply. Many financial services professionals perceive that regulators, such as the Securities Exchange Commission (SEC), adopt a prescriptive 'rules based' approach whilst the Financial Services Authority (FSA) has a less prescriptive 'principles based' approach. In the UK there are approximately 3,400 new regulations a year[16], from 674 recognised regulatory bodies. The Better Regulation Task Force estimated the cost of these regulations as 10% to 12% of GDP, that is, over £100 billion in the UK. Regulation is now so substantial and of such critical importance to an economy that getting it right is paramount and the effects of getting it wrong can be catastrophic for an industry. The UK Government recognises the importance of getting regulation right and has formed the Department for Business, Enterprise and Regulatory Reform (responsibility for regulation formerly fell within the Department of Trade and Industry). This new department is expected to ensure that the UK regulatory environment is simplified and that the regulatory demands of the European Union are handled appropriately.

There has been much discussion about the effect that the Sarbanes-Oxley legislation has had on the USA financial centres. It is claimed that London has benefited from Sarbanes-Oxley with international firms preferring to list in London rather than in the USA.

16 A Persaud, *Regulatory Capture*, Gresham College, (June 2005) and M. Mainelli, *Standards Markets? The Free Market Response To Regulation*, Gresham College, (October 2006).

It is probable that Sarbanes-Oxley is not the only source of competitive disadvantage for New York at present. Several respondents to the GFCI questionnaire made comments about the litigious business practices in the USA and the high brokerage charges in New York. The implementation of parts of Sarbanes-Oxley has been eased and this may help New York to remain competitive.

Of the other leading centres in the GFCI, three centres have shown significant changes when running the GFCI on business environment factors, namely Chicago (up to 4th place), Sydney (up to 8th place) and Dublin (up to 10th place). These three cities are all perceived to have good regulatory environments. The OECD produces an index of administrative and economic regulation and a selection of the scores are shown in Table 10 – a low score indicates more effective regulation.

Table 10
Administrative and Economic Regulation

Country	Administrative Regulation	Economic Regulation
UK	0.80	1.40
Canada	0.80	1.40
Australia	1.00	0.90
Norway	1.00	2.30
USA	1.10	1.30
Denmark	1.10	1.40
Ireland	1.10	1.50
Sweden	1.10	1.70
Finland	1.30	1.90
New Zealand	1.40	1.10
Portugal	1.50	2.20
Luxembourg	1.60	1.50
France	1.60	2.30
Italy	1.60	2.60
Japan	1.70	1.40
Austria	1.90	1.50
Netherlands	1.90	1.60
Germany	1.90	1.80
Belgium	1.90	1.80
Greece	1.90	2.20
Spain	2.00	2.10
Switzerland	2.20	2.00
Czech Republic	2.40	2.00
Poland	2.90	2.70

Source: www.oecd.org

The UK and the USA fare well in both of the indices in Table 10. Whilst Hong Kong and Singapore do not feature in this index, a number of questionnaire respondents perceive that both Hong Kong and Singapore have strong regulatory environments.

The GFCI model includes several instrumental factors which give an indication of how 'fair and just' a business environment is and how easy it is for businesses to operate. The Index of Economic Freedom, published by the Heritage Foundation, measures ten factors of economic freedom for over 160 countries. A small selection of country rankings is shown in Table 11 together with rankings from the Corruption Perceptions Index published by Transparency International. Both these indices have been updated since GFCI 1.

Table 11
Index of Economic Freedom and the Corruption Perceptions Index – Selected Scores

Country	Index of Economic Freedom GFCI 2	Index of Economic Freedom GFCI 1	Corruption Perceptions GFCI 2	Corruption Perceptions GFCI 1
Singapore	**85.7**	88.4	**9.4**	9.4
Hong Kong	**82.7**	90.9	**8.3**	8.3
USA	**82.0**	82.4	**7.3**	7.6
UK	**81.6**	82.2	**8.6**	8.6
New Zealand	**81.6**	84.0	**9.6**	9.6
Luxembourg	**79.3**	80.3	**8.6**	8.5
Switzerland	**79.1**	80.0	**9.1**	9.1
Canada	**78.7**	78.7	**8.5**	8.4
Denmark	**77.6**	76.2	**9.5**	9.5
Netherlands	**77.1**	77.0	**8.7**	8.6
Japan	**73.6**	74.5	**7.6**	7.3
Germany	**73.5**	74.0	**8.2**	8.2
Sweden	**72.6**	74.0	**9.2**	9.2
Austria	**71.3**	71.4	**8.6**	8.7
Norway	**70.1**	70.8	**8.8**	8.9
France	**66.1**	65.2	**7.4**	7.5
China	**54.0**	55.4	**3.3**	3.2
Russia	**54.0**	54.3	**2.5**	2.4

Source: www.heritage.org and www.transparency.org

The Index of Economic Freedom demonstrates one of the reasons why many financial services professionals believe that if there is to be a third global financial centre in Asia, it is likely not to be on the Chinese mainland but in Hong Kong or Singapore. The UK performs strongly in these two indices.

Another facet of the regulatory environment is the tax regime – both for corporate taxes and personal taxes. A number of the respondents to the GFCI questionnaire believe that the UK is beginning to lose competitive advantage in this area, for example:

> *"London is hampered by high and complex taxation."*

> *"Tax rates and the attitude of tax authorities is high on the agenda for a number of businesses in London at the moment."*

Five taxation indices were incorporated into the GFCI model as instrumental factors. The first index was an adaptation of Doing Business, a survey produced by PricewaterhouseCoopers (PwC) for the World Bank. PwC adapted their model to reflect a financial services firm more accurately than the manufacturing company norm used in the calculations for the World Bank. The model is not just the 'headline corporation tax' rate (although this is also built into the GFCI model) but a combination of corporate income tax, social security or other labour taxes and also property and turnover taxes. The rates (rounded to the nearest percentage point) that apply in some countries are shown in Table 12 together with the Effective Employee Tax Rate – again using PwC methodology and adapting their model to represent, more closely, a financial services employee.

Table 12
Corporate & Effective Employee Tax Rates – Selected Financial Centres

Financial Centre	Total Corporate Tax Rate 2006	Effective Employee Tax Rate 2007	Change in Effective Employee Tax Rate since GFCI 1
Zurich	25%	23%	+1%
Geneva	25%	29%	+1%
Dublin	26%	33%	-4%
Singapore	29%	15%	-
Hong Kong	29%	15%	-1%
London	35%	34%	-
Warsaw	38%	41%	-
Montreal	43%	39%	-
New York	46%	33%	+2%
Oslo	46%	38%	-
Amsterdam	48%	45%	+1%
Prague	49%	39%	-
Sydney	52%	36%	-
Vienna	56%	40%	-
Stockholm	57%	45%	-2%
Frankfurt	57%	37%	-
Budapest	59%	48%	+4%
Paris	68%	33%	+1%
Milan	76%	48%	+3%
Shanghai	77%	27%	-3%
Mumbai	81%	32%	-

Source: PricewaterhouseCoopers

Based on the Total Corporate Tax Rates, London is placed significantly ahead of New York, although behind Hong Kong and Singapore which both have favourable personal tax rates. In GFCI 1, corporate tax rates in the UK were highlighted as an area of concern. Since GFCI 1, UK corporation tax has been reformed and the headline rate has been reduced by 2%.

The Institute of Directors has just published a report[17] that underlines the current issues for the UK. The two most frequently mentioned concerns are the general burden of taxation and regulation.

The World Bank publishes a measure of regulation and corruption under the title Governance Matters[18], which lists countries in percentile rankings. Although this measure was not included in GFCI 2, it is worthy of discussion in this sub-section and shall be considered for inclusion in future GFCIs. Table 13 shows the latest of these rankings.

17 The Institute of Directors, *The SME Glass Ceiling, Growth Obstacles in 2007*, (August 2007).
18 World Bank, *Governance Matters 2007*, Worldwide Governance Indicators, (2007).

Table 13
Regulatory Quality & Control of Corruption – Selected Percentile Rankings

Country	Regulatory Quality	Control of Corruption
Hong Kong	100.0	92.7
Singapore	99.5	98.1
Denmark	99.0	99.0
Luxembourg	98.5	95.6
UK	98.0	93.7
Ireland	97.6	92.2
Netherlands	95.6	96.1
USA	93.7	89.3
Switzerland	93.2	97.1
Sweden	92.7	97.6
Germany	91.2	93.2
Norway	90.7	96.6
Cayman Islands	88.3	85.4
Belgium	87.8	91.3
France	82.9	91.7
Italy	74.1	64.1
South Korea	70.7	64.6
South Africa	70.2	70.9
Brazil	54.1	47.1
Russia	33.7	24.3

Source: The World Bank

The percentile rankings of regulatory quality underscore one of the reasons why Hong Kong and Singapore rank highly in the GFCI. Switzerland, the Scandinavian countries and the Cayman Islands also perform well in these rankings. Table 13 also shows percentile rankings on the control of corruption. The leading centres in the GFCI are within jurisdictions that control corruption well.

5c. Market Access Factors

The market access related instrumental factors (market access factors) used in the GFCI are:

- Capital Access Index, Milken Institute ●
- Securitisation, IFSL ●
- Five measures from the World Federation of Exchanges: Value of Share Trading, Volume of Share Trading, Volume of Trading Investment Funds, Value of Bond Trading, Volume of Bond Trading ●
- Global Banking Service Centres, GaWC Research
- Global Accountancy Service Centres, GaWC Research
- Global Legal Service Centres, GaWC
- The International Finance Index, Dariusz Wojcik *
- The International Finance Location Quotient, Dariusz Wojcik *
- The International Finance Diversity Index, Dariusz Wojcik *
- Relative Global Network Connectivity, Mastercard *

● – these indices have been updated since GFCI 1

* – this index has been added since GFCI 1

Chart 13
The Top 10 Financial Centres using only Market Access Factors

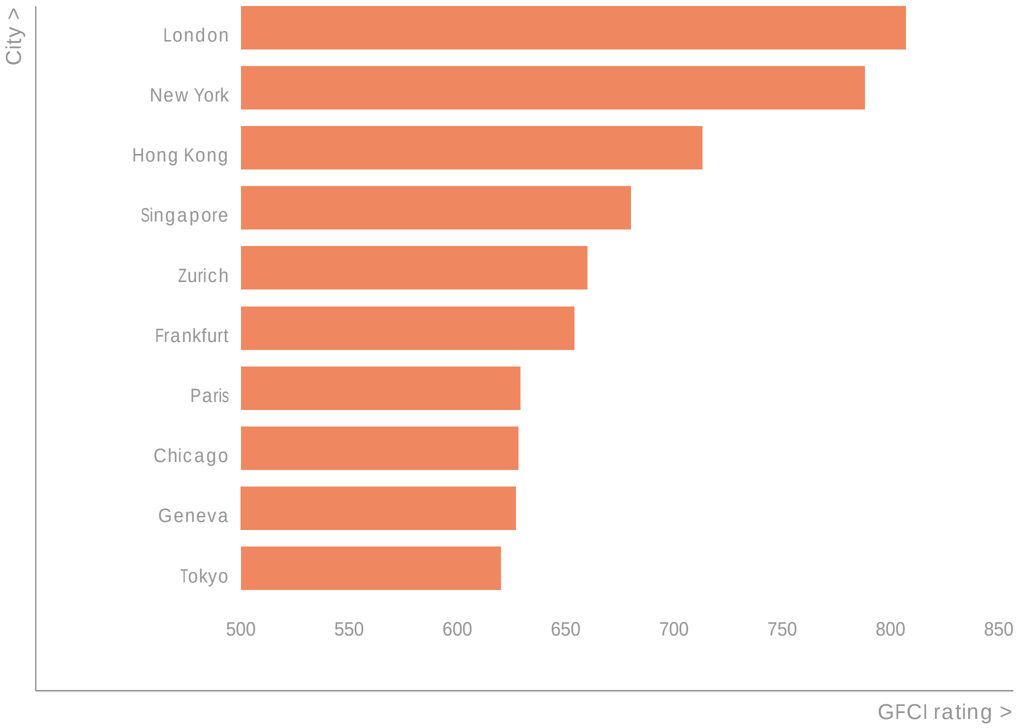


Chart 13 shows the top ten centres by GFCI ranking when only using the market access factors in the prediction model.

Of the major financial centres, the top six do not change positions. This is to be expected – major financial centres have good access to financial markets. Paris climbs into 7th at the expense of Geneva. This movement is due to the fact that Geneva is more of a niche financial centre with strengths in private banking and asset management but is not as strong in investment banking and the other major sectors that require access to financial markets.

One of the reasons that London is such a strong financial centre is market access – not just direct access to the financial markets but access to customers and suppliers of professional services. Two representative quotes from the online questionnaire indicate just how important access to financial markets, clients and suppliers is:

> *"London is clearly becoming the global nucleus of market liquidity and that means brokers and support services are now based there."*

> *"All the key investment banks and brokers have substantial presence in London, making doing business here much more convenient."*

New York is similar to London in this respect – it has a well established cluster of professional services organisations which support the financial sector.

In the GFCI model the Capital Access Index compiled by the Milken Institute is used as an instrumental factor. This index ranks countries on more than 50 measures, including the strength of their banking systems and the diversity and efficiency of financial markets to generate economic conditions. The Milken Institute has updated the index since GFCI 1 and Table 14 shows the new values of the Capital Access Index for selected countries.

Table 14
The Capital Access Index – Selected Countries (higher figures indicate better access to capital)

Country	Capital Access Index GFCI 2	Capital Access Index GFCI 1
Hong Kong	8.07	7.84
Singapore	8.00	7.77
UK	7.79	8.01
Canada	7.61	7.42
USA	7.59	7.75
Australia	7.55	7.60
Switzerland	7.52	7.39
Netherlands	7.50	7.20
Ireland	7.46	7.42
Sweden	7.35	7.62
Norway	7.16	7.47
Finland	7.09	7.46
Denmark	6.99	7.61
Germany	6.92	6.93
New Zealand	6.88	7.04
Japan	6.88	6.76
France	6.44	6.62
Spain	6.42	6.80

Source: www.milkeninstitute.org

When GFCI 1 was compiled, the UK held 1st place in the Capital Access Index, with a healthy lead over Hong Kong and Singapore and the USA following closely behind. The UK is now in 3rd place with the USA in 5th. Hong Kong and Singapore are 1st and 2nd and interestingly Canada is now 4th. Switzerland is in 7th place which supports the rankings of Zurich and Geneva in the GFCI.

Other trading statistics were built into the GFCI model as instrumental factors for market access. These statistics were taken from the World Federation of Exchange's monthly Focus report. The latest figures (June 2007) for the value and volume of share trading, the volume of trading investment funds, as well as the value and volume of bond trading, were entered into the GFCI model. New York is the leading centre in terms of trading shares and investment funds. London is in 2nd second position and Tokyo in 3rd place in terms of the value of share trading. Tokyo's high ranking is due to the large volume of domestic issuance whereas New York and London have a large component of international issuance. The Focus report also shows that Shanghai rates highly in terms of investment fund trading and is now just ahead of New York and well ahead of any of the other financial centres.

A number of respondents from the questionnaire believe that the presence of a stock exchange in a financial centre is a necessary element of market access. There is certainly plenty of speculation regarding the continued importance of financial exchanges. Exchanges are a booming business at the moment. They have shed their mutual status to become for-profit, publicly traded entities and are the subject of a great deal of merger and acquisition activity. In April 2007 the NYSE completed its merger with Euronext, itself formed from the union of the Paris, Amsterdam, Brussels and Lisbon bourses. The London Stock Exchange (LSE) recently announced that it is buying its Italian equivalent, Milan's Borsa Italiana. Similarly, Borse Dubai is bidding to take a stake of at least 25% in Swedish market operator OMX.

Increasingly however, brokers are operating without the big exchanges relying on 'internalisation'. There are now 'dark pools' of liquidity, in which banks and institutional investors anonymously trade large quantities of shares. An estimated 10-15%[20] of all share trading is now done outside exchanges.

New trading venues are being planned all the time. One of these planned venues is Project Turquoise, a pan-European trading platform being set up by a group of large banks that control more than 50% of the order flow in European equities. Turquoise hopes to compete by adopting the old mutual model ditched by most traditional exchanges.

Another instrumental factor for market access is the size of the financial services sector. The PwC report[21] referred to earlier provides a measure of 'Financial Clout' for the 11 centres they studied. The Financial Clout score is based on the number of Fortune Global 500 companies with headquarters in each centre, the percentage of individuals employed in financial and business services, the domestic market capitalisation of stock exchanges and the value of private equity (including venture capital) deals. The values are shown in Table 15.

20 The Economist, *Briefing on Financial Exchanges: Buy, Buy, Buy*, (May 2007).
21 PricewaterhouseCoopers, *op. cit*, (March 2007).

Table 15
Financial Clout

Financial Centre	Rank	Financial Clout Score
New York	1	39
London	2	35
Paris	3	32
Tokyo	4	30
Frankfurt	5	22
Toronto	6	20
Chicago	7	18
Atlanta	8	14
Los Angeles	8	14
Singapore	10	13
Shanghai	11	7

Source: PricewaterhouseCoopers

Dariusz Wojcik[21] has developed the International Finance Index (IFI) which represents a country's weighted share of international finance. International financial services are classified in four major sections: external bank loans and deposits, international debt securities, cross listed stocks and foreign exchange trading (including OTC foreign exchange trading and interest rate derivatives).

The UK and the USA together account for more than 50% of the possible IFI points, which means that the majority of the international financial transactions are conducted in the UK or the USA. Germany and France with IFI values of 7.10 and 4.62 are 3rd and 4th. Places five, six and seven are taken by Hong Kong, the Netherlands and the Cayman Islands, with very similar IFI values.

Two offshoots of the IFI, the International Finance Location Quotient (IFLQ) and the International Finance Diversity Index (IFDI), offer further insight into the development and structure of international finance. The IFLQ measures the specialisation of a country's economy in international financial services, relating a country's share in international financial services to its share in GDP. This quotient shows, unsurprisingly, that the Cayman Islands have the highest value. Luxembourg, Hong Kong, Singapore and Bermuda come next and then follows the UK with a score of 5.56. This result does signify just how important financial services are to the UK economy, a fact supported by other City of London research[22].

The IFDI identifies how diverse a country's financial sector is – if a country's entire international financial sector is based on only one of the four segments of the financial sector, the IFDI takes the value of zero, if it is spread equally across all four segments, the IFDI takes the value of 1. As one might expect, London and New York have very diversified financial services industries as do France and Germany. Bermuda and the Cayman Islands are both specialised centres and, as such, have the lowest values in the IFDI.

The values of the IFI, IFLQ and IFDI are shown in Table 16.

21 Dariusz Wojcik, *The International Finance Index and its Derivatives*, Oxford University Centre for the Environment, (July 2007).

22 Oxford Economic Forecasting, *London's Place in the UK Economy, 2006-07*, City of London, (November 2006).

Table 16
The International Finance Index and Derivative Indices

Country	IFI	IFLQ	IFDI
UK	30.25	5.56	0.93
USA	21.30	0.70	0.97
Germany	7.10	1.07	0.93
France	4.62	0.90	0.90
Hong Kong	3.59	8.27	0.77
Netherlands	3.39	2.23	0.77
Cayman Islands	3.35	731.13	0.64
Japan	2.82	0.28	0.69
Switzerland	2.60	3.01	0.81
Singapore	2.19	7.23	0.84
Italy	2.17	0.51	0.89
Spain	1.90	0.68	0.63
Ireland	1.82	3.57	0.67
Luxembourg	1.51	16.28	0.75
Australia	1.50	0.87	0.82
Belgium	1.32	1.47	0.73
Canada	1.29	0.44	0.89
Sweden	0.97	1.10	0.99
Austria	0.92	1.24	0.85
Denmark	0.72	1.14	0.80
Norway	0.50	0.65	0.96
China	0.40	0.07	0.20
South Africa	0.37	0.63	0.80
South Korea	0.34	0.17	0.86
Greece	0.33	0.47	0.74
Russia	0.32	0.14	0.82
Finland	0.26	0.54	0.71
Portugal	0.24	0.55	0.76
Mexico	0.21	0.11	0.80
Brazil	0.16	0.07	0.68
Poland	0.15	0.19	0.92
Turkey	0.12	0.14	0.83
India	0.11	0.05	0.86
Bermuda	0.06	5.80	0.21

Source: Dariusz Wojcik

5d. Infrastructure Factors

The infrastructure related instrumental factors (infrastructure factors) used in the GFCI are:

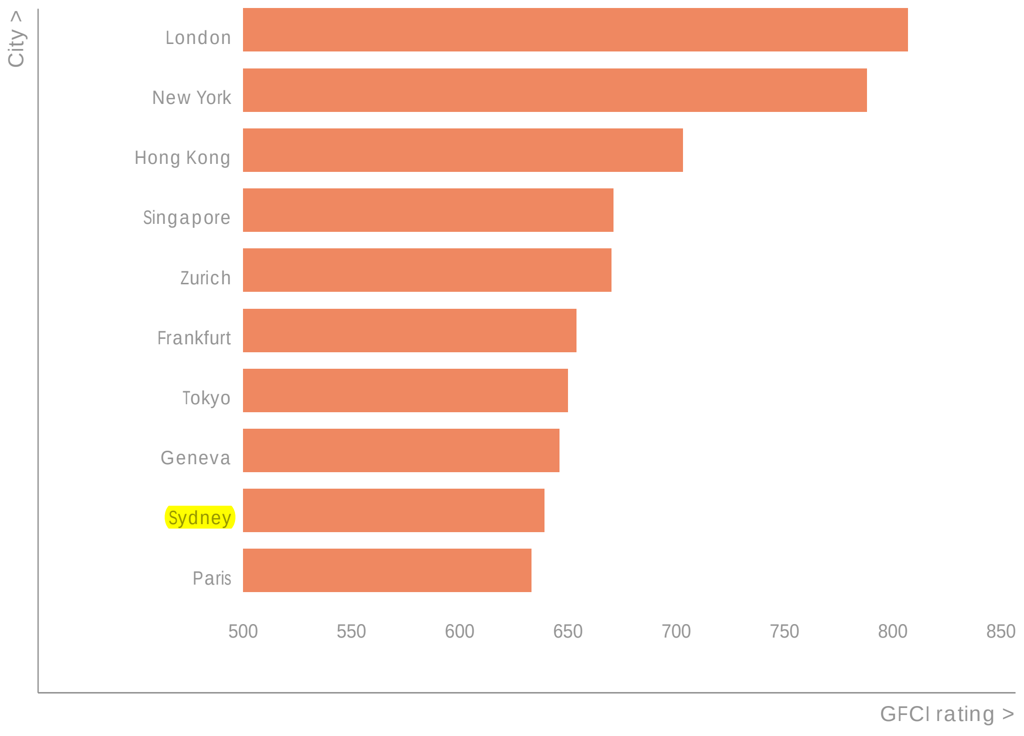
- Global Office Occupancy Costs, DTZ ⭘
- Office Space Across The World, Cushman & Wakefield, Healey & Baker
- Competitive Alternatives Survey, KPMG
- Offices With Air Conditioning, Gardiner & Theobald ⭘
- European Cities Monitor, Cushman & Wakefield, Healey & Baker
- Global Property Index, IPD ⭘
- Direct Real Estate Transaction Volumes, Jones Lang LaSalle ✱
- Real Estate Transparency Index, Jones Lang LaSalle ✱

⭘ – these indices have been updated since GFCI 1

✱ – this index has been added since GFCI 1

Chart 14 shows the top ten centres by GFCI ranking when only using the infrastructure factors in the prediction model.

Chart 14
The Top 10 Financial Centres using only Infrastructure Factors



Using only infrastructure factors, the top six centres all remain in the same positions. As with GFCI 1, Tokyo has climbed the rankings here and is in 7th place. The top four centres all share relatively high infrastructure costs and yet are still ranked highly.

Several measures of office and occupancy costs have been used as instrumental factors in the GFCI. DTZ's Global Office Occupancy Costs looks at the straightforward rental costs of occupying space. A selection of costs is given in Table 17 together with the movement in rankings since GFCI 1.

Table 17
Office Occupancy Costs – Selected Financial Centres

Financial Centre	Global Office Occupancy Costs (US$ per workstation per annum)	Movement in Rankings Since GFCI 1
London	20,475	▲
Hong Kong	19,730	▲
Paris	17,700	▼
Dublin	15,810	▲
New York	14,355	▼
Frankfurt	13,410	▼
Seoul	12,470	▲
Tokyo	11,125	▼
Toronto	10,340	▼
Stockholm	10,250	▼
Milan	9,640	▼
Sydney	8,620	▼
Madrid	8,530	▲
Rome	8,350	▼
Athens	7,910	▼
Singapore	7,860	▲
Shanghai	7,120	▲
Vienna	7,070	▼
Beijing	5,830	▼
Melbourne	5,220	▼
Prague	4,400	▼
Budapest	4,220	▼

Source: www.dtz.com

London and Hong Kong have moved up in the rankings to 1st and 2nd respectively. Dublin has also risen, to 4th. Paris has now fallen to 3rd place and New York is in 5th. Tokyo is down to 8th place. Singapore and Shanghai have both risen in the cost rankings and are now in 16th and 17th places respectively.

Table 18
Direct Real Estate Transaction Volumes and Real Estate Transparency Index – Selected Financial Centres

Financial Centre	Direct Real Estate Transaction Volumes	Real Estate Transparency Index
London	43,037	1.25
New York	29,000	1.15
Paris	27,794	1.40
Tokyo	23,419	2.40
Boston	8,723	1.15
Chicago	8,477	1.15
Stockholm	7,349	1.38
Hong Kong	6,987	1.30
Oslo	6,718	1.96
Osaka	6,693	2.40
Singapore	5,931	1.44
San Francisco	5,653	1.15
Toronto	4,612	1.21
Dublin	4,233	1.85
Washington D.C.	4,014	1.15
Sydney	3,992	1.15
Madrid	3,802	1.91
Munich	3,652	1.67
Beijing	3,647	3.50
Moscow	3,536	3.22
Frankfurt	3,372	1.67
Shanghai	3,195	3.50
Warsaw	3,016	2.76
Vienna	2,957	1.85
Brussels	2,182	1.88
Melbourne	2,007	1.15
Amsterdam	1,970	1.37
Edinburgh	1,913	1.25
Rome	1,739	2.14
Milan	1,586	2.14
Luxembourg	1,579	1.88
Seoul	1,312	2.88
Prague	1,284	2.69
Helsinki	1,243	1.63
Geneva	1,197	1.94
Zurich	1,197	1.94
Mumbai	1,002	3.46

Source : www.joneslanglasalle.co.uk

Two new infrastructure factors have been added to the GFCI, provided by Jones Lang LaSalle. Direct Real Estate Transaction Volumes gives an indication of how busy the property market in each centre is. Activity levels of the property market in a financial centre can act as an indicator of the buoyancy of that centre as a whole. The Real Estate Transparency Index seeks to measure market information transparency – how easy is it to find out about the real estate market. The values of these indices for selected financial centres are shown in Table 18.

London, New York, Paris and Tokyo have far higher volumes of real estate transactions than anywhere else. The Real Estate Transparency Index (where a low score means better transparency) shows that most European and North American centres have fairly transparent markets. Markets with less transparency include Beijing, Shanghai, Moscow and Mumbai.

The cost of occupying offices in financial centres is an important infrastructure factor. In the PwC report[23] there is a very broad measure of 'Cost' for the 11 centres studied. This measure is based on the cost of business occupancy, and the cost of living and purchasing power (these measures are taken from third party sources). The scores (a high score indicates relatively low cost) are shown in Table 19.

Table 19
Cost Ranking – Selected Financial Centres

Financial Centre	Rank	Cost Score
Atlanta	1	29
Los Angeles	2	26
Chicago	3	25
Toronto	4	19
Frankfurt	5	18
Shanghai	5	18
New York	7	17
Singapore	8	16
Tokyo	9	14
Paris	10	9
London	11	7

Source : www.joneslanglasalle.co.uk

The scores in this index support the other property cost indices in that they show London, Paris, Tokyo, Singapore and New York as the most expensive centres to live and run a business in.

Although London is one of the world's leading financial centres, it falls behind other centres in terms of transport infrastructure. Complexity in the system, overcrowding, high prices and delays are some of the biggest concerns expressed by those using the system.

23 PricewaterhouseCoopers, *op. cit.*, (March 2007).

Financial services professionals in London made more comments about the transport infrastructure than any other competitive factor. A few representative comments were:

> *"Transport and communications are vital. London will progressively suffer if these are not corrected."*
>
> *"If London wasn't so poor with public transport it would be rated even higher."*
>
> *"I have down-rated London because of its crumbling infrastructure."*
>
> *"London has become considerably less desirable due to the restrictive carry-on baggage policies at Heathrow. It used to be a favourite city to serve as a hub for my European business trips; now I try to avoid it."*

Whilst there is a focus on land transport, airports are an increasing concern. 'Heathrow hassle' – queues at passport control, onerous security measures and the airport's disorganised set-up – have been taken up by the new City Minister, Kitty Ussher, who calls herself an 'advocate' for business in government and recognises the unhappiness felt by city executives at the experiences they have suffered at Heathrow.

Indeed, the percentage of responses commenting on infrastructure matters in GFCI 2 (29.6%) was the same percentage as those commenting on people matters; whereas in GFCI 1 people matters were far more regularly commented upon than infrastructure matters (37.2% and 29.5% respectively). This is an interesting shift in concern.

Many people complain about London's transport infrastructure. It is interesting to note however, that transport infrastructure in London has been less efficient than in many competing centres for several decades and this has not prevented London from becoming a leading global financial centre. London seems to succeed despite its transport infrastructure because it performs so well in most of the other factors of competitiveness.

5e. General Competitiveness Factors

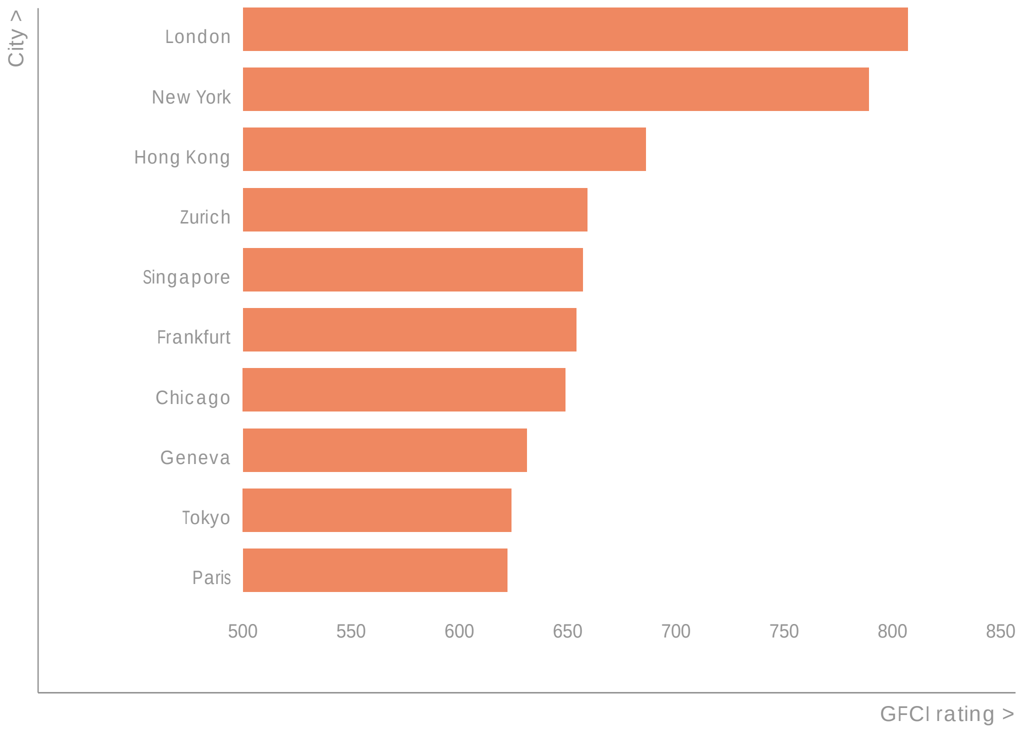
In some financial centres, many of the competitiveness factors come together and form what might be described as a competitive critical mass where the whole is greater than the sum of the parts. The GFCI model uses the following general competitiveness related instrumental factors (general competitiveness factors):

- Economic Sentiment Indicator, European Commission ●
- Super Growth Companies, Grant Thornton
- World Competitiveness Scoreboard, IMD ●
- Retail Price Index, The Economist ●
- Price Comparison Index, UBS
- Nation Brands Index, Anholt ●
- City Brands Index, Anholt ●
- Global Competitiveness Index, World Economic Forum

● – these indices have been updated since GFCI 1

Chart 15 shows the top ten centres by GFCI ranking when only using the general competitiveness factors in the prediction model.

Chart 15
The Top 10 Financial Centres using only General Competitiveness Factors



The top three centres remain in the same positions as the overall GFCI. Further down, there is a significant jump in the rankings for the Canadian centres of Montreal and Vancouver. This jump is in part due to Canada being well ranked in the World Competitiveness Scoreboard and the Nation Brands Index. The Scandinavian centres of Stockholm and Copenhagen also improved their ratings due to high scores in the World Competitiveness Scoreboard.

Table 20 features the IMD World Competitiveness Scoreboard, an instrumental factor built in to the GFCI model.

Table 20
The Global Competitiveness Scoreboard 2007 versus 2006

Country	World Competitiveness Scoreboard 2007	World Competitiveness Scoreboard 2006
USA	1	1
Singapore	2	3
Hong Kong	3	2
Luxembourg	4	9
Denmark	5	5
Switzerland	6	8
Canada	7	10
Netherlands	8	15
Australia	12	6
Norway	13	12
Austria	13	11
Sweden	14	9
Ireland	14	11
China	15	18
Germany	16	25
Finland	17	10
New Zealand	19	21
UK	20	28
Japan	24	16
Belgium	25	26
India	27	27
France	28	30
Italy	42	48

Source: www.imd.ch

USA, Singapore and Hong Kong occupy the top three positions but the UK is much lower in the rankings than might be expected. It should, however, be noted that this index is constructed by country rather than by city. There are significant regional differences within the UK with London being more competitive, certainly as a financial centre, than other UK cities. The UK and Germany show the largest rises in the rankings of this scoreboard since GFCI 1.

The City Brands Index, produced by Anholt, is a broad measure of how good a city is to live in. The index comprises a number of components including a city's status, beauty, climate, economic opportunities, friendliness and lifestyle. Selected City Brand ranks are shown in Table 21.

Table 21
City Brand Ranks 2007 versus 2006 – Selected Scores

Financial Centre	City Brand Rank 2007	City Brand Rank 2006
Sydney	1	3
London	2	1
Paris	3	2
Rome	4	4
New York	5	7
Washington D.C.	6	14
San Francisco	7	11
Geneva	10	13
Amsterdam	11	6
Madrid	12	9
Toronto	14	12
Milan	19	16
Tokyo	22	19
Brussels	24	15
Stockholm	26	17
Edinburgh	30	18
Prague	34	20
Singapore	35	22
Hong Kong	37	21

Source: www.citybrandsindex.com

The latest version of the City Brand Index shows Sydney in 1st place and London falling to 2nd place from 1st place in 2006. Paris is in 3rd place down from 2nd with New York in 5th place and the other USA centres, Washington D.C. and San Francisco, in 6th and 7th places respectively. The Asian centres ranked fairly low in this index. Tokyo, Hong Kong and Singapore are in 22nd, 35th and 37th places respectively.

6. Financial Centre Assessments

This section examines the responses of financial services professionals to a comprehensive questionnaire (financial centre assessments). Online questionnaires on financial centre competitiveness have been conducted over the past two years. Web links to the questionnaire sites were emailed to senior financial services professionals worldwide. 825 responses have been received and incorporated into GFCI 2. These responses provided 11,685 centre assessments in total. An outline of the responses is given in Tables 22 to 25:

Table 22
Questionnaire Responses by Sector

Sector	Number of Responses
Banking	220
Asset Management	75
Insurance	48
Other Financial Services	168
Professional Services	164
Regulatory & Government	38
Trade Associations	17
Other	95
Total	**825**

Table 23
Questionnaire Responses by Number of Employees in Organisation

Number of Employees Worldwide	Number of Responses
Fewer than 100	299
100 to 500	127
500 to 1,000	54
1,000 to 2,000	47
2,000 to 5,000	67
More than 5,000	179
Unspecified	52
Total	**825**

Table 24
Questionnaire Responses by Location

Location	Number of Responses
London	470
Other UK	6
Europe	87
New York	33
Other US	15
Asia	53
Offshore	58
Multiple or Other	103
Total	**825**

See the note in Appendix A about removing home bias.

Table 25
Number of Assessments – Top 50 Financial Centres

Financial Centre	Number of assessments	Average Assessment	Standard Deviation of Assessments
London	784	811	141.7
New York	657	810	162.5
Hong Kong	333	729	190.5
Singapore	303	693	197.2
Zurich	303	689	196.7
Frankfurt	546	674	163.8
Isle of Man	90	661	216.0
Geneva	274	644	210.7
Paris	579	642	174.6
Chicago	244	636	218.3
Sydney	199	631	231.5
Tokyo	240	618	223.8
Boston	214	612	231.0
Dublin	298	612	203.6
San Francisco	196	608	231.0
Luxembourg	235	594	223.3
Toronto	196	588	224.2
Amsterdam	266	581	207.1
Channel Islands	223	568	251.5
Edinburgh	247	567	228.1
Dubai	193	567	225.1
Shanghai	175	544	235.8
Brussels	256	539	201.3
Washington D.C.	198	535	239.0
Melbourne	159	530	231.5
Cayman Islands	169	528	253.4
Munich	127	528	271.4
Hamilton (Bermuda)	163	520	248.4
Vancouver	153	512	250.5
Stockholm	186	507	224.9
Milan	202	502	211.5
Montreal	151	501	236.4
Madrid	207	484	198.8
Vienna	174	473	213.7
Copenhagen	183	462	239.2
Beijing	164	454	221.4
Bahrain	104	449	225.6
Helsinki	167	448	218.7
Mumbai	165	437	223.4
Oman	97	432	243.0
Johannesburg	110	429	220.7
Oslo	153	426	227.0
Rome	174	422	205.9
Wellington	122	416	248.8
Prague	161	400	213.9
Seoul	136	399	226.7
Osaka	89	375	219.6
Lisbon	156	373	208.3
Sao Paulo	88	373	225.8
Warsaw	150	358	208.0

The questions asked in the latest online questionnaire are set out in Appendix B. The responses received since the GFCI 1 to questions 11 to 15 of the questionnaire (the open–ended questions) were analysed in more depth and Table 26 shows the percentage of responses that mention the different areas.

Table 26
Key Areas of Competitiveness

Area of Competitiveness	Percentage of people who responded	Main Concerns Raised
Business Environment	31.6%	Regulation (especially Sarbanes-Oxley) and corporate taxation
People	29.6%	Availability of skilled personnel and labour market flexibility
Infrastructure	29.6%	Transport infrastructure in London and security measures at major airports
Market Access	6.8%	The presence of stock exchanges in financial centres

In this study, the regulatory environment is still seen as the most important concern in financial centre competitiveness. Concerns remain about the level and quality of financial services regulation in the USA and in particular Sarbanes-Oxley. Levels of corporate taxation in the UK are also seen as a detrimental factor to London's competitiveness.

People factors are the second most important area of competitiveness but it is noticeable that whilst infrastructure factors were a fairly distant third in earlier studies, they are now joint second with people factors. This is in large part due to responses from London about traffic congestion, substantial underinvestment in public transport infrastructure and the inconvenience of Heathrow airport.

Question 13 of the questionnaire asked if there are any financial centres that respondents felt might become significantly more important over the next two to three years. The five centres mentioned the most (based on responses received since GFCI 1) are shown in Table 27. Moscow is one of the most frequently mentioned centres but is currently just outside the top 50 GFCI ratings, in 51st place. It will be interesting to see where Moscow is placed in the future GFCI ratings.

Table 27
Top 5 Financial Centres that Might Become more Significant

Financial Centre	Number of times mentioned
Dubai	31
Shanghai	29
Beijing	15
Moscow	11
Mumbai	11

Question 14 of the questionnaire asked in which financial centre (or centres) is the respondent's organisation most likely to open up a new operation within the next two to three years. The five centres mentioned the most (based on responses received since GFCI 1) are shown in Table 28.

Table 28
Top 5 Financial Centres where Organisations may Open New Operations in the Next 2 to 3 Years

Financial Centre	Number of times mentioned
Dubai	15
Singapore	10
Shanghai	9
Mumbai	7
Beijing	7

Dubai, Shanghai, Beijing and Mumbai are clearly centres that will need to be monitored closely in future updates of the GFCI. Dubai and Mumbai both gained slightly in the GFCI 2 ratings as a result of more positive assessments from the questionnaire in comparison with GFCI 1. It seems that it is too early for the interest in Shanghai and Beijing shown in Table 28 to be reflected in the GFCI 2 ratings.

There seem to be two conflicting schools of thought about Shanghai and Beijing. Some respondents think that it is almost inevitable that they will become very important international financial centres because of the growth of the Chinese economy. Other respondents doubt the ability of the Chinese government to provide a stable and sufficiently competitive regulatory and economic environment. The GFCI will track the progress of the main Chinese financial centres to shed light on any changes.

7. Conclusion

GFCI 2 is the second in the series of GFCI reports. The top six centres in GFCI 2 have maintained the same rankings as in GFCI 1. London leads New York slightly in all five areas of competitiveness, i.e. people, business environment, market access, infrastructure and general competitiveness. London is further ahead of New York than it was in GFCI 1. London and New York have stretched their lead ahead of the next two strongest centres, Hong Kong and Singapore, and are now 90 points ahead (compared with 88 points ahead in GFCI 1).

In GFCI 1, it was clear that Hong Kong and Singapore were the leading Asian centres. These two financial centres are still well ahead of Tokyo. Zurich, a financial centre strongly focused on the two niche sectors of private banking and asset management, is in 5th place. Frankfurt has remained stable in 6th place and Geneva has moved three places up the rankings to 7th place.

GFCI 2 shows a number of significant changes since GFCI 1:

- the ratings of 18 centres went up, 24 went down and one rating remained the same;
- seven new centres were added to the GFCI. These include the Isle of Man in 21st place, Munich in 29th place, Osaka in 36th place and Johannesburg in 43rd place;
- transport infrastructure is even more important to London's competitiveness than before;
- New York continues to struggle with its regulatory environment, despite a recent lightening of Sarbanes-Oxley;
- Dubai, Shanghai, Beijing and Mumbai were frequently mentioned as cities which will become more important; and
- Oslo, Melbourne, Vancouver and Munich were identified as volatile.

GFCI 2 reinforces GFCI 1's conclusions that:

- there are two global financial centres – London and New York;
- the most successful financial centres score well on most competitive factors;
- regulation and people factors are highly influential factors of competitiveness;
- the centres identified as volatile by sensitivity analysis moved significantly in the new ratings, showing that their positions were unpredictable; and
- centre connectivity is vital and helps explain why certain centres remain competitive.

None of the respondents to the online questionnaire believe that London or New York City will lose their positions as global financial centres within the next ten years. If London and New York decline as financial centres it will be due to a fundamental, unforeseen alteration in one or more of the factors that make financial centres attractive. Part of the continuing appeal of London to international companies is its cosmopolitan nature. London and to a slightly lesser extent New York are characterised by the best international firms doing business with each other.

Financial centre competitiveness is not a 'zero-sum' game where one centre's gain is another's loss. London and New York are complementary to each other and each thrives on the other's success.

Once a global centre such as London or New York has been established it is difficult to move. It would take either:

- a number of significant factors, acting over a number of years; and/or
- a fairly dramatic alteration in an indirect factor. For example; political unrest, a natural catastrophe or an unprecedented terrorist incident.

It should be noted, however, that financial centres other than London and New York continue to improve their competitiveness and the global leaders should not be complacent. The USA has existing regulatory issues to deal with whilst the UK Government needs to be cautious about large regulatory changes, tax levels and London's transport infrastructure.

Future updates of the GFCI will aim to:

- track how updated instrumental factors reflect changing issues in financial centre competitiveness;
- identify changes in the perceptions of financial services professionals;
- identify 'up and coming' financial centres and track the progress of centres like Dubai, Mumbai, Shanghai and Beijing; and
- provide more detailed industry sector analysis once a greater number of financial centre assessments have been received.

Please participate in the GFCI by rating the financial centres you are familiar with at: www.cityoflondon.gov.uk/GFCI

8. Appendices

Appendix A – Methodology

The GFCI provides **ratings** for financial centres calculated by a 'factor assessment model' built using two distinct sets of input:

- **instrumental factors** – drawn from external sources. The infrastructure competitiveness for a financial centre, for example, is indicated by 'instrumental factors' including a cost of property survey and an occupancy costs index; a fair and just business environment is indicated by ratings such as a corruption perception index and an opacity index. Objective evidence of competitive factors has been sought in instrumental factors drawn from a wide variety of comparative sources – 54 instrumental factors were used to construct the GFCI 2 ratings. Not all centres have data for all instrumental factors and the statistical model takes account of these gaps;
- **financial centre assessments** – to construct the GFCI 2 ratings a total of 11,685 financial centre assessments were used, drawn from 825 respondents to an online questionnaire. Respondents assessed the competitiveness of financial centres which they knew. The online questionnaire is ongoing to keep the GFCI up-to-date with people's changing assessments.

24 Z/Yen Limited, *op. cit.*, (November 2005).

The 54 instrumental factors were selected to reflect the 14 competitiveness factors identified in previous research[24]. These are shown in Table 29.

At the outset of the creation of the GFCI, a number of guidelines were set out. These guidelines are to ensure that centre assessments and instrumental factors were selected and used in a way that will generate a credible, dynamic rating of centre competitiveness for financial services institutions.

The guidelines for independent indices used as instrumental factors are:

- 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 ideally be regularly updated;
- relevant indices can be added to the GFCI

Table 29
Competitiveness Factors and their relative importance

Competitiveness Factors	**Rank**	**Average Score**
The availability of skilled personnel	1	5.37
The regulatory environment	2	5.16
Access to international financial markets	3	5.08
The availability of business infrastructure	4	5.01
Access to customers	5	4.90
A fair and just business environment	6	4.67
Government responsiveness	7	4.61
The corporate tax regime	8	4.47
Operational costs	9	4.38
Access to suppliers of professional services	10	4.33
Quality of life	11	4.30
Culture & language	12	4.28
Quality / availability of commercial property	13	4.04
The personal tax regime	14	3.89

model at any time;

- updates to the indices are collected and collated quarterly at the end of each quarter;
- 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). Only indices which have values for at least ten centres will be included.

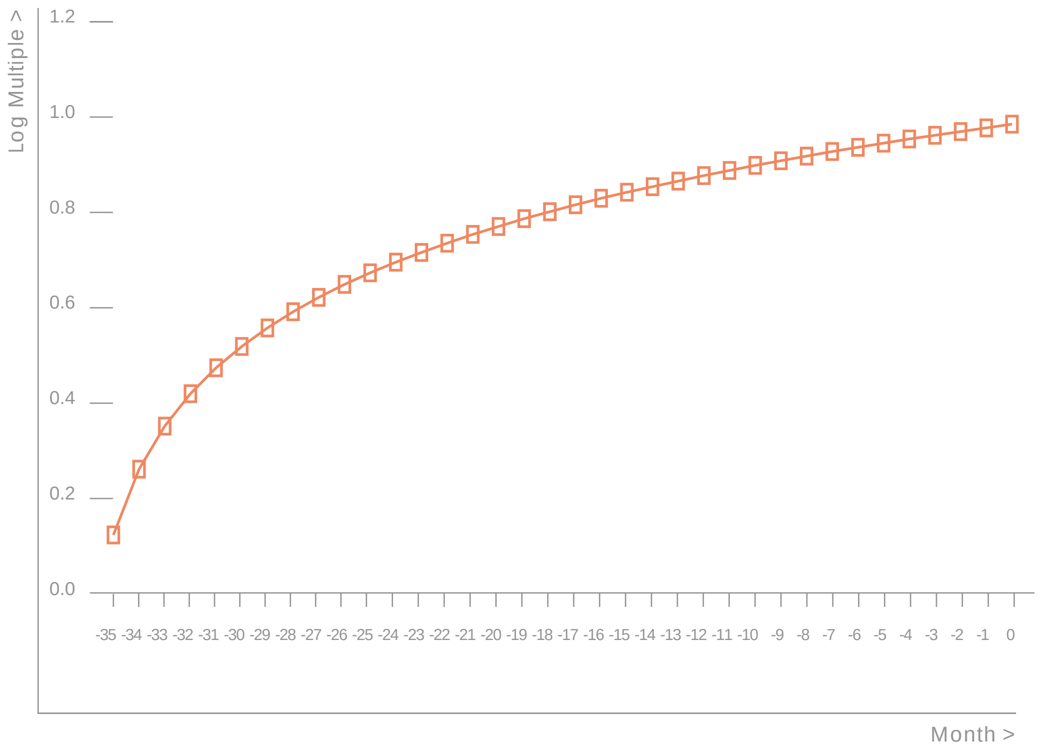
Creating the GFCI does not involve totaling or averaging instrumental factors. An approach involving totaling and averaging would involve a number of difficulties:

- 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;
- financial centre assessments will be included in the GFCI model for 36 months after they have been received. 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. This scale has been revised

Chart 16
Log Scale for time weightings



between GFCI 1 and GFCI 2 to enhance its effectiveness; the scale used for GFCI 2 is shown in Chart 16.

The financial centre assessments and instrumental factors are used to build a predictive model of centre competitiveness using a support vector machine (SVM). The SVM used for the building of the GFCI is PropheZy – Z/Yen's proprietary system. SVMs are based upon statistical techniques that classify and model complex historic data in order to make predictions on 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. This change between GFCI 1 and GFCI 2 is an improvement to the methodology to reduce the risk of home bias. The model then predicts how respondents would have assessed centres they are not familiar with by answering questions such as:

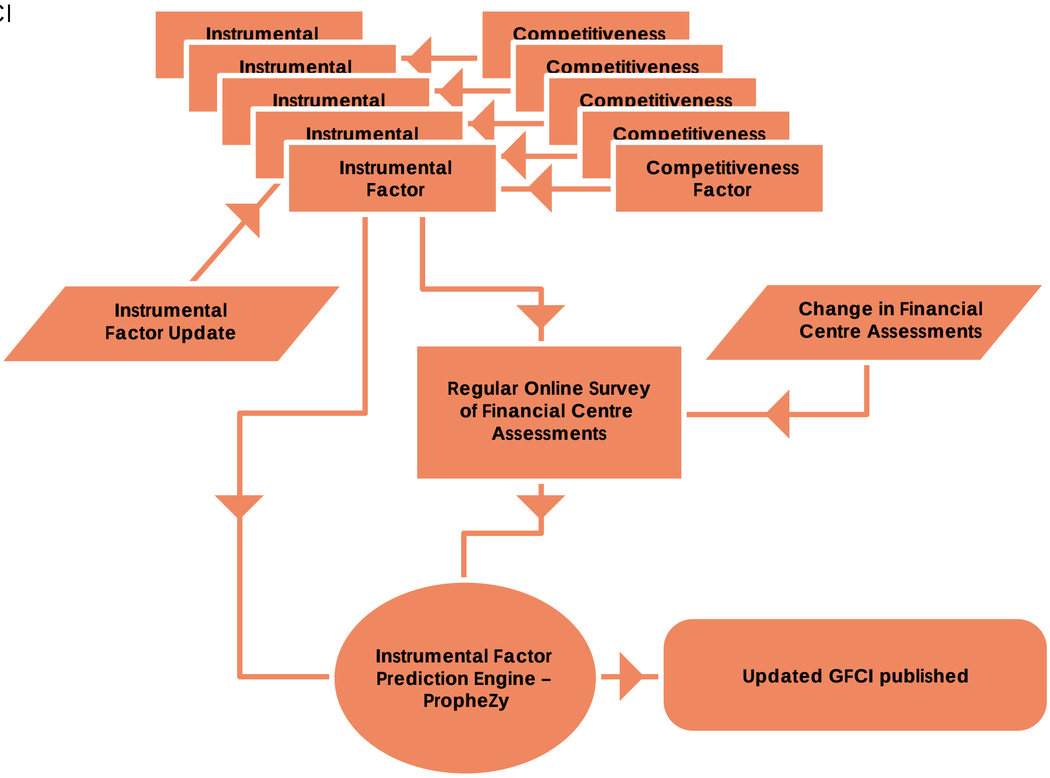
If an investment banker gives Singapore and Sydney certain assessments then, based on the instrumental factors for Singapore, Sydney and Paris, how would that person assess Paris?

Or

If a pension fund manager gives Edinburgh and Munich a certain assessment then, based on the instrumental factors 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 to produce the GFCI – a set of financial centre ratings. The GFCI is dynamically updated by either an updated instrumental factor or new financial centre assessments. These updates permit, for

Chart 17
The GFCI Process



instance, a recently changed index of rental costs to dynamically adjust the competitiveness rating of the centres. The process of creating the GFCI is outlined diagrammatically in Chart 17.

A few features of building the GFCI using both instrumental factors:

- several instrumental factors can be used for each competitive factor;
- a strong international group of 'raters' can be developed as the GFCI progresses;
- sub-GFCI ratings are being developed by using the business sectors represented by questionnaire respondents. This could make it possible to rate London as competitive in Insurance (for instance) while less competitive in Asset Management (for instance);
- over time, as confidence in the GFCI builds, 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 was extensive sensitivity testing to changes in instrumental factors and financial centre assessments. The accuracy of predictions given by the SVM were tested against actual assessments. Over 80% of the predictions made were accurate to within 5%.

The authors of this report would like to thank Jeremy Horne of Z/Yen for all his assistance in creating the GFCI. Additionally, a big thank you goes to John Whiting – Tax Partner at PricewaterhouseCoopers, Simon Sole – Chief Executive of Exclusive Analysis Limited and Dariusz Wojcik from Oxford University Centre for the Environment and St. Peter's College, for providing unpublished data specifically for the GFCI. Finally the authors would like to thank John Murray of DMAP Limited and Alan Helmore-Simpson for technical support.

Appendix B – The Online Questionnaire

The online questionnaire runs continuously and an emailed copy of the updated report is sent to all respondents.

The questions in the most recent version of the questionnaire, launched in May 2007, are as follows:

1 Your name:

2 What is your job title/main area of responsibility?

3 The name of your organisation:

4 In which industry is your organisation?

- Investment Banking
- Commercial Banking
- Retail Banking
- Insurance
- Legal Services
- Accounting Services
- Trade Association
- Regulatory Body/Central Bank
- Government
- Other – Please Specify

5 In which centre are the headquarters of your organisation?

6 Approximately how many employees are there at the headquarters of your organisation?

- Fewer than 100
- 100 to 500
- 500 to 1,000
- 1,000 to 2,000
- 2,000 to 5,000
- More than 5,000

7 Approximately how many employees does your organisation have worldwide?

- Fewer than 100
- 100 to 500
- 500 to 1,000
- 1,000 to 2,000
- 2,000 to 5,000
- More than 5,000

8 In which financial centre are you based?

9 If you are familiar with any of the following (randomly sorted[25]) European financial centres, please rate them as locations in which to conduct your business (1 being Very Poor and 10 being Excellent):

- Amsterdam
- Athens
- Brussels
- Budapest
- Copenhagen
- Dublin
- Edinburgh
- Frankfurt
- Geneva
- Helsinki
- Isle of Man
- Lisbon
- London
- Luxembourg
- Madrid
- Milan
- Moscow
- Munich
- Oslo
- Paris
- Prague
- Rome
- Stockholm
- Vienna
- Warsaw
- Zurich

10 If you are familiar with any of the following (randomly sorted) financial centres, please rate them as locations in which to conduct your business (1 being Very Poor and 10 being Excellent):

- Bahrain
- Beijing
- Boston
- Cayman Islands
- Channel Islands
- Chicago
- Dubai
- Hamilton, Bermuda
- Hong Kong
- Johannesburg
- Melbourne
- Montreal
- Mumbai

25 These cities are listed here in alphabetical order, for clarity. On the online questionnaire they are randomly sorted each time the questionnaire is completed, to reduce any bias.

New York
Osaka
Qatar
San Francisco
Sao Paulo
Seoul
Shanghai
Singapore
Sydney
Tokyo
Toronto
Vancouver
Washington D.C.
Wellington

11 Do you have any comments regarding the competitiveness of the financial centres mentioned?

12 Are there any important financial centres we have missed?

13 Are there any financial centres that might become significantly more important over the next 2 to 3 years?

14 In which financial centre (or centres) is your organisation most likely to open up a new operation within the next 2 to 3 years?

15 Do you have any comments on the factors that affect the competitiveness of financial centres?

16 We are keen to track changes in people's perceptions about city competitiveness over time. Would you be prepared to participate in this survey on a regular (approximately every six months) basis? In return you would receive a regular update on the Global Financial Centres Index.

17 Do you have any business contacts or associates who may be interested in helping us with this survey? If so, please forward them a link to this survey or enter their email address here (it will be used for no other purpose).

18 Address & Telephone Number:

19 Email address:

Appendix C – The Instrumental Factors

Instrumental factors are independent indices provided by a number of reputable organisations. The majority of these indices are publicly available and updated regularly.

° – these indices have been updated since GFCI 1

✱ – these indices have been added since GFCI 1

Instrumental Factors for People

Executive MBA Global Rankings, Financial Times (January 2006) – 149 business schools and their alumni were contacted, of which 112 were ranked and 37 excluded due to too few alumni responses (a minimum alumni response rate of 20% was needed for valid data analysis). There are 20 different criteria used to determine the rankings, with weighted salary and salary percentage increase accounting for 40% of the weighting.
Source: www.ft.com

European Human Capital Index, Lisbon Council (October 2006) – The index is used as a measure of human capital stock, deployment, utilisation and evolution in 13 EU countries, which are ranked on ability to develop human capital to meet the challenge of globalisation. The rankings are based on how each country scores in each of four individual human capital categories (Endowment, Utilisation, Productivity and Demography), with the best possible ranking being four and the worst 52.
Source: www.lisboncouncil.net

Human Development Index, UNDP (October 2006) – A measure of the average achievements in a country in three basic dimensions of human development: a long and healthy life, knowledge and a decent standard of living. It is calculated for 177 countries and areas for which data is available. In addition, human development indicators are presented for another 17 UN member countries for which complete data was not available.
Source: http://hdr.undp.org

Labour Productivity, OECD (October 2006) – The OECD provides several estimators of labour productivity, based on GDP and employment from their Annual National Accounts and hours worked from their employment outlook, Annual National Accounts and national sources. The indicator used is GDP per hour worked, an Index using the USA as the base, with an index of 100.
Source: www.oecd.org

Education Expenditure, OECD (October 2006) – The OECD statistics database provides figures for expenditure on educational institutions. The GFCI uses the sum of private and public expenditure, expressed as a percentage of GDP.
Source: www.oecd.org

Quality of Living Survey, Mercer HR (April 2007)° – A survey basing its ranks on 39 key quality of living criteria which is regularly updated to take account of changing circumstances. A total of 215 cities have been considered in the latest rankings, with New York given an index of 100 and used as the base score.
Source: www.mercerhr.com

Happiness Scores, NationMaster (January 2006) – The Happiness scores are compiled from responses to the question: "Taking all things together, would you say you are: very happy, quite happy, not very happy, or not at all happy?" The statistic was then obtained by adding the percentage of people rating themselves quite happy or very happy and taking off the percentage rating themselves not very happy or not at all happy.
Source: www.nationmaster.com

World's Top Tourism Destination, World Tourism Organisation (August 2006)° – The 25 most popular tourist destinations in the world are ranked, based on the number of international tourist arrivals over the last year.
Source: www.unwto.org

Average Days with Precipitation per Year, Sperling (June 2007)✱ – An indication of typical weather experienced in cities around the world. Precipitation is defined here as any

product of the condensation of atmospheric water vapour that is deposited on the earth's surface i.e. rain, snow, hail, sleet and virga (precipitation that begins falling to the earth but evaporates before reaching the ground).
Source: www. bestplaces.net

Instrumental Factors for Business Environment

Administrative and Economic Regulation, OECD (April 2005) – The OECD conducted a study on product market regulation, calculating indicators for both administrative and economic regulation. The average of these indicators is used as a combined measure of both forms of regulation.
Source: www.oecd.org

Business Environment, Economist Intelligence Unit (March 2006) – A ranking model applied to the world's 82 largest economies (accounting for more that 98% of global output, trade and Foreign Direct Investment). It measures the quality of their business environment (adjusted for size) and its components. The model is also used to generate scores and rankings for the last five years and a forecast for the next five years.
Source: http://store.eiu.com

Total Tax Rates, World Bank/PwC (November 2006) – The Total Tax Rate measures the amount of tax payable by the business in the second year of operation, expressed as a share of commercial profits. It is the sum of all the different taxes payable after accounting for deductions and exemptions. The taxes withheld (such as sales tax or value added tax) but not paid by the company are excluded. The GFCI uses figures provided by PwC for a fictional financial services company, rather than for a manufacturing company as used for the World Bank.
Source: www.doingbusiness.org

Corporate Tax Rates, OECD (September 2006) – The OECD provides annual figures of Central Government Corporate Income Tax Rates. The basic rate (inclusive of surtax) is used and adjusted to show the net rate where the Central Government provides a deduction in respect of sub-central income tax.
Source: www.oecd.org

Employee Effective Tax Rates, PwC (July 2007)° -– The tax rates were calculated by dividing the net compensation for each city by its gross compensation. PwC provided specific figures for the GFCI based on a more typical financial service employee.

Wage Comparison Index, UBS (September 2006) – A study comparing gross and net wages of workers across 71 cities, using New York as the base city (with an index of 100). The indices were created using effective hourly wages for 14 professions, weighted according to distribution, net after deductions of taxes and social security. The GFCI uses the gross wage index.
Source: www.ubs.com

Personal Tax Rates, OECD (September 2006) – The OECD provides annual figures of average personal income tax rates at average wages, by family type. For the purposes of this study, the all-in rate (a combination of central and sub-central government income tax, plus employee social security contribution, as a percentage of gross wage earnings) for a single person with no children was used.
Source: www.oecd.org

Total Tax Receipts (As a Percentage of GDP), OECD (November 2005)° – The statistics are taken from the taxation table in the OECD Figures report.
Source: www.oecd.org

Ease of Doing Business Index, World Bank (October 2006)° – A ranking was given to 175 economies based on their ease of doing business, with a high ranking indicating that the regulatory environment is conducive to the operation of business. The index averages the country's percentile rankings on ten topics, made up of a variety of indicators, giving equal weight to each topic.
Source: www.doingbusiness.org

Opacity Index, Kurtzman Group (October 2004) – 65 objective variables from 41 sources are used to obtain the index, which is a score

between zero and 100, calculated by averaging the scores given to each of five sub indices (corruption, efficacy of legal system, deleterious economic policy, inadequate accounting/governance practices and detrimental regulatory structures).
Source: www.opacityindex.com

Corruption Perceptions Index, Transparency International (June 2007)° – Expert assessments and opinion surveys are used to rank more than 150 countries by their perceived levels of corruption. Data is gathered from sources spanning the last three years.
Source: www.transparency.org

Index of Economic Freedom, Heritage Foundation (June 2007)° – A study of 161 countries against a list of 50 independent variables divided into ten broad factors of economic freedom. The higher the score on a factor, the greater the level of government interference in the economy and the less economic freedom a country enjoys.
Source: www.heritage.org

Economic Freedom of the World Index, Fraser Institute (September 2004) – This is a joint venture involving 71 research institutes in 71 countries around the world. The index is divided into five components – size of government, legal structure/security of property rights, access to sound money, freedom to trade internationally and regulation of credit, labour and business.
Source: www.freetheworld.com

Financial Markets Index, Maplecroft (September 2006) – Scores were given to countries based on their specific risks to financial system stability over a short-term financial investment time horizon. The index focuses on five different types of risk – economic, sovereign, banking system, stock market and corporate sector – with each containing several different components.
Source: http://maps.maplecroft.com

Political Risk Score, Exclusive Analysis (November 2006)° – Scores were given to specific countries based on expert forecasts of violent and political risk worldwide. Forecasts draw on the expertise of a team of over 200 internationally located political risk experts.
Source: www.exclusive-analysis.com

Instrumental Factors for Market Access

Capital Access Index, Milken Institute (June 2007)° – A study looking at 121 countries representing 92% of global GDP, and ranking them on more than 50 measurements, including the strength of their banking systems and the diversity and efficiency of financial markets.
Source: www.milkeninstitute.org

Securitisation, IFSL (June 2007)° – A list of countries, ordered by their annual value of securitisation issuance. Securitisation offers a way for an organisation to convert a future stable cash flow into a lump sum cash advance. This conversion is achieved by converting the future cash flows into tradeable securities which are sold as a means of raising capital.
Source: www.ifsl.org.uk

Five measures from the World Federation of Exchanges (June 2007)°: Value of Share Trading, Volume of Share Trading, Volume of Trading Investment Funds, Value of Bond Trading, Volume of Bond Trading – The World Federation of Exchanges provides a monthly newsletter called Focus, which contains monthly statistics. For all of the indicators used in the GFCI, the latest available year-to-date figures were utilised.
Source: www.world-exchanges.org

Global Banking Service Centres, GaWC Research (July 1999) – Data for ten of the top 25 banks in the world were used to define significant presences. For each significant presence a city had, it was awarded one point.
Source: www.lboro.ac.uk

Global Accountancy Service Centres, GaWC Research (July 1999) – Data from five of the six largest accountancy firms in the world were used to define significant presences, with each

city scoring one point for each significant presence.
Source: www.lboro.ac.uk

Global Legal Service Centres, GaWC Research (July 1999) – Centres are scored based on the number of particular law branches they contain. For the UK and the USA, centres score points according to the number of law firms with foreign branches and for the rest of the world, centres are scored based on the number of UK/USA law branches in the city.
Source: www.lboro.ac.uk

The International Finance Index, Dariusz Wojcik (June 2007)* – Represents the average of a country's share in international financial services activities. It consists of four major groups of services that are characteristic for international finance: external bank loans and deposits, trading of cross-listed stocks, international debt securities and over-the-counter trading of foreign exchange plus interest rate-based derivatives. The last two components are combined as they are very closely related to each other. The index is derived from a sample of 41 countries that account for 91% of world's GDP, including all significant international financial centres.
Source: Dariusz Wojcik – Oxford University Centre for the Environment and St. Peter's College

The International Finance Location Quotient, Dariusz Wojcik (June 2007)* – Illustrates the relationship of a country's share in international financial services to its share of GDP in a sample of 41 countries that account for 91% of world's GDP (i.e. all major world economies). Countries with high IFLQ have a developed international financial services sector but the higher the score, the more dependent their economy is on international financial services.
Source: Dariusz Wojcik – Oxford University Centre for the Environment and St. Peter's College

The International Finance Diversity Index, Dariusz Wojcik (June 2007)* – A measure of how well diversified a country's international financial services sector is. Financial services are divided into four major groups: external bank loans and deposits, international debt securities, trading of cross listed stocks and over-the-counter foreign exchange plus interest rate-based derivatives. The more these services are diversified, the higher the value of the index. A value of one means that the four major groups are equally diversified and a value of zero means that the relevant country's whole international financial sector is based on only one of these groups.
Source: Dariusz Wojcik – Oxford University Centre for the Environment and St. Peter's College

Relative Global Network Connectivity, Mastercard (March 2007)* – a study examining the pattern of how centres are connected through the office networks of 100 leading firms offering specialised corporate services (including law, advertising, consulting, accounting and insurance) to the financial sector.
Source: www.mastercard.com

Instrumental Factors for Infrastructure

Global Office Occupancy Costs, DTZ (June 2007)° – A guide on accommodation costs in prime office locations, covering 111 business districts in 43 countries worldwide, comparing the occupancy costs per workstation as opposed to unit area, in order to better reflect the true costs of accommodation. To facilitate ranking on a global scale, total occupancy costs per workstation is expressed in USD.
Source: www.dtz.com

Office Space Across The World, Cushman & Wakefield, Healey & Baker (February 2006) – A report focusing on occupancy costs across the globe over the prior 12 months, ranking the most expensive locations in which to occupy office space.
Source: www.cushmanwakefield.com

Competitive Alternatives Survey, KPMG (January 2006) – A measure of the combined impact of 27 cost components that are most likely to vary by location, as applied to specific industries and business operations. The eight-

month research program covered 128 centres in nine industrialised countries, examining more than 2,000 individual business scenarios, analysing more than 30,000 items of data. The basis for comparison is the after-tax cost of start-up and operations, over ten years.
Source: www.competitivealternatives.com

Offices With Air Conditioning, Gardiner & Theobald (June 2007)° – Using data from the International Construction Cost Survey. The GFCI uses the mid point of the lowest and highest cost of an office with air conditioning (given in US$ per square foot).
Source: www.gardiner.com

European Cities Monitor, Cushman & Wakefield, Healey & Baker (September 2006) – An annual study examining the issues companies regard as important in deciding where to locate their business. There are a total of 12 issues and the overall scores are based on survey responses from 507 companies in nine European countries, with each respondent ordering the 12 issues in terms of importance. A weighting system is then used to determine the overall city scores.
Source: www.cushmanwakefield.com

Global Property Index, IPD (June 2007)° – The IPD Global Property Index is intended to measure the combined performance of real estate investments held in mature investment markets worldwide. This index represents IPD's first attempt to create a composite global index which is properly rebalanced to accurately reflect national market sizes and reports global real estate investment performance in all major investor currencies back to the start of this decade. The index is based on the IPD indices for Austria, Canada, Denmark, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, South Africa, Spain, Sweden, Switzerland and the UK.
Source: www.ipdglobal.com

Direct Real Estate Transaction Volumes, Jones Lang LaSalle (July 2007)* – This measures the total value of commercial real estate traded in a market during a 12 month period (including Office, Retail, Industrial and Hotel investments). Residential, Development and Entity-level deals are excluded. Data is from over 150 offices worldwide as well as third-party data providers.
Source: www.joneslanglasalle.co.uk

Real Estate Transparency Index, Jones Lang LaSalle (July 2007)* – The transparency of global real estate markets is ranked according to responses to 27 questions on a questionnaire – with a score of one being 'transparent' and a score of five being 'opaque'. Ranking is qualitative following global categorisation standards and is conducted by Jones Lang LaSalle research and capital markets professionals and partners.
Source: www.joneslanglasalle.co.uk

Instrumental Factors for General Competitiveness

Economic Sentiment Indicator, European Commission (June 2007)° – An indicator of overall economic activity, based on 15 individual components, split between five confidence indicators, which are weighted in order to calculate the final score. The confidence indicators (and their weightings) are: industry (40%), services (30%), consumer (20%), retail trade (5%) and construction (5%).
Source: http://ec.europa.eu

Super Growth Companies, Grant Thornton (March 2006) – A ranking of countries based on the proportion of Super Growth Companies (companies which have grown considerably more than the average measured against key indicators including turnover and employment) within the country. The index is a unique research project, forming part of the Grant Thornton International Business Owners Survey (IBOS), which surveys more than 7,000 business owners in 30 different countries.
Source: www.grantthorntonibos.com

World Competitiveness Scoreboard, IMD (June 2007)°– An overall competitiveness ranking for the 61 countries and regional economies covered by the World Competitiveness Yearbook. The economies are ranked from the most to the least competitive and

performance can be analysed on a time-series basis.
Source: www.imd.ch

Retail Price Index, The Economist (June 2007)°– The Economist provides weekly economic and financial indicators, including a chart on prices and wages. The GFCI uses the percentage change in consumer prices over the last year as a measure of Retail Price Index.
Source: www.economist.com

Price Comparison Index, UBS (September 2006) – Living costs across 71 metropolises are compared using a basket of 95 goods and 27 services. The results are used to compile two indices, one including the costs of housing and energy (which is the version used for the GFCI) and the other excluding such costs. New York was used as the base city, with an index of 100.
Source: www.ubs.com

Nation Brands Index, Anholt (June 2007)°- An analytical ranking of the world's nation brands, updated each quarter using survey responses from 25,900 consumers in 35 nations. The survey measures the power and appeal of a nation’s brand image, showing how consumers around the world see the character and personality of the brand.
Source: www.nationbrandindex.com

City Brands Index, Anholt (June 2007)°- An analytical ranking of the world’s city brands, updated quarterly using survey responses from nearly 20,000 consumers in 18 countries. The results determine how centres are perceived by others in terms of six components – international status/standing, physical attributes, potential, pulse and basic qualities (which include hotels, schools, public transport and sports).
Source: www.citybrandsindex.com

Global Competitiveness Index, World Economic Forum (September 2006) – A combination of publicly available hard data and the results of the Executive Opinion Survey (a comprehensive annual survey conducted by the World Economic Forum, together with its network of partner institutes in the countries covered by the report) were used to create rankings of global competitiveness. The latest survey polled over 11,000 business leaders in 125 economies worldwide.
Source: www.weforum.org

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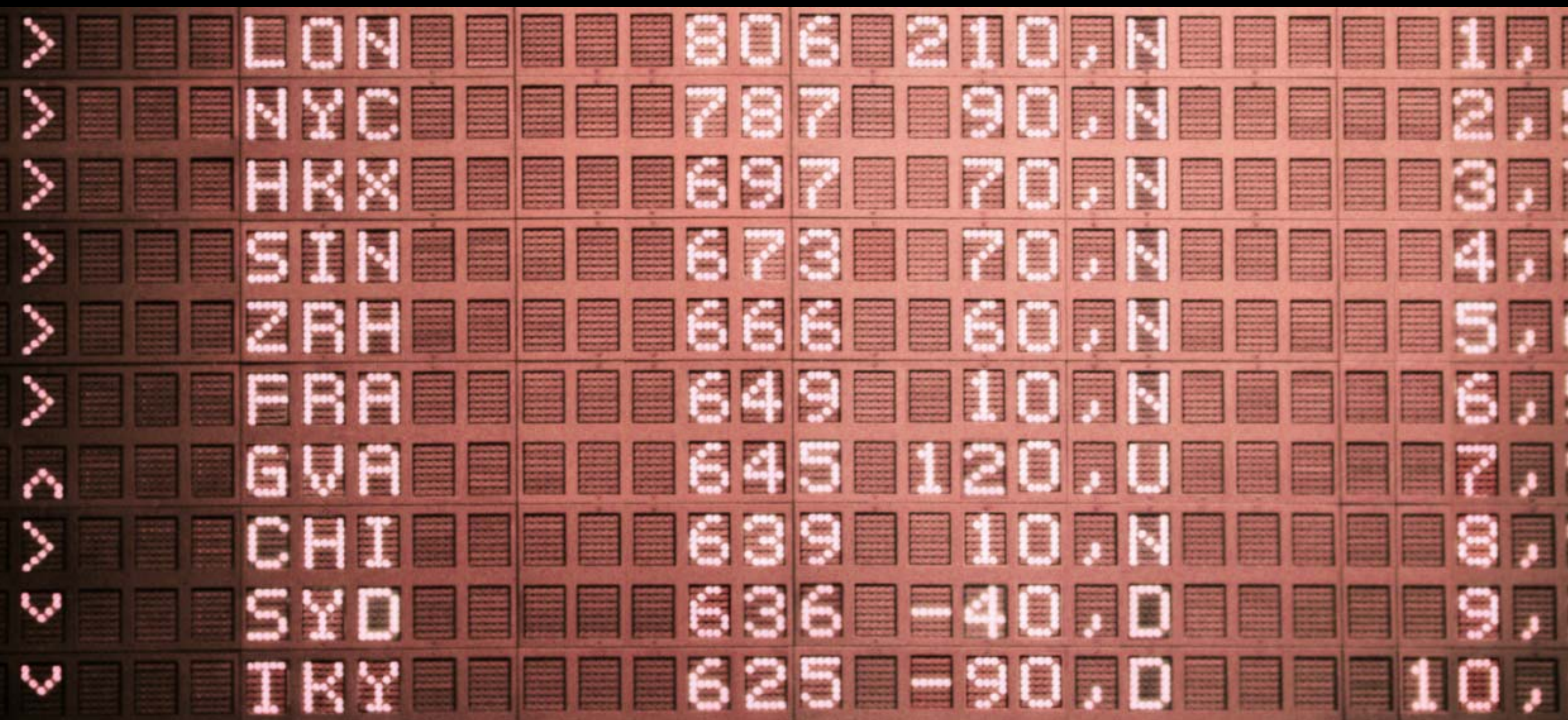
The City of London Corporation

The City of London is exceptional in many ways, not least in that it has a dedicated local authority committed to enhancing its status on the world stage. The smooth running of the City's business relies on the web of high quality services that the City of London Corporation provides.

Older than Parliament itself, the City of London Corporation has centuries of proven success in protecting the City's interests, whether it be policing and cleaning its streets or in identifying international opportunities for economic growth. It is also able to promote the City in a unique and powerful way through the Lord Mayor of London, a respected ambassador for financial services who takes the City's credentials to a remarkably wide and influential audience.

Alongside its promotion of the business community, the City of London Corporation has a host of responsibilities which extend far beyond the City boundaries. It runs the internationally renowned Barbican Arts Centre; it is the port health authority for the whole of the Thames estuary; it manages a portfolio of property throughout the capital, and it owns and protects 10,000 acres of open space in and around it.

The City of London Corporation, however, never loses sight of its primary role – the sustained and expert promotion of the 'City', a byword for strength and stability, innovation and flexibility – and it seeks to perpetuate the City's position as a global business leader into the new century.



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CITY OF LONDON