March 2007

THE GLOBAL FINANCIAL CENTRES INDEX 1

CITY OF LONDON

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

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Foreword

Michael Snyder

Chairman, Policy and Resources Committee, City of London

In a globalised and interdependent world economy the dynamics of international competitiveness have become increasingly important for domestic policy makers. Cities that are financial centres face greater competitive forces than most, for the financial services industry is at the heart of the global economy, acting as the facilitator of world trade and investment. Those of us charged with the delivery of effective public policy need to understand the complex ingredients of success to ensure that our financial centres remain globally competitive. Moreover, we need to know how the world's financial centres rank relative to each other on an ongoing basis.

This research, by Z/Yen Ltd, is the first to report on a new biannual index of competitiveness for 46 world financial centres. The first Global Financial Centres Index (GFCI) presented here ranks London and New York as the leading centres, followed by Hong Kong, Singapore and Zurich. London has a narrow lead over New York, but the two together are significantly ahead of the rest of the field to be the only true global financial centres. Overtime the GFCI will become a more powerful tool as we expand the number of centres and we further develop the Index to allow increasing sophistication in analysing changes in the relative strengths of financial centres.

I welcome the GFCI findings, which clearly identify London's global strengths relative to its major competitors. London's prime position is a reflection of the unrivalled talent pool clustered here; our firm but fair principles-based regulation supported by good market access; and an excellent business environment.

There is no doubt, however, that the real merit of the GFCI is the identification of changing priorities and concerns. When we published our report *The Competitive Position of London as a Global Financial Centre* back in November 2005, the availability of skilled personnel was regarded as the most important factor of competitiveness. Almost 18 months on, it is regulatory and tax issues that have come to be seen as the biggest contributors to overall competitiveness. The latter is a particular concern for London, as anxieties about the corporate tax regime relative to our major competitors are widespread among respondents.

The GFCI will prove to be an invaluable tool for tracking changing fortunes and perceptions of financial centres, and I encourage industry professionals to participate in our ongoing survey.

Michael Snyder
London
March 2007

Chart 1
The GFCI World


Helsinki
Stockholm
Oslo
Edinburgh
Copenhagen
Moscow
Dublin
Amsterdam
Warsaw
London
Brussels
Frankfurt
Channel Islands
Paris
Prague
Luxembourg
Zurich
Budapest
Geneva
Vienna
Milan
Rome
Lisbon
Madrid
Athens
Beijing
Seoul
Tokyo
Shanghai
Dubai
Hong Kong
Mumbai
Singapore
Sydney
Melbourne
Wellington

1. Executive Summary

The City of London Corporation's Global Financial Centres Index (GFCI) evaluates the competitiveness of 46 financial centres worldwide. It is updated regularly to identify changes in financial centre competitiveness.

The GFCI currently shows that London and New York are the two leading financial centres globally, with London ahead of New York by 5 rating points. London and New York are well ahead of the two strongest Asian centres of Hong Kong and Singapore which occupy 3rd and 4th places respectively. It is interesting to observe that Zurich, a financial centre strongly focused on the two niche sectors of private banking and asset management, is in 5th place just ahead of Frankfurt in 6th place.

It is worthwhile noting that London leads New York in all five areas of competitiveness, i.e. people, business environment, market access, infrastructure and general competitiveness. It is also notable that in the most recent of the two online surveys, London is further ahead of New York than it was in the previous study. In November 2005 the gap between the two cities was very small. Taking the city assessments from the most recent study in isolation, London is ahead of New York by 37 points.

In the 2005 study, there was no clear leader amongst the Asian centres. It is now clear that Hong Kong (3rd in the GFCI) leads the way from Singapore (4th). These two financial centres are well ahead of Tokyo (9th), and the two Chinese centres of Shanghai (24th) and Beijing (36th).

Paris is now just outside the top ten in 11th place, only three points behind Geneva. Toronto is in 12th position, perhaps higher than one might expect. Toronto, however, is the national financial centre of Canada and acts as a major international centre. Toronto is rated within the top ten on people and business environment factors and Canada is very highly placed on the general competitiveness instrumental factors used in the GFCI model. Two US cities follow Toronto: San Francisco and Boston are in 13th and 14th place respectively and are strong regional centres which benefit from the sheer size of the US economy.

The research involved in producing the GFCI has revealed a change in emphasis of the areas of competitiveness. In 2005, people and skills issues were rated as the most important factors of competitiveness followed by regulatory issues. In this research, people factors have been replaced as the most important factor by the regulatory and tax environments. Concerns about the level and quality of regulation in the USA and about the increasing levels of corporate taxation in the UK are widespread amongst our respondents. GFCI ratings will change as instrumental factors and financial centre assessments change. We intend to publish results twice a year.

Table 1
The Top 10 Financial Centres Compared

London	1	765	Most key success areas are excellent – London is in the top quartile in over 80% of its instrumental factors. Especially strong on people, market access and regulation. The main negative comments concern corporate tax rates, transport infrastructure and operational costs.
New York	2	760	Most areas are very strong – New York is also in the top quartile in over 80% of its instrumental factors. People and market access are particular strengths. Our respondents cited regulation (particularly Sarbanes-Oxley) as the main negative factor.
Hong Kong	3	684	Hong Kong is a thriving regional centre. It performs well in all of the key competitiveness areas, especially in regulation. Headline costs are high but this does not detract from overall competitiveness. Hong Kong is a real contender to become a genuinely global financial centre.
Singapore	4	660	Most areas are very good and banking regulation is often cited as being excellent. It performs well in four of the key competitiveness areas but falls to 9th place on general competitiveness factors alone. Definitely the second Asian centre just behind Hong Kong.
Zurich	5	656	A very strong niche centre. Private banking and asset management provide a focus. Zurich performs well in three of the key competitiveness areas but loses out slightly in people factors and in general competitiveness.
Frankfurt	6	647	Despite a strong banking focus, suffers from inflexible labour laws and skilled staff shortages. Market access, infrastructure and business environment are strong but Frankfurt falls outside the top ten GFCI rankings for people and general competitiveness.
Sydney	7	639	A strong national centre with good regulation, offering a particularly good quality of life. Sydney is strong in four of the key competitiveness areas but falls outside the top ten for people – many financial professionals leave for larger English-speaking centres.
Chicago	8	636	Number two centre in the US. Hampered by the same regulatory regime as New York. It scores highly for people but is let down by its infrastructure and market access rankings. Unlikely to overtake New York, it remains a powerful regional and specialist centre.
Tokyo	9	632	Does not fare well in terms of regulation and business environment, but the size of the Japanese economy means Tokyo has good liquidity. It fares poorly on people but has good infrastructure and market access.
Geneva	10	628	A strong niche centre similar to Zurich. Private banking and asset management continue to thrive. Geneva is strong in business environment and general competitiveness but let down by infrastructure.

The theoretical maximum GFCI rating is 1,000

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

2. Background

The City of London Corporation regularly commissions research on competitiveness. Two pieces of research in 2003[1] and 2005[2] evaluated London's competitiveness as a financial centre compared to New York, Paris and Frankfurt. Both reports showed that London and New York are the two key global financial centres while there are many other international, specialist (niche), national and regional financial centres.

The GFCI is designed to extend the City of London Corporation's research by providing an ongoing ranking system for a much wider range of financial centres, starting with 46 instead of the previous four. The advantages of an index over the previous studies are:

- the wider range of cities permits analysis of financial sub-sectors, e.g. insurance or banking, and not just "finance" because a greater number of assessments allow for statistically valid comparisons;
- shorter, and more direct, questionnaires leads to more authoritative comparisons by asking senior figures to rate just the cities with which they are familiar;
- use of a wide range of instrumental factors (initially 47) enables better analysis of the factors of competitiveness;
- the continuous nature of an index provides more frequent and more timely information than a snapshot survey, as well as easy comparisons over time.

Financial services is an attractive business sector for cities seeking to develop because it has been a successful, high growth, sector for the past quarter of a century, and because it is a highly mobile sector, which can be directly influenced by policy and planning. For this reason, the competitiveness of financial centres is of great relevance to government officials and regulators as can be seen in this excerpt from a HM Treasury Report:

> *Globalisation creates new competitive pressures for London's financial sector. The integration of the global economy means that easily replicable 'commoditised' jobs will tend to shift to the lowest cost locations in emerging markets. In this environment, the challenge for London is to ensure that it remains the world's most attractive and competitive environment from which to provide sophisticated and high value-added financial services to the rest of the world.*[3]

Previous research has indicated that there are many factors of competitiveness. We group these into five key areas. The first four

1 Centre for the Study of Financial Innovation, *Sizing up the City – London's Ranking as a Financial Centre*, Corporation of London (June 2003).
2 Z/Yen Limited, *The Competitive Position of London as a Global Financial Centre*, Corporation of London (November 2005).
3 HM Treasury, *Financial Services in London: Global Opportunities and Challenges*, (March 2006).

of these are: People; the Business Environment; Market Access and Infrastructure. When a financial centre is strong in these four areas this creates a critical mass which we term 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'. Previous research highlighted this factor as the single most important factor in financial centre competitiveness;

- **Business Environment** looks at regulation and also tax rates, levels of corruption, economic freedom and the ease of doing business. Regulation, a major component of the business environment, is currently cited as a decisive factor in the competitiveness of London and New York. Our online survey poses a question about the most important competitive factors for financial centres and regulation was mentioned by more of our survey respondents than any other factor. Too onerous a regulatory environment can directly affect the competitiveness of a financial centre. A recent report by McKinsey & Company argues that Sarbanes-Oxley has had a detrimental effect on New York's competitiveness.[4] London is considered heavily regulated but overall the regulatory environment is more competitive than in New York, although there is increasing concern on the tax front;

- **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 we are seeking reliable indicators to broaden its scope;

- **General Competitiveness**, the concept that the whole is 'greater than the sum of the parts' considers overall competitiveness levels of cities and how cities are perceived as places to live.

4 McKinsey & Co., *Sustaining New York's and the US' Global Financial Services Leadership*, (January 2007).

3. The GFCI

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. 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 – 47 instrumental factors were used to construct this first set of GFCI ratings. 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 centres have data for all instrumental factors and the statistical model takes account of these gaps;

- **financial centre assessments** – to construct the first set of GFCI ratings we used 491 responses to two online surveys (detailed in Section 6 of this report). Each respondent assessed the financial centres they knew. We received 3,992 individual financial centre assessments. The second online survey is running continuously to keep the GFCI up-to-date with people's changing assessments.

Financial centres are assessed in terms of five key competitiveness areas: people, business environment, market access, infrastructure and general competitiveness.

At the outset of this project, a number of guidelines were set out to ensure that financial centre assessments and instrumental factors were selected and used in a reliable and consistent manner. For example, indices used as instrumental factors should, wherever possible, be readily available, regularly updated, provided by a reputable body and derived using a sound methodology.

The financial centre assessments and instrumental factors were 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 a certain assessment, then, based on the instrumental factors for Singapore and Paris, how would that person assess Paris?" This predictive model produced competitiveness ratings for 46 financial centres. Full details of the methodology behind the GFCI can be found in Appendix A. The results are shown in Table 2:

Table 2
The GFCI Financial Centre Ratings

Financial Centre	**Rank**	**Rating**
London	1	765
New York	2	760
Hong Kong	3	684
Singapore	4	660
Zurich	5	656
Frankfurt	6	647
Sydney	7	639
Chicago	8	636
Tokyo	9	632
Geneva	10	628
Paris	11	625
Toronto	12	611
San Francisco	13	611
Boston	14	609
Edinburgh	15	605
Cayman Islands	16	604
Hamilton (Bermuda)	17	603
Melbourne	18	603
Channel Islands	19	600
Washington D.C.	20	594
Montreal	21	580
Dublin	22	579
Amsterdam	23	577
Shanghai	24	576
Dubai	25	570
Luxembourg	26	570
Vancouver	27	558
Madrid	28	558
Stockholm	29	558
Milan	30	546
Brussels	31	540
Helsinki	32	537
Oslo	33	529
Copenhagen	34	525
Vienna	35	518
Beijing	36	513
Wellington	37	508
Rome	38	474
Mumbai	39	460
Warsaw	40	460
Prague	41	453
Lisbon	42	453
Seoul	43	434
Budapest	44	425
Moscow	45	421
Athens	46	395

Successful financial centres fulfil one or more of five different roles:

- **Global financial centres** – there are two cities that can claim to fulfil this role, London and New York;
- **International financial centres** such as Hong Kong that conduct a significant volume of cross-border transactions;
- **Niche financial centres** that are worldwide leaders in one sector, for example Zurich in private banking;
- **National financial centres** that act as the main centre for financial services within one country. Toronto, for example, is the national financial centre of Canada;
- **Regional financial centres** that conduct a large proportion of regional business within one country. Chicago, as well as being an international centre is also a regional one.

The GFCI emphasises a point made in other studies, London and New York are the two leading financial centres. In the GFCI, the two top-rated cities, London (765) and New York (760), are five points apart on a scale of 1,000. The third highest-rated city is Hong Kong (684), 76 points lower. The next largest gap is between Wellington (508) at 37th place and Rome (474) at 38th place, a 34 point difference. London and New York are distinct – these are **global** financial centres.

International activity involves, at its simplest, at least two locations in different jurisdictions. Global deals increase the number of involved parties markedly, e.g. lawyers, accountants, exchanges and analysts. While a direct foreign exchange deal between a retail bank in Korea and a Tokyo investment bank is international, the addition of a third party, e.g. backing with a credit derivative, is likely to make the deal global. Global financial centres come into their own when there are two or more parties or a need for deep liquidity.

Several centres score highly on the basis of being strong in one particular niche of financial services, e.g. Zurich for private banking or Hamilton for reinsurance. While these **niche** financial centres will almost certainly never rival London or New York as global financial centres, they are as strong as London or New York within their own sector.

A **national** financial centre conducts a significant proportion of a particular country's financial business. Where there are multiple financial centres in a country, e.g. Canada, Australia and the USA, the situation is complicated. In Canada, for instance, the GFCI covers Toronto (ranked 12th), Montreal (ranked 21st) and Vancouver (ranked 27th). 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.

A **regional** financial centre is one that conducts most of its business within one region of one country. In addition to its role as an international financial centre, Chicago is a regional financial centre for the American Midwest.

A few examples of the roles that financial centres can play are shown in Table 3.

Table 3
The Different Roles of Financial Centres

Centre	Global	International	Niche	National	Regional
London	■	■	■	■	■
Hong Kong		■		■	
Chicago		■		■	■
Hamilton			■	■	
Sydney		■		■	■

The GFCI helps our understanding of the complexity of international financial arrangements. In the 1970's and 1980's, studies assumed that financial centres developed following a "hub-and-spoke" or "central-regional-store-distribution" retail model. Much of the literature of the 1980's assumed that Tokyo would become an international centre because of its large domestic economy. International finance was assumed to grow out of domestic finance. Nowadays, international finance has become so complex that this assumption may not be valid.

In contrast to earlier studies in the 1980's and 1990's, the domestic markets affiliated with London and New York did not come up as a dominant factor in the GFCI. The US economy is at least five times that of Britain's, yet London and New York are roughly level in international finance.

London or New York often connect regional participants directly, without using national or regional financial centres as hubs. A Korean mortgage bank may well be working on regional financial deals and be located in Seoul, but the bank's international dealings could be direct with counter-parties in London or New York, not via a sub-hub or international expert in Seoul.

There has been considerable speculation as to whether Shanghai, Hong Kong, Tokyo or Singapore will emerge as a global centre. It may be that no single Asian centre emerges as a third global centre and that the liquidity generated by the growth of the main Asian economies is split between two or more centres. Shanghai was the most commented-upon Asian city in the 2005 City of London study but, with the GFCI asking respondents to compare a number of Asian financial centres, now Hong Kong is clearly 3rd and Singapore 4th to London and New York. Current thinking seems to be that Shanghai and Tokyo are unlikely to become truly global centres. Hong Kong seems the most likely Asian city to emerge – it has a strong regulatory system and a well skilled financial services workforce. Singapore is a close second behind Hong Kong.

Recent research on complexity and networks at the Santa Fe Institute[5] and elsewhere has been contrasting the growth of cities with biological growth. While this research is at an early stage, there is clear evidence emerging of the importance of 'laws of scale':

- **decreasing returns to scale**, such as vulnerability to the spread of disease or over-density preventing distribution, do exist for cities. Decreasing returns to scale hold cities back from growing too large;
- **increasing, but diminishing, returns to scale**, such as mass transportation, permit cities to be more efficient but 'tail off' above a certain point.

There are, however, examples of **increasing, and accelerating, returns to scale**. Examples of increasing, and accelerating, returns to scale include a number of network effects such as telephone usage or internet connections. The Santa Fe Institute has found some early evidence of increasing returns to scale in city inventiveness and creativity.

Cities are networks, and financial centres are located in cities. Increasing returns to scale come from obvious sources among the GFCI's key success areas. **People** improve their skills and marketability by making connections, which is easier in cities. **The Business Environment** improves where trust is high and the costs of oversight are reduced. In cities, more firms can be seen, compared and evaluated in less time. **Market Access** benefits are clear. It is good to be where your customers are, and customers gain from being able to make purchase selections rapidly. **Infrastructure** in cities is more efficient. Telecommunications, education and health services are all more easily delivered where people are concentrated. **General Competitiveness** shows that a financial centre needs to be good at most things to be a leading centre – success breeds success and clustering is of vital importance. The five

5 Pumain, Denise, Scaling *Laws and Urban Systems*, Santa Fe Institute Working Paper – 04-02-002, (August 2003).

key success factors are discussed in more detail later in this report.

Each respondent to the online surveys only assessed the cities with which they were familiar. In order to build the GFCI, the factor assessment model made predictions of how each respondent would assess the cities they did not know, based on the assessments they gave to cities that they knew.

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 Wellington and Helsinki, though poorly ranked today, have great sensitivity to instrumental factors and a wide variance in assessments, thus they may change position significantly.

Whether it is pride of 'ownership' or 'regret avoidance', it is clear that residents give better city assessments for their home cities than non-residents do. If we exclude residents' assessments of their own cities, then on average the score for all cities is 3.4% lower. Some cities, such as Frankfurt and Hong Kong, are significantly boosted by 'home town' support while the more 'international' centres seem to have a more stable ranking. For example:

- Frankfurt – Non-resident predictions are 7.4% lower than assessments made by residents;
- Hong Kong – Non-resident predictions are 11.1% lower;
- London – Non-resident predictions are 2.8% lower;
- New York – Non-resident predictions are 2.2% lower;
- Paris – Non-resident predictions are 2.2% lower.

Some of the home bias might be explained by specialisation. Financial cities other than London or New York are either strong in a sector or have a strong domestic market that they represent. For example, Hamilton is strong in certain insurance sectors and Zurich is strong in asset management and private banking. Some of the home bias might be explained by nationalism or a local view of a strong economy meeting international finance. Frankfurt, Sydney and Paris all represent strong domestic markets on the international stage.

4. Analysis of Financial Centres

Participants seem to choose to place their transactions and their business based on multiple criteria, so any taxonomic approach has difficulties. It is a combination of factors that makes a financial centre successful, not just a single factor.

The GFCI shows that you need to be good at most things to be a leading centre. London and New York are in top quartile of over 80% of the instrumental factors in which they feature. Looking at London specifically, it is in the top quartile in 36 out of the 43 instrumental factors. So far, where London is weak, for example operating costs, these factors can be seen as problems of success. 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. It should be remembered that property costs are only one element of overall operational cost and the commercial property prices in London are not currently hindering competitiveness in financial services.

In order to explore the GFCI ratings, we examined the correlation of each instrumental factor with the GFCI rating. The R2 values (a widely used measure of correlation) were calculated and the ten most closely correlated instrumental factors are shown in Table 4:

Table 4 Instrumental Factor Correlation with GFCI

Instrumental Factor	R2 with GFCI
Financial Markets Index	0.583
European Cities Monitor	0.541
Capital Access Index	0.484
Global Competitiveness Index	0.469
World Competitiveness Scoreboard	0.427
Price Comparison Index	0.405
Ease of Doing Business Index	0.404
Happiness Scores	0.404
Opacity Index	0.400
Nation Brands Index	0.384

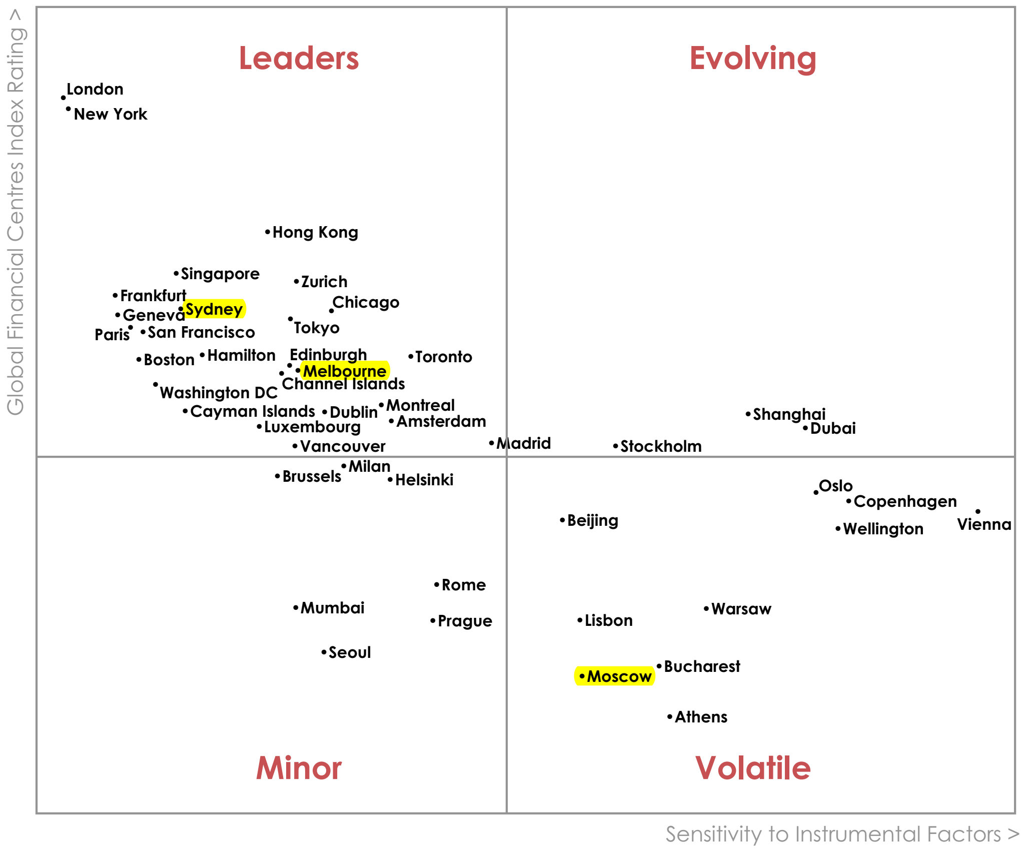
Further analysis of instrumental factor correlation with the GFCI shows that R2 in excess of 80% is achieved using two variables – for example, the Financial Markets Index and the Global Competitiveness Index, both fairly broad measures of competitiveness (for European cities, the European Cities Monitor also provides very strong correlation with GFCI when modelled with the Financial Markets Index). Similarly, R2 results of 90% are achieved using three variables – the Financial Markets Index, the Global Competitiveness Scoreboard and the Nation Brands Index.

We examined how stable the rankings might be in the future. In order to do this we needed to contrast the overall ranking with its sensitivity to changes in instrumental factors. Our approach was to remove one of the five groups of key success factors, and then re-rank the cities. We looked at how much removing a group of factors changed city rankings. We then looked at the variance among the five new scores, which we termed "sensitivity". If a city's ranking changed markedly by removing any of the five groups of factors, we anticipated that it had a lot of potential to improve, or decline. If a city's ranking remained stable despite removal of each of the groups of factors, we felt that the city was more likely to remain near its current position.

Chart 2 is an overall diagram that contrasts GFCI ratings with increasing sensitivity.

Chart 2

The 46 Centres – GFCI Rating versus Sensitivity to Instrumental Factors



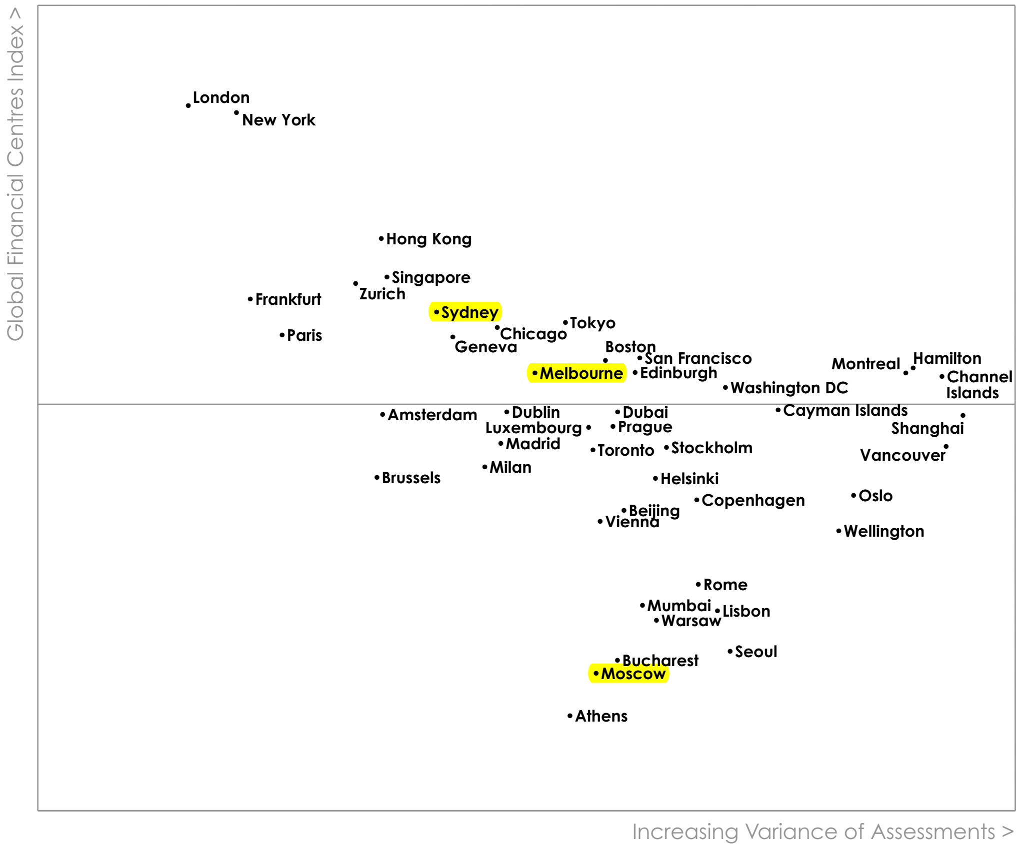
We believe that this categorisation identifies four types of financial centre:

- Leaders: obviously London and New York, but also centres with strong sub-sectors and strong domestic markets;
- Minor: cities that are not rated as highly, and are unlikely to improve in the near term. It is interesting to note that Rome, Moscow, Mumbai, Seoul and Warsaw fall into this category. Each of these centres have large domestic markets, but seem unlikely to change their poor ratings soon;
- Volatile: cities that are not rated as highly, but might be able to move upwards rapidly if they could fix some factors. Interestingly, Athens has gained from improvements in infrastructure due to the 2004 Olympic development, but needs similar improvements in the other four groups of factors to improve its competitive position;
- Evolving: cities with high ratings, but susceptible to change. It is interesting to see that Dubai and Shanghai are already matching established centres such as the Channel Islands and Hamilton. Dubai has clearly focused on attracting regional business, while Shanghai has been the focal point for its domestic business. As their financial services broaden and deepen, we expect these two centres to move towards the "leaders" box.

Perhaps the most interesting field is in the centre where cities such as Madrid, Dublin and Amsterdam compete to become more attractive to the financial services industry. Canada has three cities all vying here – Toronto, Vancouver and Montreal. Likewise, three Scandinavian cities rival each other – Stockholm, Copenhagen and Oslo. It is tempting to speculate that only a few of these can move forward. As regulatory conflicts and responses settle down, however, we expect to see an increasing amount of balancing between "quality and cost".

We also looked at the 'spread' or variance of the individual assessments given to each city. This variance is plotted against the GFCI rating in Chart 3.

Chart 3
The 46 Centres – GFCI Rating versus Variance of Assessments



This chart shows that certain centres tend to receive a far broader range of assessments than others. On the far right are centres such as Hamilton, Montreal, Shanghai, Vancouver and the Channel Islands. The assessments given to these centres had a significantly higher variance (i.e. some respondents assessed them highly and other respondents assessed them poorly). These centres have the most to gain or lose in future GFCI ratings. The centres on the far left of the chart received far more consistent assessments. In the case of London and New York, these assessments were consistently high. In the case of centres such as Frankfurt, Paris, Zurich, Hong Kong and Singapore, assessments were fairly consistent but lower than for London and New York.

In Chart 4 we have contrasted the sensitivity and variance of assessments:

Chart 4

The 46 Centres – Variance of Assessments versus Sensitivity to Instrumental Factors

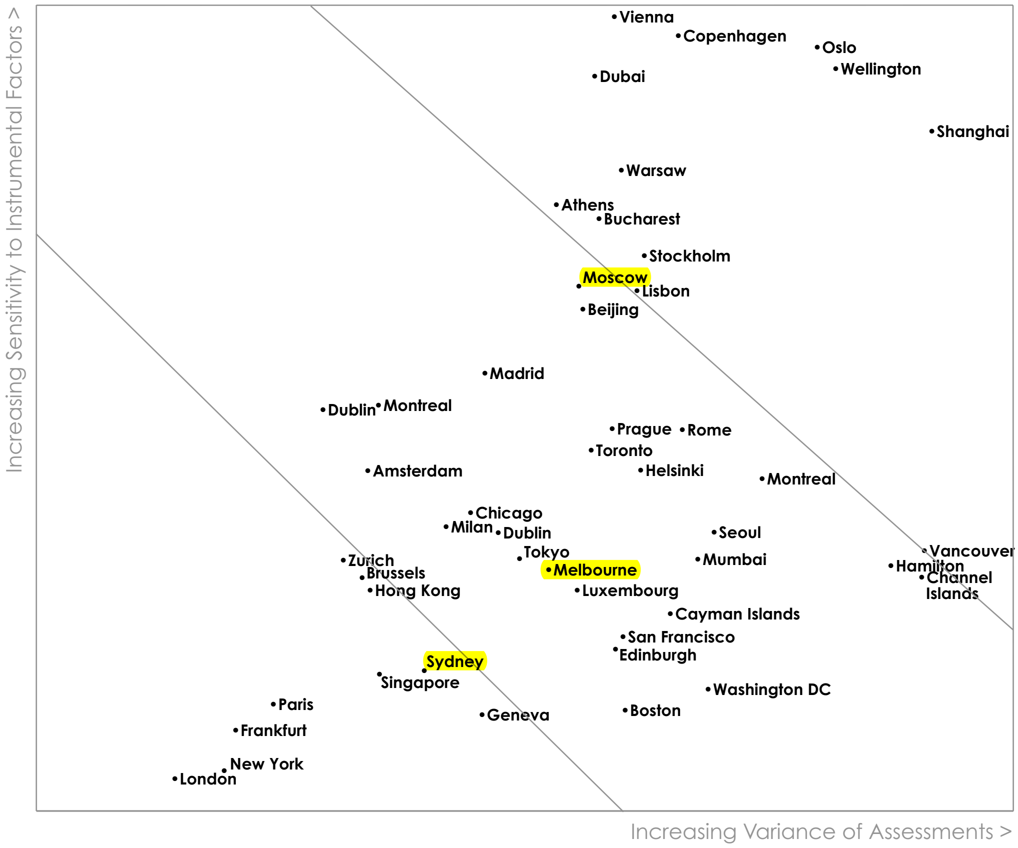


Chart 4 shows three distinct 'bands' of financial centres. The centres in the top right of the chart, such as Copenhagen, Oslo, Vienna, Wellington, Shanghai or Dubai, have a high sensitivity to changes in the instrumental factors and a high variance of assessments. These centres undoubtedly have the highest potential volatility in GFCI ratings.

The centres in the bottom left of the chart (including London, New York, Paris, Frankfurt, Hong Kong, Singapore, Zurich and Geneva) have 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.

The GFCI permits sectoral analysis and, over time, we hope to create 'mini-indices' by business sector i.e. banking, asset management, insurance, professional services and regulatory. While sectoral analysis at this early stage would be premature, Chart 5 contrasts the first GFCI ratings derived from banking sector respondents against GFCI ratings derived from non-banking sector respondents.

Chart 5
The Top 10 Financial Centres – Banking Respondents versus Non-Banking Respondents

Chart 5 is an initial indication of how a sectoral split of the GFCI might look. Based on the relatively small sample, it can be seen that financial centres are seen more favourably by people not involved in banking. This might indicate that bankers operate in a more global market place and are less concerned with the competitiveness of individual financial centres.

5. Instrumental Factors

In this section we examine the five key areas of financial centre competitiveness and how these combine to contribute to the competitiveness of centres. 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.

This approach does identify one issue with the instrumental factors that have been used. Instrumental factors are used as proxies for something that is not directly measurable. A number of the instrumental factors we used are based on rankings derived at a national level (i.e. country by country). There are clearly regional variations within countries and taking a national 'average' is likely to skew the results. When the GFCI model is used with all instrumental factors there are sufficient city rankings to give an accurate reflection but when the model is run only using one set of factors (as in the following sections) some of the ratings are unduly influenced by the use of these nationally based factors.

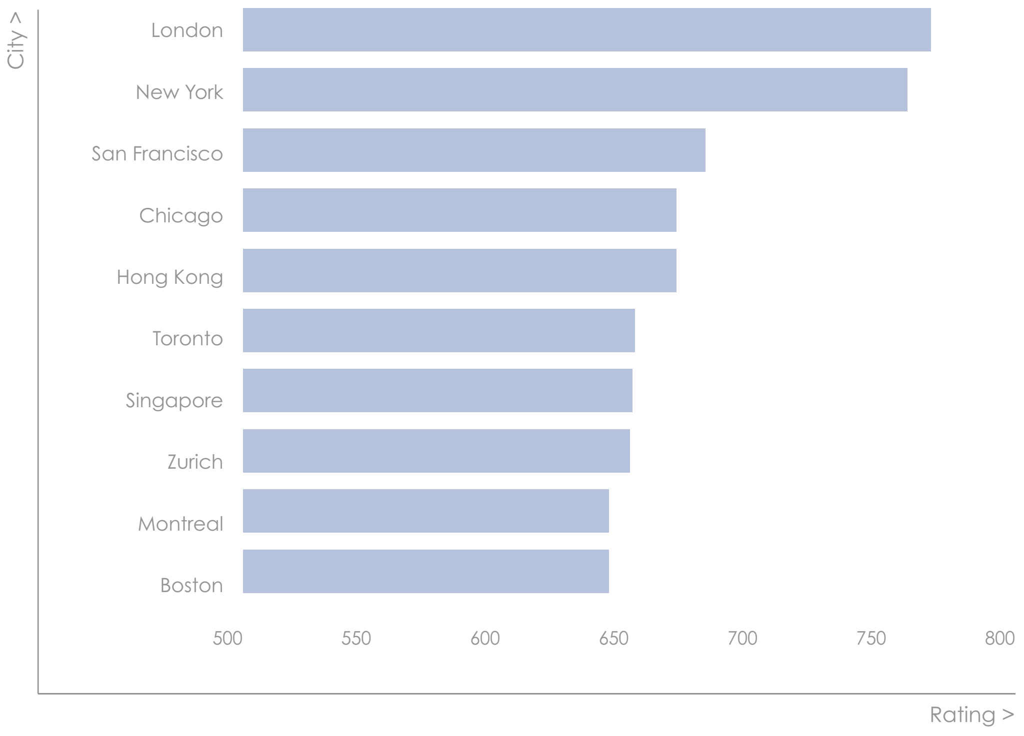
5a. People Factors

The people factors used in the GFCI (details of these are shown in Appendix C) 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

Chart 6 shows the top ten cities by GFCI rating when only using the people related factors in the prediction model.

Chart 6
The Top 10 Financial Centres Using only People Related Instrumental Factors



London and New York occupy 1st and 2nd positions respectively on people factors. It is no coincidence that they are consistently assessed as having the best people. Several comments from the recent online survey conducted for the GFCI testify to this:

> *What's important is to make it easy to find the best employees from around the world. English speaking cities such as London and New York have a huge advantage here.*

Frankfurt, which only a few years ago had ambitions to overturn London as Europe's key financial centre, now has a dearth of talent – a lot of the good banking people now work in London.

Interestingly San Francisco rises by nine places to 3rd, Chicago has moved up four places and Boston has also risen. This is largely because six of the eight people related instrumental factors are nationally based (compiled on a country by country basis rather than being based on specific cities). American cities benefit from sharing the same values in national indices as New York.

Toronto and Montreal have also climbed up the rankings. Canadian cities benefit from the fact that they score well in the Quality of Living survey, NationMaster's Happiness Scores and the Human Development Index.

Hong Kong is in 5th place in the GFCI using people factors. It has developed strong expertise in professional services. The number of Chartered Financial Analysts, for example, has increased from about 200 in 1995 to more than 3,000. Indeed, Hong Kong has the 4th largest number of Chartered Financial Analysts in the world after the US, Canada and the UK. The business cluster surrounding the financial services industry is well-developed with more than 5,000 solicitors and about 1,000 barristers now practising in Hong Kong[6].

Frankfurt and Sydney have fallen just outside the top ten in this listing, occupying 11th and 12th places, still above most other regional and national centres.

Earlier research 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. The people who add real value in financial centres 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.

Mercer HR assess 215 cities in their Quality of Living Survey each year. 39 criteria are used and New York is used as a benchmark with a score of 100. Selected scores of interest are shown in Table 5.

6 Securities & Futures Commission Hong Kong, *Hong Kong as a Leading Financial Centre*, (August 2006).

Table 5
Quality of Living Index – Selected Scores

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

Although London appears well down this list of selected cities, it is above New York and still within the top quartile of the 215 cities covered. HM Treasury recently highlighted quality of life as one of London's competitive advantages.[7] The arts contribute to the quality of life in a city and London's arts festivals and institutions attracted over 10 million visitors in 2005.

NationMaster produces a less broadly-based Happiness Index compiled simply by asking the question "Taking all things together would you say that you are: very happy, quite happy, not very happy or not at all happy?". The sum of the last two options is subtracted from the sum of the first two options to give a score. Sweden, Denmark and Australia are all within the top five, the UK is in 9th place and the US is in equal 13th place with France. Canada is in 17th place, Japan features in 19th and China in 29th. When looking at these 'national' indices, it should of course be remembered that there will be regional variations within countries.

7 HM Treasury, *op. cit.*, (March 2006).

Another instrumental factor used in the GFCI model to assess the people factors is the list of top International Tourist Destinations compiled by the World Tourist Organisation. We used levels of tourism as an instrumental factor for quality of living. This list is topped by France which has a clear lead over Spain, the US and China. The UK is in 6th place, Canada is 12th and Hong Kong 16th.

The European Human Capital Index compiled by the Lisbon Council, places the UK in 3rd place behind Sweden and Denmark with France in 8th place and Germany in 10th. The European Human Capital Index seeks to measure the ability of countries to develop their human capital through efficient development, deployment and utilisation. The UK's placing backs up the widely held perception that the availability of skilled personnel is better in the UK than in most other European countries.

The UK fares less well in the Human Development Index (HDI) by the UNDP which puts Australia in 3rd place, followed by Sweden, Canada, Japan and the US in that order. France is in 16th place and the UK in 18th – still ahead of Germany and many other countries represented in the GFCI. The HDI is a more general measure of development and measures health, standard of living and knowledge.

Specific financial services education is often provided by post-graduate business schools and the list of Executive MBA rankings, compiled by the Financial Times is another instrumental factor used in the GFCI model. This overall ranking is based on a detailed assessment of 20 different criteria. It is perhaps no surprise that many of the US business schools score very highly. Eight of the top ten executive MBAs are from business schools based in the US. London Business School ranks 5th and Insead (headquartered in France but with international coverage) ranks 9th. In the UK, business schools attached to Oxford, Cambridge and Manchester universities feature highly in this list as do Cass Business School, Ashridge and Imperial College London. Oxford Economic Forecasting recently highlighted that London benefits from the presence of a number of world-class universities.

Additionally London's growth has been bolstered by strong international immigration – 126,000 people in 2005 (more than half of the UK total). London benefits from large inflows of professional and managerial workers. London attracts both skills and talent through immigration and allows people to develop those skills in highly productive activities. In 2005, 32% of London's workforce possessed degrees or higher education qualifications (NVQ level 4 and 5 or above)[8], higher than the rest of the UK where the percentage is 25%.

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

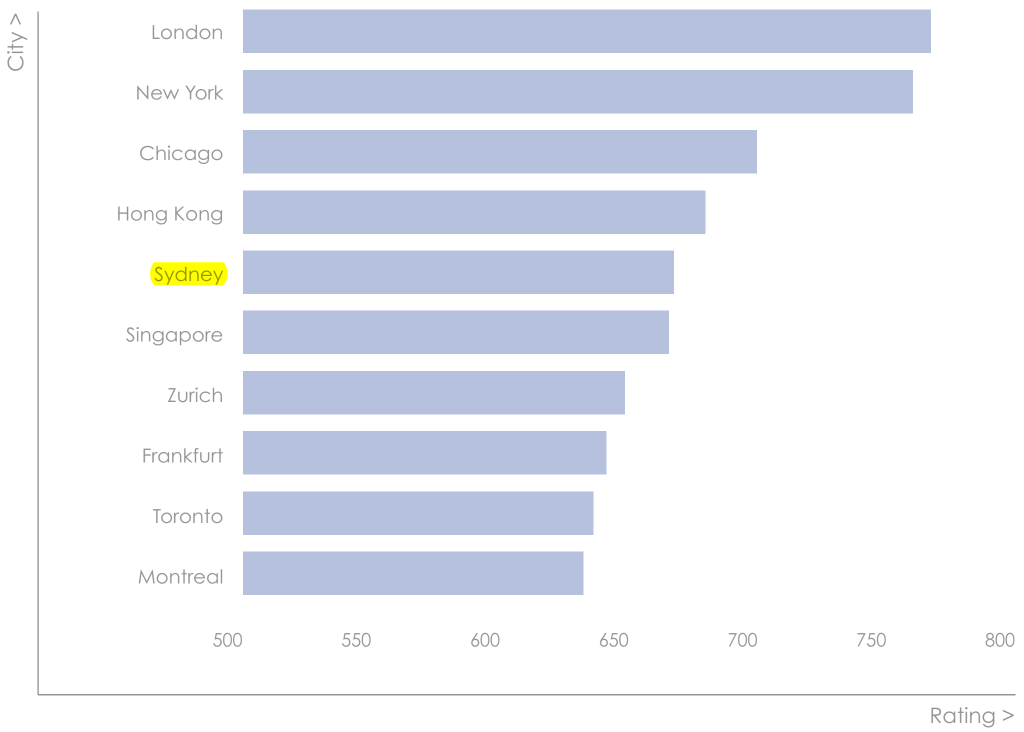
5b. Business Environment Factors

The 15 business environment related instrumental factors (details of these are shown in Appendix C) 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

Chart 7 shows the top ten cities by GFCI ranking when only using the business environment related factors in the prediction model.

Chart 7
The Top 10 Financial Centres Using only Business Environment Related Instrumental 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 we call the 'business environment' is one of the most important competitiveness factors for a financial centre.

There is however, a continuing debate in financial services as to whether lighter regulation will actually increase the scale of the business. Both sides of this debate have invoked alternative versions of Gresham's Law – "good money drives out bad" and "bad money drives out good".[9]

London and New York are seen as having generally good regulatory environments although currently many people are critical of the US because of what is seen as a 'heavy-handed' approach to regulating financial services. One quote from the GFCI online survey is typical of a number of other similar comments:

> *New York is becoming far too rules-based and is getting wrapped in red tape (but not as bad as Tokyo).*

There are two sides to the regulatory environment, the quantity and rigour of the regulations themselves and the way in which firms are expected to comply. Many finance 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.

It appears that there are two major aspects of regulation that the US needs to tackle. Firstly, the SEC is good at enforcing the existing regulations but is less strong at ensuring that the financial markets run efficiently. Secondly there are too many regulators, for example, four separate banking regulators and a clash of responsibilities between state and federal regulators.

There has been much discussion recently about the effect that the Sarbanes-Oxley legislation has had on the US financial centres and especially on New York. It is claimed that London has benefitted from Sarbanes-Oxley with international firms preferring to list in London rather than in the US. Figures certainly indicate that a greater proportion of international listings are now being hosted by London than has been the case in recent history.

It is possible to overstate the detrimental effect of one piece of legislation and forget other sources of competitive disadvantage. A detailed study into the cost of raising capital in various markets

9 Mundell, Robert, *Uses and Abuses of Gresham's Law in the History of Money*, Columbia University, (August 1998).

reported recently that, although significant, the cost of Sarbanes-Oxley compliance was not the biggest cost involved in raising capital.[10] The biggest cost was the high fees charged by Wall Street banks (6.5% to 7% of the value of shares offered against a typical level of 3% to 4% in Europe).

Of the other leading cities in the GFCI the only other city that has shown a major change by running the GFCI on business environment factors alone is Chicago. This is because all the business environment instrumental factors are based on national scores rather than on individual city scores. Chicago has benefitted from having similar values to New York. Toronto and Montreal have just edged into the top ten, displacing Tokyo and Geneva – Canada does well on many of the regulatory based instrumental factors.

The OECD produces an index of administrative and economic regulation and a selection of the scores is shown in Table 6 (a low score indicates more effective regulation).

10 Oxera Consulting Limited, *The Cost of Capital: An International Comparison*, City of London, (June 2006).

Table 6
Administrative and Economic Regulation

Country	Administrative Regulation	Economic Regulation
United Kingdom	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

The UK and the US fare well in both of these indices, although on average both are behind Australia. Canada, New Zealand and the Scandinavian countries also perform well. Whilst Hong Kong and Singapore do not feature in this index, several of our survey respondents perceive that Hong Kong is above Singapore (and well ahead of Shanghai) due to more effective regulation.

Another instrumental factor used in creating the GFCI is the Business Environment ranking compiled by the Economist Intelligence Unit (this covers nine categories including the political environment, government policy towards enterprise and foreign investment, the foreign trade and tax regime and the taxation structure of 82 countries). Denmark, Finland and Canada fill the top three spaces and are followed by Singapore, with the UK in 7th place, the US in 8th and Hong Kong in 9th.

An alternative way of viewing the effect that regulation has on the competitiveness of a financial centre is the degree of 'economic freedom' that a particular jurisdiction offers. The Fraser Institute produces an Economic Freedom indicator which is used in the GFCI model. This contains five components and shows broadly similar standings to the Heritage Foundation's Index of Economic Freedom, with Hong Kong and Singapore at the top and China near the bottom. In this index the US is just ahead of the UK.
A further factor for the Business Environment is the World Bank's Ease of Doing Business Indicator. This ranks countries on ten topics including employing people, dealing with licences and other regulation, paying taxes and enforcing contracts. Singapore tops this list with the US, Canada, New Zealand, Hong Kong and the UK within the top 10 from over 170 countries.

The GFCI model includes four 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 7 together with rankings from the Kurtzman Group's Opacity Index and the Corruption Perceptions Index published by Transparency International.

Table 7
Country Rankings in three of the Business Environment Instrumental Factors

Country	Index of Economic Freedom	Opacity Index	Corruption Perceptions
Hong Kong	1	5	15
Singapore	2	12	5
Luxembourg	4	-	13
United Kingdom	5	2	11
Denmark	8	2	4
New Zealand	9	-	2
USA	9	6	17
Canada	12	8	14
Switzerland	15	8	7
The Netherlands	16	12	11
Austria	18	8	10
Sweden	19	2	6
Germany	19	14	16
Japan	27	16	21
Norway	30	-	8
France	44	26	18
China	111	44	78
Russia	122	39	126

The Index of Economic Freedom clearly demonstrates one of the reasons why many finance 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.

A further aspect of the Business Environment is business culture. Although difficult to measure, this culture can be represented by some instrumental factors. The Kurtzman Group attempt to measure one aspect of cultural behaviour in their Opacity Index. This is calculated from some 65 variables and examines factors such as corruption levels, detrimental economic policy and inadequate governance practices. The ratings from this index are shown alongside another, similar instrumental factor, the narrower Corruption Perceptions Index published by Transparency International. The UK does well in these indices, appearing above the USA in all three as shown in Table 7. In the Opacity Index the UK is joint 2nd whilst Hong Kong is 5th and New York is 6th.

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 survey believe that the UK is beginning to lose competitive advantage in this area. A typical quote from our survey:

> *The UK used to be a good place to be purely for tax reasons but I'm not sure that this is any longer the case.*

Several taxation indices were incorporated into the GFCI model as instrumental factors. The first 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 8 together with Effective Employee Tax Rate – again using PwC methodology and adapting their model to represent, more closely, a financial services employee.

Based on the Total Corporate Tax Rates, London is placed significantly ahead of New York, although behind Hong Kong and Singapore which are both well ahead in terms of personal tax rates. London also lags behind three European competitors: Zurich, Geneva and, significantly, Dublin – a city within the European Union.

Table 8
Selected Countries – Corporate & Personal Tax Rates

City	Total Corporate Tax Rate 2006	Effective Employee Tax Rate 2006
Zurich	25%	22%
Geneva	25%	28%
Dublin	26%	37%
Singapore	29%	15%
Hong Kong	29%	16%
London	35%	34%
Warsaw	38%	41%
Montreal	43%	39%
New York	46%	31%
Oslo	46%	38%
Amsterdam	48%	44%
Prague	49%	39%
Sydney	52%	36%
Tokyo	53%	29%
Vienna	56%	40%
Stockholm	57%	47%
Frankfurt	57%	37%
Budapest	59%	44%
Athens	60%	40%
Paris	68%	32%
Milan	76%	45%
Shanghai	77%	30%
Mumbai	81%	32%

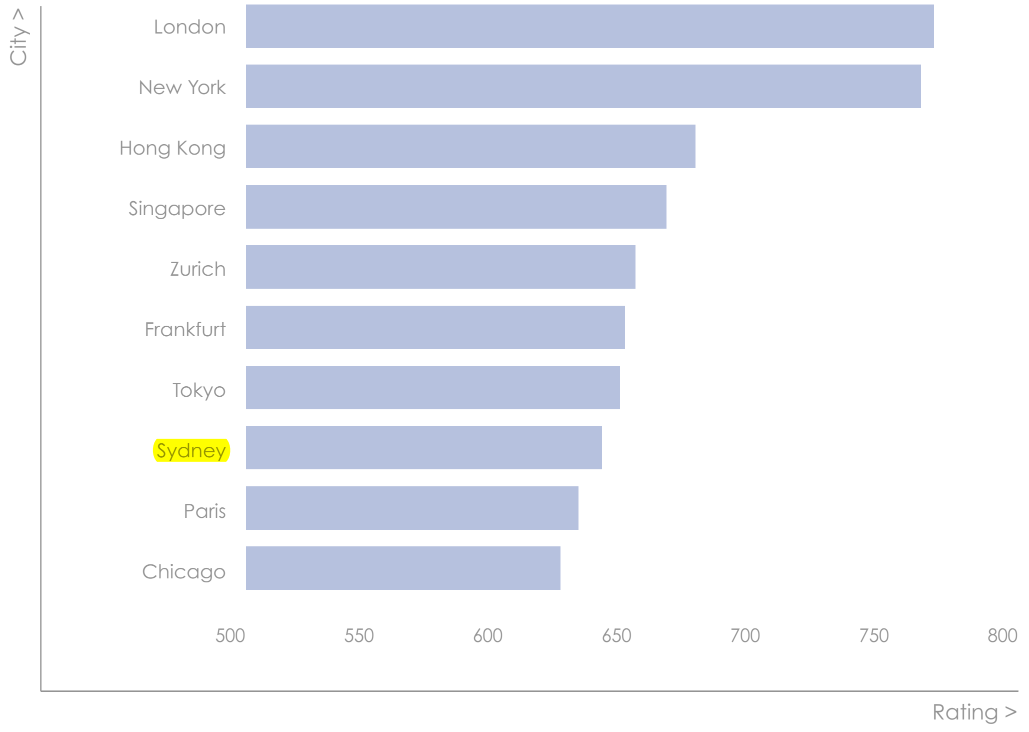
5c. Market Access Factors

The Market Access related instrumental factors (details of these are shown in Appendix C) used to build the GFCI are:

- Capital Access Index, Milken Institute
- Securitisation, IFSL
- Share and Bond Trading – value and volume statistics and investment fund trading volumes (5 separate factors), World Federation of Exchanges
- Global Banking Service Centres, GaWC Research
- Global Accountancy Service Centres, GaWC Research
- Global Legal Service Centres, GaWC Research

Chart 8 shows the top ten cities by GFCI ranking when only using the market access related factors in the prediction model.

Chart 8
The Top 10 Financial Centres Using only Market Access Related Instrumental Factors



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. Tokyo moves up from 9th to 7th and Paris climbs into the top ten at the expense of Geneva. This 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 our online survey are:

> *London has huge advantages in terms of its established base of financial institutions and associated businesses.*

> *All the key players, both in banking and professional services are based here or at least have offices in London, making doing business here much easier.*

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

The Capital Access Index compiled by the Milken Institute 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. Table 9 shows the capital access index of the top 20 countries.

The UK holds 1st place, with a healthy lead over Hong Kong, with Singapore and the US following closely behind. It is interesting to note that only two years ago the UK was in 8th position with the US in 1st place.

The level of Securitisation Issuance (which in effect, gives organisations chances to convert future cash flow into a lump sum advance) is another instrumental factor used in the GFCI model. International Financial Services, London (IFSL) provides an annual comparison of issuance values. The latest comparison shows the US in 1st place, well ahead of the UK which is 2nd, with Japan 3rd and Australia 4th.

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. Figures 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 city in terms of trading shares and investment funds, with London 2nd 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. Shanghai rates highly in terms of

Table 9
The Capital Access Index – Top 20 Countries

Country	Capital Access Index
United Kingdom	8.01
Hong Kong	7.84
Singapore	7.77
USA	7.75
Sweden	7.62
Denmark	7.61
Australia	7.60
Norway	7.47
Finland	7.46
Canada	7.42
Ireland	7.42
Switzerland	7.39
The Netherlands	7.20
New Zealand	7.04
Germany	6.93
Malaysia	6.88
Spain	6.80
Chile	6.78
Japan	6.76
France	6.62

investment fund trading, coming 2nd to New York and well ahead of any of the other financial centres.

An instrumental factor focusing on access to customers is provided by Research Globalization and World Cities – Study Group & Network (GaWC) on Global Banking Service Centres. This uses data from ten of the top 25 banks in the world concerning the location and size of their offices in different cities. Cities are categorised into three groups – 'prime', 'major' and 'minor'. There are ten prime cities in total, including London, New York, Frankfurt, Paris, Hong Kong and Singapore. Zurich and Milan also appear in the prime cities list, both of which appear to benefit from economic clustering. Conversely, Vienna, Dublin and Chicago are all detrimentally affected by access factors and they are on the list of minor cities.

GaWC also did some similar research into Global Accountancy Service Centres and Global Legal Service Centres, which are the two instrumental factors used as indications of the access to suppliers of professional services. For the Accountancy Service Centres, data from five of the largest accountancy firms in the world was collected. Cities were rated based on the presence of these firms and classified as prime, major or minor centres for accountancy. The prime cities include London, New York, Paris, Frankfurt and Tokyo. Minor cities include Helsinki, Dublin, Oslo and Stockholm.

The Legal Service Centres ratings are based on the number of offices that law firms have in a city. Cities were classified as prime, major or minor centres for legal services. All of the top four GFCI cities are included within the 'prime' list of cities.

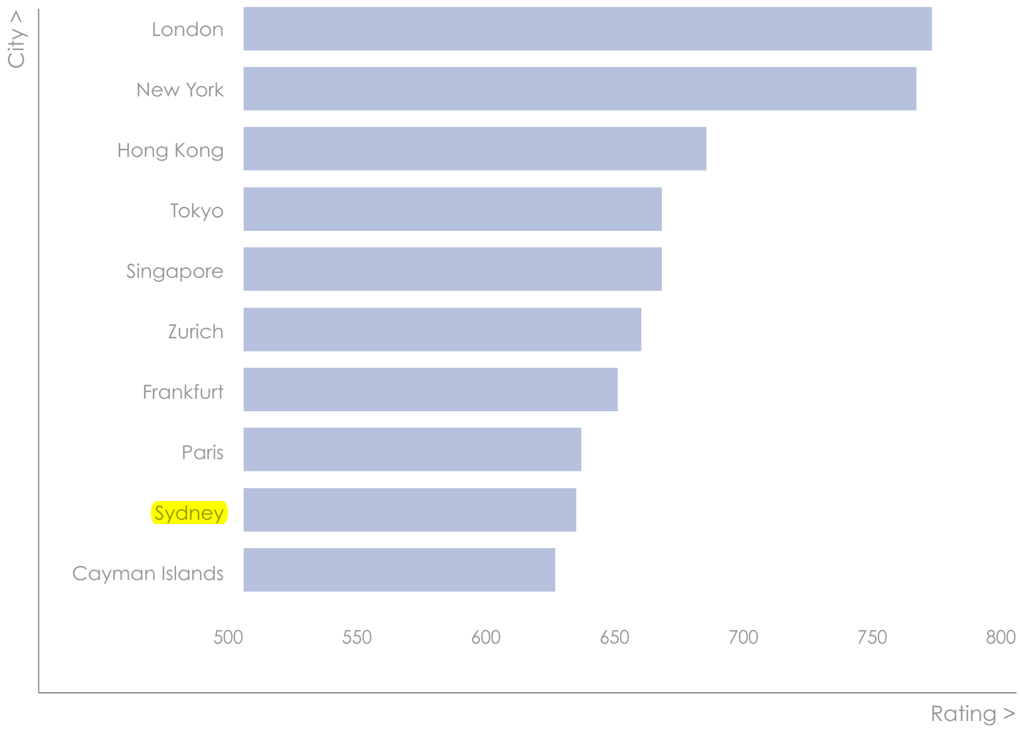
5d. Infrastructure Factors

In order to analyse the effect that infrastructure has on the GFCI, we ran the GFCI model using only the six infrastructure-related instrumental factors (details of these are shown in Appendix C). The factors 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

Chart 9 shows the top ten cities by GFCI ranking when only using the infrastructure related factors in the prediction model.

Chart 9
The Top 10 Financial Centres Using only Infrastructure Related Instrumental Factors



Using only infrastructure related factors, London and New York occupy 1st and 2nd positions respectively and Hong Kong is in 3rd. Tokyo has jumped five positions to 4th and Paris has jumped to 8th. Both these cities are long established financial centres and have well developed business infrastructures that have been built over the years. The top four cities all share relatively high costs and yet are still ranked highly.

Previous research[11] indicates that the availability of business infrastructure is seen as an extremely important factor in the competitiveness of a financial centre. The quality and availability of commercial property is an important part of infrastructure for a financial centre. The ability to travel easily around a city (i.e. the transport infrastructure) is another key part of business infrastructure.

A further instrumental factor is office occupancy costs. DTZ's Global Office Occupancy Costs and Cushman & Wakefield, Healey & Baker's Office Space Across The World report two different measures. The Cushman & Wakefield, Healey & Baker report focuses on total costs of occupying office space, whereas the DTZ report looks at the straightforward rental costs of occupying space. Both reports place London, Paris and Tokyo at the more expensive end of the scale, with Prague, Melbourne and Budapest at the less expensive end. A selection of score comparisons for these two indices is given in Table 10.

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

Table 10
Selected City Scores on Office Occupancy Costs

City	Global Office Occupancy Costs ($ per workstation per annum)	Office Space Across The World (Euros per m^2 per annum)
Paris	15,700	723
London	15,083	1,130
Frankfurt	14,071	471
New York	10,980	509
Tokyo	10,444	1,119
Toronto	9,768	353
Dublin	9,591	525
Stockholm	9,552	388
Milan	8,771	425
Sydney	8,202	460
Seoul	8,138	523
Rome	7,929	393
Athens	7,571	327
Madrid	7,283	414
Hong Kong	7,067	1,129
Vienna	6,336	300
Melbourne	5,102	370
Budapest	4,908	314
Prague	4,108	270
Beijing	3,961	296
Singapore	3,926	382
Shanghai	3,628	397

The figure for New York in the Office Space Across the World listing seems low – it should be noted that this cost includes property in a wider area of the city than in London where only the West End and City are included. The high cost of office space is often cited as a problem for cities like London and New York. There seem to be two factors that mitigate this problem:

- The cost of office space is only one element in the operational costs and efficiency equation. Recent studies by Z/Yen[12] show that cost per person in primary locations are higher than in other locations. Efficiency, as measured by the number of investment banking trades per person, is also much higher. This results in fairly similar cost per trade figures;
- The cost of office space is a matter of supply and demand and a problem of success rather than anything else. People may feel that London, for example, is very expensive. London is expensive because people want to rent office space there. If the demand was less, the prices would fall.

We used the European Cities Monitor, an index from Cushman & Wakefield, Healey & Baker. This puts London in 1st place, a long way ahead of Paris in 2nd, with Frankfurt in 3rd. Indeed, the positions of these 3 cities have not changed since the index started in 1990. It was only in 2005 when the top five changed for the first time with Barcelona continuing its rise up the rankings, moving ahead of Amsterdam into 5th place, after being 11th in 1990.

KPMG's Competitive Alternatives Survey compares business costs in 128 cities across nine industrialised countries (Canada, France, Germany, Italy, Japan, Netherlands, Singapore, US and United Kingdom). The study measures the combined impact of 27 significant business cost components that are most likely to vary by location. The index places New York 1st, three points ahead of Frankfurt, which is just ahead of London. It is notable that Canadian cities seem to fare poorly. Vancouver's score of 96.9 (compared with New York's top score of 112.6) makes it the highest placed Canadian city, with Toronto scoring 96.5 and Montreal 94.3.

Despite being one of the world's leading financial centres, London is falling behind other cities when it comes to the development of its transport network. Complexity in the system, overcrowding, high prices and delays are some of the biggest concerns expressed by those using the system regularly and these were highlighted by many comments in our most recent online survey for the GFCI. One representative comment is that:

12 Z/Yen Limited, Cost per Trade Surveys, (2003 – 2006).

London suffers from horrendous transport links and a generally overpriced and unpleasant environment.

In 2003 KPMG reported[13] that London's record does not compare favourably with Paris in respect of rail and metro infrastructure investment or the perceived effectiveness of these services. London's record looks better in respect of light rail, rail rolling stock and buses. In 1970 London had a well-developed metro and suburban rail network. Subsequent development has been very limited. 38km of rail and metro has been added to the network, compared to 85km in Paris since 1970. London's transport infrastructure was built over a long period of time, often by competing companies, and much of the system is Victorian. The age and complexity of London's rail networks, both underground and suburban heavy rail, inhibits their operational effectiveness in a manner not generally experienced in other cities.

There are reports that transport in London may improve. Eurostar is joining forces with other European rail operators to offer much faster journey times between key European cities and with London set to host the Olympics in 2012, development of the transport system is viewed as essential by many.

It is also worth noting that whilst many people complain about London's transport infrastructure, it has been less efficient than in many competing cities for several decades and this has not prevented London becoming a leading global financial centre. It is interesting to note that people working in London rate the transport infrastructure as poor but the international perspective is very different. Cushman & Wakefield, Healey & Baker's research shows that the international visitor rates London's transport infrastructure as the best in Europe. Clearly people who do not commute regularly but travel in London outside peak hours think that the system is very good.

13 KPMG, *Comparative Public Transport Investment in Major European Cities*, Corporation of London (November 2003).

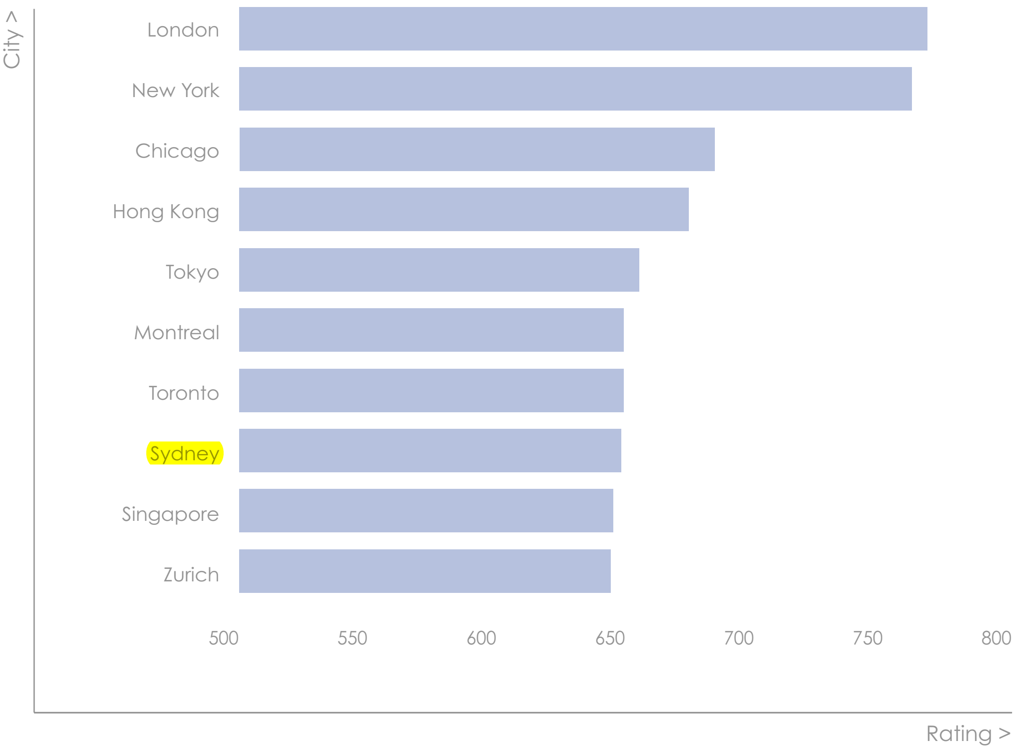
5e. General Competitiveness Factors

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 top cities of the GFCI, especially London and New York, demonstrate this critical mass of general competitiveness. The GFCI model uses eight general competitiveness related instrumental factors (details of these are shown in Appendix C). The factors are:

- 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

Chart 10 shows the top ten cities by GFCI ranking when only using the general competitiveness related factors in the prediction model.

Chart 10
The Top 10 Financial Centres Using only General Competitiveness Related Instrumental Factors



In this version of the GFCI, Chicago has climbed to 3rd place and we see a significant jump in the rankings for the Canadian cities of Montreal and Toronto. This is due to Canada being well ranked in the World Competitiveness Scoreboard and the Nation Brands Index.

The World Economic Forum's Global Competitiveness Index consists of a ranking of 125 world economies based on survey results (over 11,000 business leaders were polled). As can be seen in Table 10, the UK is ranked 10th, with six other European countries ahead of it. Switzerland, Finland and Sweden are the top three, with Switzerland climbing from 4th to 1st and Sweden from 7th to 3rd in 2006. In 2005 the US was in 1st place but has fallen to 6th position in 2006. France has also dropped. Table 11 also features the IMD World Competitiveness Scoreboard – an alternative measure to the World Economic Forum's index.

Table 11
The Global Competitiveness Index

Country	Global Competitiveness Index	World Competitiveness Scoreboard
Switzerland	1	7
Finland	2	9
Sweden	3	13
Denmark	4	4
Singapore	5	3
USA	6	1
Japan	7	16
Germany	8	20
Netherlands	9	14
UK	10	18
Hong Kong	11	2
Norway	12	11
Canada	16	6
Austria	17	12
France	18	25
Australia	19	5
Belgium	20	21
Ireland	21	10
Luxembourg	22	8
New Zealand	23	19
Italy	42	32
India	43	22
Greece	47	29
Poland	48	33
China	54	17

Curiously, in both the World Economic Forum and the IMD studies, the UK is lower in the rankings than might be expected. It should, however, be noticed that both these indices are 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.

Two other General Competitiveness instrumental factors used in the GFCI are the Nation and City Brand Indices produced by Anholt. The City Brand is a 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 12.

Table 12
Selected City Brand Ranks

City	City Brand Rank
London	1
Paris	2
Sydney	3
Rome	4
Barcelona	5
Amsterdam	6
New York	7
Los Angeles	8
Madrid	9
Berlin	10
San Francisco	11
Toronto	12
Geneva	13
Washington	14
Brussels	15
Milan	16
Stockholm	17
Edinburgh	18
Tokyo	19
Prague	20
Hong Kong	21
Singapore	22
Rio de Janeiro	23
Beijing	24
Mexico	25
Moscow	26

The latest version of the City Brand Index shows London in 1st place followed by Paris in 2nd. New York is in 7th place and the other North American cities Los Angeles, San Francisco, Toronto and Washington all feature in the top 15 whilst Tokyo, Hong Kong and Singapore are in 19th, 21st and 22nd places respectively. The Nation Brand is based on the sum of people's perceptions of a country across the following areas of national competence – tourism; exports; people; governance; culture and heritage; and investment and immigration. The UK is in 1st place, followed by Switzerland in 2nd and Canada in 3rd. USA is in 10th.

Nobody we spoke to believes that London or New York City will lose their positions as global financial centres within the next ten years. If London and New York fall in popularity 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 reflects the cosmopolitan nature of London – it is a very international city. London, and to a slightly lesser extent, New York are characterised by the best international firms doing business with each other – London provides an ideal environment. In an increasingly international economy, London seems to have a solid future as a global financial centre.

6. Overview of Survey Results

Two online surveys have been conducted over the past fifteen months. Web links to the survey sites were emailed to senior financial services professionals worldwide. 491 responses were received (providing 3,992 city assessments). During the last four months of 2006 we averaged 758 city assessments per month. An outline of the responses is given in Tables 13 to 15.

Table 13
Survey Responses by Sector

Sector	Number of Responses
Banking	141
Asset Management	39
Insurance	25
Other Financial Services	119
Professional Services	96
Regulatory and Government	20
Trade Associations	9
Other	42
TOTAL	491

Table 14
Survey Responses by Number of Employees in Organisation

Number of Employees Worldwide	Number of Responses
Fewer than 100	174
100 to 500	68
500 to 1,000	34
1,000 to 2,000	36
2,000 to 5,000	49
More than 5,000	81
Unspecified	49
TOTAL	491

Table 15
Survey Responses by Location

Location	Number of Responses
London	319
Other UK	25
Europe	67
New York	33
Other US	16
Asia	19
Multiple or Other	12
TOTAL	491

Table 16
Current Survey – Assessments

City	Number of Assessments	Average Assessment	Standard Deviation of Assessments
London	236	843	1.06
New York	172	806	1.31
Hong Kong	130	767	1.45
Singapore	116	734	1.46
Zurich	98	730	1.39
Sydney	61	720	1.57
Chicago	89	696	1.60
Tokyo	90	680	1.80
Geneva	73	670	1.68
Boston	71	669	1.93
San Francisco	65	665	1.92
Frankfurt	111	650	1.37
Paris	142	646	1.61
Edinburgh	77	627	1.92
Melbourne	45	627	1.75
Dublin	90	618	1.70
Amsterdam	81	617	1.45
Toronto	58	607	1.87
Hamilton	44	602	2.32
Channel Islands	55	602	2.37
Shanghai	50	598	2.39
Dubai	45	596	1.88
Cayman Islands	39	595	2.33
Luxembourg	53	594	1.84
Stockholm	47	577	1.97
Madrid	58	571	1.69
Montreal	44	570	2.14
Brussels	78	563	1.43
Milan	52	562	1.66
Washington D.C.	62	552	2.06
Beijing	44	527	1.86
Vancouver	41	524	2.37
Vienna	34	521	1.90
Copenhagen	47	519	2.02
Helsinki	40	508	1.95
Rome	42	490	2.02
Prague	40	480	1.91
Oslo	33	476	2.25
Wellington	26	469	2.22
Warsaw	35	457	1.93
Mumbai	40	455	2.05
Lisbon	34	438	1.95
Seoul	29	431	2.07
Moscow	40	380	1.86
Budapest	34	379	1.89
Athens	41	366	1.81

The results shown in Table 16 relate to the current survey only and represent the 251 responses during a four month period at the end of 2006.

The questions asked in the current online survey are detailed in Appendix B. The responses to the open ended questions (numbers 15 to 18) of the survey were analysed in some depth. We were able to gain insight into which of the key areas of competitiveness are currently of greatest concern to respondents. Table 17 shows the percentage of responses that mention the different areas.

Table 17
Key Areas of Competitiveness

Area of Competitiveness	Percentage of responses
Business Environment	46.2%
People	37.2%
Infrastructure	29.5%
Market Access	12.8%

In the previous City of London research in 2003 and 2005, people issues were rated as the most important factors of competitiveness followed by regulatory issues. In this research, people factors have been replaced as the most important factor by the business environment and specifically the regulatory and tax environments. Comments from our respondents show that there are two main factors behind this increased importance: first, concerns about the level and quality of financial services regulation in the USA and in particular the somewhat draconian measures within the Sarbanes-Oxley legislation; second, the concerns about the increasing levels of corporate taxation in the UK which are beginning to drive companies away from London towards more advantageous tax regimes.

People factors, specifically the pool of available talent in a financial centre and the flexibility of the labour market, were the second most mentioned of the key areas of competitiveness and are still of great importance.

7. Conclusion

In this study, and in the 2005 study, London just beats New York to first place. In 2003, New York just beat London to first place. If certain types of transaction need a global financial centre, then London or New York are likely to be the obvious locations for the foreseeable future. As one respondent to our survey said:

> *As a global investment bank we just have to have dealers in both New York and London – we wouldn't be 'global' without them.*

Financial centres are where the liquidity is, and market liquidity is hard to move. Having said that, liquidity can occasionally move rapidly if a significant factor changes suddenly (e.g. the Eurobond market left the USA for London almost overnight).

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;
- a fairly dramatic alteration in the status quo.

There are not many competitive factors that can alter very quickly. It is most likely to be a change in the regulatory environment (e.g. Sarbanes–Oxley has had a negative impact on New York recently). The UK Government, HM Treasury and the FSA need to be very careful when changing the regulatory environment. Tax levels in the UK are currently causing some concern and several large companies are leaving the UK because of this. HM Treasury needs to ensure that a tax 'tipping point' is not reached.

Several respondents to our survey raised another possibility that might affect the pre-eminence of London and New York. This is that the ability to deal from anywhere electronically eliminates the need for a physical location. We do not believe that this will become a significant threat to London and New York. The well developed critical mass of financial services firms and the supporting professional service companies, are a very important factor in the competitiveness of these global financial centres.

What will happen in Asia is still the subject of much conjecture. The current GFCI rankings suggest that Hong Kong and Singapore will become the two major international centres and Tokyo and Shanghai will stabilise as important national centres. In the future the GFCI will monitor the competitiveness of other national centres including Frankfurt and Sydney and of the major niche centres of Zurich and Geneva. We are likely to be adding at least a couple of cities to the GFCI in the next update – if sufficient data is available then Sao Paulo and Johannesburg are likely contenders.

For the moment, the most competitive financial centres are generally those who exhibit good, and stable, regulation. In the future, we may see a return to the quality of the workforce and operational costs as the most influential factors in financial centre competitiveness.

Over time, the GFCI financial centre ratings will change. We hope that in the future the GFCI will help us answer questions such as:

- how quickly can a financial centre gain or lose ground on its competitors? (e.g. due to missed opportunities, over-regulation or an unfavourable tax regime)
- can you build a major financial centre from scratch? (We believe that the development of Dubai as a financial centre will be interesting to monitor)
- is it inevitable that a global financial centre will develop in Asia as the economic power of the region grows?

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. 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 – 47 instrumental factors were used to construct this first set of GFCI 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 first set of GFCI ratings we used 3,992 financial centre assessments drawn from 491 respondents to two online surveys. Respondents assessed the competitiveness of financial centres which they knew. The second online survey is running continuously to keep the GFCI up-to-date with people's changing assessments.

The 47 instrumental factors were selected to reflect the 14 competitiveness factors identified in previous research. These are shown in Table 18.

At the outset of this project, a number of guidelines were set out. These guidelines are to ensure that city assessments and instrumental factors were selected and used in a way that will generate a credible, dynamic rating of city 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 (at least annually);

Table 18
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

Source: *Competitive Position of London as a Global Financial Centre*, Corporation of London 2005

- Relevant indices can be added to the GFCI 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 cities in that country – nation based factors will be avoided if 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 city 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 city (no average or mean is used). Only indices which have values for at least ten cities will be included.

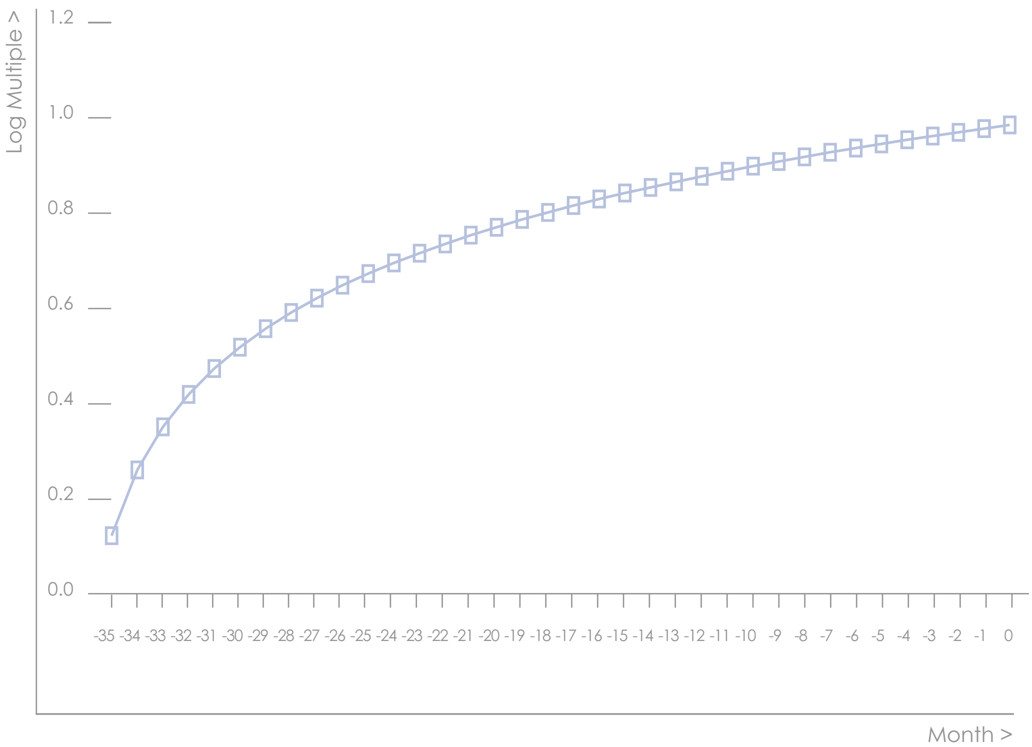
Creating the GFCI does not involve totaling or averaging instrumental factors. An approach involving totaling and averaging would involve a number of difficulties:

- 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 cities 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 survey which runs continuously. A link to this survey is emailed to the target list at regular intervals;
- The GFCI is compiled using all city assessments from the previous 36 months, weighted dependent on when the assessment was made (see Chart 11 below);
- Initially all responses will be included in the GFCI model. As the GFCI becomes more established, a semi-stable list or 'club' of regular respondents (who are senior financial

Chart 11
Log Scale for Time Weightings



services professionals) will be developed;

- The number of assessments from any city will be regulated to ensure good representation of all cities in the GFCI. The number of assessments should reflect the following guidelines:

  - 50% of the financial centre assessments from the top ten centres;
  - no more than 2% of financial centre assessments from any other single centre.

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 as shown in Chart 11.

The financial centre assessments and instrumental factors are used to build a predictive model of centre competitiveness using support vector machine (SVM) mathematics. 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.

The predictive model was used to answer questions such as:

> *If an investment banker gives Singapore a certain assessment then, based on the instrumental factors for Singapore and Paris, how would that person assess Paris?*
>
> Or
>
> *If a pension fund manager gives Edinburgh a certain assessment then, based on the instrumental factors for Edinburgh and Zurich, how would that person assess Zurich?*
>
> Financial centre predictions from the SVM are combined with actual financial centre assessments to produce the GFCI – a set of financial centre ratings. This measure of competitiveness is dynamically updated by either an updated instrumental factor or new financial centre assessments. These updates permit, for 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 12.

A few features of building the GFCI using both instrumental factors and city assessments are worth noting:

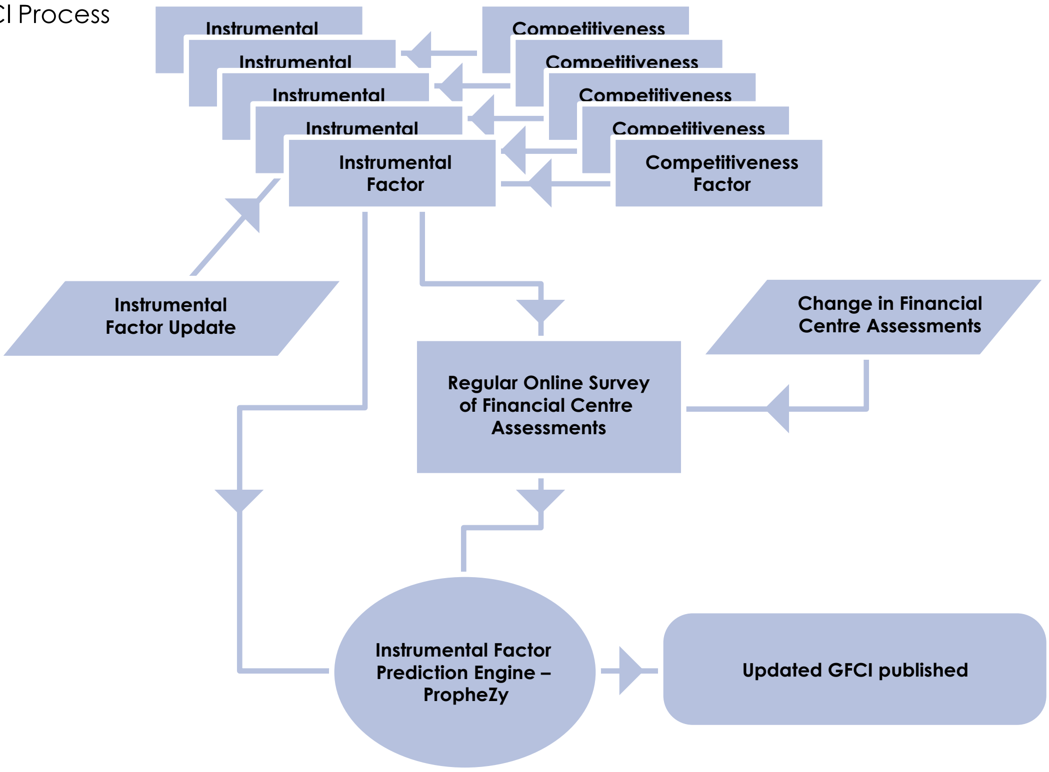
- Several instrumental factors can be used for each competitive factor and there are likely to be alternatives available once the GFCI is established;
- A strong international group of 'raters' can be developed as the GFCI progresses;
- Sub-GFCI ratings can be developed by using the business sectors represented by survey 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 could 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. We also tested the accuracy of predictions given by the SVM 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

Chart 12

The GFCI Process



creating the GFCI. Additionally, a big thank you goes to John Whiting, Tax Partner at PricewaterhouseCoopers, and Simon Sole, Chief Executive of Exclusive Analysis Limited, for providing unpublished data specifically for the GFCI. Finally we would like to thank John Murray of DMAP Limited and Alan Helmore-Simpson for technical support.

Appendix B – The Online Surveys

The current survey, with minor updates, runs continuously and this allows for regular updates of the GFCI. It is envisaged that approximately 3,000 financial centre assessments will be collected each year. Ideally, a semi-stable 'club' of respondents can be developed. This 'club' would probably develop two tiers – a close network of approximately 400 people who are happy to respond regularly (at least once a year) and a wider set of interested individuals. The key issue is that these respondents should provide a good representation of industry sectors and cities. An emailed copy of the updated report can be sent to all respondents.

The questions in the most recent survey, launched in August 2006, are as follows:

1 Your name.

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

3 The name of your organisation.

4 Your email address (this will only be used for sending you GFCI updates and will not be passed to any third party).

5 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

6 In which centre are the headquarters of your organisation?

7 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

8 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

9 In which financial centre are you based?

10 Please rate the city where you are based as a location in which to conduct your business (1 being Very Poor to 10 being Excellent).

11 If you are familiar with any of the following European 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
- Lisbon
- London
- Luxembourg
- Madrid
- Milan
- Moscow
- Oslo
- Paris
- Prague
- Rome
- Stockholm
- Vienna
- Warsaw
- Zurich

12 If you are familiar with any of the following North American cities, please rate them as locations in which to conduct your business (1 being Very Poor and 10 being Excellent):

Boston
Chicago
Montreal
New York
San Francisco
Toronto
Vancouver
Washington D.C

13 If you are familiar with any of the following Asia-Pacific cities, please rate them as locations in which to conduct your business (1 being Very Poor and 10 being Excellent):

Beijing
Dubai
Hong Kong
Melbourne
Mumbai
Seoul
Shanghai
Singapore
Sydney
Tokyo
Wellington

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

Bermuda
Cayman Islands
Channel Islands

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

16 Are there any important financial centres we have missed?

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

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

19 Do you have any other comments?

20 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 Competitiveness Index.

Appendix C – The Instrumental Factors

The main inputs to the GFCI model are instrumental factors. These are independent indices provided by a number of reputable organisations. The majority of these indices are publicly available and updated regularly.

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 best possible ranking is 4 and the worst 52. They are based on how each country scores in each of four individual human capital categories (Endowment, Utilisation, Productivity and Demography).
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, and national sources. The indicator we have used is GDP per hour worked, an Index using the US 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 2006) – 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 (May 2004) – 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

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. We have used the average of these

indicators 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 FDI). 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 then 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. We are using the basic rate (inclusive of surtax) 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 (November 2006) – 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 our study, we used 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.
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 in 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 0 and 100, calculated by averaging the scores given to each of 5 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 (October 2005) – 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 3 years and where multiple years of the same survey are included, all annual data are included to provide a smoothing effect. For sources provided by experts (which have little change from year to

year), only the most recent iteration is included.
Source: www.transparency.org

Index of Economic Freedom, Heritage Foundation (January 2006) – A study of 161 countries against a list of 50 independent variables divided into 10 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 seventy-one research institutes in seventy-one 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 (October 2005) – An 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 to general economic conditions.
Source: www.milkeninstitute.org

Securitisation, IFSL (March 2006) – 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 is achieved by converting the future cash flows into tradable securities which are sold as a means of raising capital.
Source: www.ifsl.org.uk

Value of Share Trading/Volume of Share Trading/Volume of Trading Investment Funds/Value of Bond Trading/Volume of Bond Trading, World Federation of Exchanges (September 2006) – The World Federation of Exchanges provides a monthly newsletter called FOCUS, which contains monthly statistics tables. For all of the indicators used, we took the latest available year-to-date figures.
Source: www.world-exchanges.org

Global Banking Service Centres, GaWC Research (July 1999) – Data for 10 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 5 of the 6 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) – Cities are scored based on the number of particular law branches they contain. For the UK and the US, cities score points according to the number of law firms with foreign branches and for the rest of the world, cities are scored based on the number of UK/US law branches in the city.
Source: www.lboro.ac.uk

Instrumental Factors for Infrastructure

Global Office Occupancy Costs, DTZ (January 2004) – 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.propertyoz.com.au

Office Space Across The World, Cushman & Wakefield, Healey & Baker (February 2006) – A report focusing on occupancy costs across the globe over the last 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 cities 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 10 years.
Source: www.competitivealternatives.com

Offices With Air Conditioning, Gardiner & Theobald (December 2006) – 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 $ 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 9 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

IPD Global Index (December 2006) – 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, the Netherlands, Norway, Portugal, South Africa, Spain, Sweden, Switzerland and the UK.
Source: www.ipdglobal.com

Instrumental Factors for General Competitiveness

Economic Sentiment Indicator, European Commission (October 2006) – An indicator of overall economic activity, based on 15 individual components, split between 5 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 (October 2006) – 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, Economist (November 2006) – 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 RPI.
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 (December 2005) – 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, telling us how consumers around the world see the character and personality of the brand.
Source: www.nationbrandindex.com

City Brands Index, Anholt (December 2005) – 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 cities 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.

DOMINE DIRIGE NOS

CITY OF LONDON