



## Dublin's Position in the Global Financial Centres Index 6

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**Z/Yen Group Limited  
5-7 St Helen's Place  
London EC3A 6AU  
UK**

**Telephone: +44 20 7562-9562**

**Facsimile: +44 20 7628-5751**

**Email: [mark\\_yeandle@zyen.com](mailto:mark_yeandle@zyen.com) [www.zyen.com](http://www.zyen.com)**

**Prepared by Mark Yeandle, Nick Danev, Jeremy Horne, Michael Mainelli**

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## 1. EXECUTIVE SUMMARY

The Z/Yen Group (Z/Yen) has significant experience in researching the competitiveness of financial centres. Established in 2006 by the Dublin City Manager, a key function of the Office of International Relations and Research is to monitor Dublin's performance in international competitiveness. Recognising the importance of financial centres, the Office of International Relations and Research based in Dublin City Council asked Z/Yen to evaluate certain aspects of Dublin's competitive position using data gathered during the compilation of the Global Financial Centres Index (GFCI) 6.

In GFCI 6, Dublin is in 23<sup>rd</sup> position with a score of 613 on a scale with a theoretical maximum of 1,000. Dublin's position in the GFCI has remained fairly constant in the four past editions of the GFCI:

GFCI	Rank	Rating
GFCI 1 (March 2007)	22 <sup>nd</sup>	579
GFCI 2 (September 2007)	15 <sup>th</sup>	605
GFCI 3 (March 2008)	13 <sup>th</sup>	613
GFCI 4 (September 2008)	13 <sup>th</sup>	622
GFCI 5 (March 2009)	10 <sup>th</sup>	618
<b>GFCI 6 (September 2009)</b>	<b>23<sup>rd</sup></b>	<b>613</b>

The scores and assessment details of other 'competitive centres' are shown below. These centres were chosen because they are either very close to Dublin in the current GFCI rankings (Dubai, Edinburgh, Munich and Amsterdam) or are thought to be directly competitive with Dublin by target industry sector (Luxembourg is for example, a strong insurance centre) or have some other similar characteristics such as tax advantages (Geneva, Jersey, Luxembourg and Dubai). For the sake of this analysis they form the 'peer group' for Dublin.

The assessments used in GFCI 6 were for the 24 months up to the end of June 2009:

Centre	GFCI 6 Rank	GFCI 6 Rating	Number of Assessments	Mean of Assessments	Standard Deviation of Assessments
Geneva	9 <sup>th</sup>	660	879	675	197
Jersey	14 <sup>th</sup>	640	790	652	241
Luxembourg	16 <sup>th</sup>	637	824	647	202
Dubai	21 <sup>st</sup>	617	752	622	207
<b>Dublin</b>	<b>23<sup>rd</sup></b>	<b>613</b>	<b>945</b>	<b>622</b>	<b>185</b>
Edinburgh	27 <sup>th</sup>	605	708	612	214
Munich	30 <sup>th</sup>	588	508	609	234
Amsterdam	31 <sup>st</sup>	586	650	592	199

This report sets out to assess how Dublin might improve its position in the GFCI. The methodology to achieve this was primarily to:

- ◆ examine the most highly correlated (third party) instrumental factors in the GFCI to determine strengths and weaknesses;
- ◆ examine the instrumental factors to establish which might be “influenceable” and to identify instrumental factor ‘targets’ for Dublin;
- ◆ re-model the GFCI using competitive centres to identify areas of strength and weakness.

Examining the most important instrumental factors (detailed in section 4), the main findings include:

- ◆ Dublin is ranked higher than Amsterdam in 7 factors and ranked lower in 24;
- ◆ Dublin is ranked higher than Dubai in 19 factors and ranked lower in 7;
- ◆ Dublin is ranked higher than Edinburgh in 8 factors and ranked lower in 17<sup>1</sup> (they are equal in 2);
- ◆ Dublin is ranked higher than Geneva in 8 factors and ranked lower in 22;
- ◆ Dublin is ranked higher than Jersey in 3 factors and ranked lower in 15;
- ◆ Dublin is ranked higher than Luxembourg in 13 factors and lower in 14;
- ◆ Dublin is ranked higher than Munich in 12 factors and lower in 19.

Our research indicates that Dublin's key strengths include:

- ◆ A venue for the insurance and reinsurance industries – responses from professionals in these sectors rate Dublin highly. Fund administration, whilst not a separate sub-index within the GFCI, was mentioned as being strong by several respondents;
- ◆ access to international financial markets;
- ◆ a good ‘all-rounder’ – our research shows that in order to be a successful financial centre, a city needs to be good at most things – Dublin scores reasonably well in most instrumental factors;
- ◆ connectivity with other financial centres – many financial professionals around the globe know Dublin. A well connected city gains from global trade and benefits from being part of the global financial network.

Dublin's weaknesses appear to revolve around:

- ◆ Business Environment – Dublin performs less well in the Business Environment Sub-index as a result of relatively poor performance in certain instrumental factors;
- ◆ the current economic situation – the current economic climate in Ireland and the limited power of the Government to encourage growth and stimulate the economy;
- ◆ the tarnishing of ‘Brand Ireland’ (and ‘Brand Dublin’) – several respondents we have spoken to think that the ‘brand image’ of Dublin has suffered more than many centres as a result of the financial crisis;
- ◆ rapid employment and property cost rises – Dublin has held a position of strength on the basis of operational cost advantage in the past. Employment and property cost rises in the

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<sup>1</sup> For the factor ‘Banking Industry Country Risk Assessments’, Dublin is ranked equal with Edinburgh, Jersey, Luxembourg and Munich because those cities are in the same tier.

few years up to 2008 led to Dublin's cost advantages being eroded. Many of these cost increases are currently being reversed fairly rapidly by economic conditions.

Potential threats to Dublin's position in the GFCI include:

- ◆ other European and Scandinavian centres including Amsterdam and Munich concentrating their efforts on becoming more competitive;
- ◆ the rapid rise of the Asian centres: Hong Kong, Singapore, Shenzhen, Shanghai and Beijing are all now above Dublin in the GFCI ratings and Taipei and Seoul are just below Dublin in GFCI 6;
- ◆ a regulatory kneejerk to the current crisis could have unintended consequences that leads to a loss of competitiveness for certain financial centres including Dublin;
- ◆ the global financial crisis and resulting economic slowdown might make it harder for Dublin to make improvements in its competitive position in the short term;
- ◆ loss of skills and experience - as jobs in the financial sector are shed, there is a danger than many of the people affected will seek employment in other sectors or even move abroad. It is vital that in times of a slow down, a centre tries to maintain and develop its pool of talent.

By examining the factors where Dublin's performance is weakest and looking at those which are 'influenceable' by policymakers we can suggest a number of possible strategic priorities for Dublin. These priorities are based entirely on an analysis of the GFCI ratings and the third party instrumental factors used in the model, they are not based on detailed analysis of the associated policy implications for Dublin.

Potential strategic priorities for Dublin include:

- ◆ to work with national and European governments to improve the areas indicated by relatively poor performance in instrumental factors;
- ◆ to lobby the EU regarding financial regulation;
- ◆ to nurture the insurance and reinsurance industries;
- ◆ to investigate the potential to utilise tax advantages and current strengths as a 'trusted offshore' or 'long finance' centre;
- ◆ to rebuild the strength of brand Ireland.

### **Improving areas of comparative weakness:**

The instrumental factors where Dublin's performance is weakest and where the ratings might be influenceable by policymakers in the short to medium term are:

- ◆ the World Competitiveness Scoreboard;
- ◆ the Capital Access Index;
- ◆ the Business Environment Index;
- ◆ the Number of International Fairs and Exhibitions;
- ◆ the E-Readiness Score
- ◆ the Employee Effective Tax Rates.

In short, the area of competitiveness that we term the 'Business Environment' appears to be the most significant area for Dublin at present. The business environment includes stable

politics, good regulation, low bureaucracy, low corruption, a 'trustworthy' environment and a strong rule of law.

### **Conversing with the EU on Financial Regulation:**

Whilst Ireland is generally in favour of current regulatory proposals, there is a potential danger that future national and international regulators will impose new regulations. All proposed regulations should be studied to identify potential unintended consequences that could lead to a loss of competitiveness for Dublin.

### **Nurturing the Insurance and Reinsurance Industries:**

The insurance and reinsurance industries clearly value Dublin as an important location in which to do business. It is clearly important that Dublin preserves this situation both for the value that the insurance and reinsurance industries bring to the city and so that the insurance and reinsurance sectors can be used to promote the financial centre as a whole. It is interesting to note the continued strength of the reinsurance sector.

### **The Potential for Positioning Dublin as a 'Trusted' or 'Long Finance' Centre:**

There is a potential niche for an existing centre to become a 'trusted' centre – one that imposes strict anti-money laundering measures and is fully transparent to tax authorities. We also believe that there is a niche for a financial centre that specialises in what we refer to as 'long finance'.

### **Rebuilding the strength of Brand Ireland:**

The brand image of Dublin has suffered more than many centres as a result of the financial crisis. The GFCI measure of reputational advantage shows that centres which actively promote their competitiveness for financial services seem to gain a reputational edge. In GFCI 5, Dublin's reputational advantage was + 27. In GFCI 6 the reputational advantage has fallen to just + 8.

This must determine one key strategic priority. The reputation of Dublin as a financial centre must be enhanced. This needs to be achieved through marketing and PR – building the brand of Dublin. Crucially, Dublin should be marketing itself as a very competitive centre for financial services activity and particularly insurance and reinsurance. In addition to mainstream marketing activities, one means of marketing Dublin is to get the financial community in the city to participate in the GFCI questionnaire. This will draw attention to Dublin's competitiveness and help raise Dublin's profile as an international financial centre.

**The link to the survey is: <http://www.fm2x.com/gfci/>**

## 2. BACKGROUND & INTRODUCTION

The Z/Yen Group has significant experience in researching the competitiveness of financial centres. One research project in this field is the Global Financial Centres Index, first published in March 2007 by the City of London and developed by Z/Yen, has now had six editions - GFCI 6 was published in September 2009.

The GFCI provides ratings for financial centres calculated by a 'factor assessment model'. This combines third party indices (instrumental factors) with the responses of financial services professionals to a comprehensive questionnaire (the financial centre assessments):

- ◆ instrumental factors - these are 'indices' of objective measures of competitiveness supplied by third parties such as the OECD, the World Bank, PwC and The Economist Intelligence Unit. For example, evidence about infrastructure competitiveness of financial centres is provided by research into transportation and infrastructure assets and an index of occupancy costs. Evidence about a fair and just business environment is provided by a corruption perceptions index. Further examples include a cost of living survey and the City Brands Index. A total of 64 external sources were used in GFCI 6 (up from 57 in GFCI 5); full details with a brief description of the methodologies used are given in the Appendices together with web links so that the indices themselves can be examined.
- ◆ financial centre assessments - GFCI 6 incorporates responses to an ongoing online questionnaire (Appendix B) completed by international financial services professionals assessing financial centres with which they are personally familiar. The online questionnaire runs continuously to keep the GFCI up-to-date with people's changing perceptions. 36,497 assessments from 1,802 respondents are used in the GFCI 6 model.

The instrumental factors and the financial centre assessments are used to build a predictive model of centre competitiveness using statistical techniques that classify and model complex data in order to make predictions. The model predicts how respondents would have assessed centres they are not familiar with, by answering questions such as:

*If an investment banker gives Dublin and Amsterdam certain assessments then, based on the relevant data for Dublin, Amsterdam and Munich, how would that person assess Munich?*

This approach does not suffer many of the disadvantages of more traditional techniques and it does not involve weighting or averaging either the instrumental factors or the financial centre assessments (see Appendix A for more information on the GFCI Methodology).

Financial centres funnel investment towards innovation and growth. Vibrant, competitive financial centres give cities economic advantages in information, knowledge and access to capital. Although financial centres compete with one another, the competition is not a 'zero sum' game. A strong financial centre, whether domestic, niche, regional, international or global, connects the wider economy to the global financial community. Cities that through their financial centres are part of the global financial network gain from global trade and growth. Inward and outward investment opportunities increase the wealth of cities that have

financial centres and the wealth of their citizens. Recognising the importance of financial centres, the Office of International Relations and Research based in Dublin City Council asked Z/Yen to evaluate certain aspects of Dublin's competitive position using data gathered during the compilation of GFCI 6. Established in 2006 by the Dublin City Manager, a key function of the Office of International Relations and Research is to monitor Dublin's performance in international competitiveness rankings<sup>2</sup>.

It is intended that this research report will be the first in a series of reports that will enhance our understanding of Dublin's position in such rankings. Alongside each bi-yearly GFCI release there will be a specific summary report for Dublin produced by Z/Yen on behalf of Dublin City Council.

Dublin's competitive position needs to be seen in the context of the current financial crisis. GFCI 6 shows that of the 75 centres rated, 59 centres have received higher scores than in GFCI 5 and only three have lower scores. These three were Dublin, Glasgow and Gibraltar. The table below shows the current ratings and ranks of the top 50 GFCI centres:

Centre	GFCI 6 Rating	GFCI 6 Rank	Change in Rating since GFCI 5	Change in Rank since GFCI 5
London	790	1	9	0
New York	774	2	6	0
Hong Kong	729	3	45	+1
Singapore	719	4	32	-1
Shenzhen	695	5	-	-
Zurich	676	6	17	-1
Tokyo	674	7	63	+8
Chicago	661	8	23	-1
Geneva	660	9	22	-3
Shanghai	655	10	117	+25
Sydney	651	11	41	+5
Frankfurt	649	12	16	-4
Toronto	647	13	32	-2
Jersey	640	14	27	-1
Guernsey	638	15	23	-3
Luxembourg	637	16	25	-2
San Francisco	634	17	25	0
Boston	634	18	16	-9
Paris	630	19	30	0
Washington D.C.	630	20	34	+1
Dubai	617	21	37	+2
Beijing	613	22	135	+29
<b>Dublin</b>	<b>613</b>	<b>23</b>	<b>-5</b>	<b>-13</b>
Taipei	609	24	91	+17
Isle of Man	609	25	8	-7

<sup>2</sup> Contact [research@dublincity.ie](mailto:research@dublincity.ie) for further information.

Cayman Islands	608	26	17	-4
Edinburgh	605	27	5	-7
Hamilton	597	28	33	-1
Vancouver	589	29	20	-4
Munich	588	30	30	-1
Amsterdam	586	31	11	-7
Montreal	586	32	18	-6
British Virgin Islands	584	33	35	+1
Melbourne	584	34	22	-6
Seoul	576	35	114	+18
Stockholm	569	36	13	-6
Brussels	568	37	16	-5
Osaka	565	38	96	+14
Monaco	563	39	30	-2
Madrid	560	40	54	+7
Sao Paulo	560	41	120	+13
Copenhagen	560	42	28	-4
Qatar	558	43	51	+3
Bahrain	558	44	45	-1
Kuala Lumpur	557	45	47	0
Vienna	555	46	42	-4
Milan	554	47	33	-7
Bahamas	551	48	14	-12
Glasgow	550	49	-4	-18
Johannesburg	550	50	47	-2

Thirteen new centres appear in the ratings for the first time. GFCI 5 demonstrated that the financial crisis had created uncertainty and a significant reduction in confidence, with an unprecedented fall in the ratings for every centre. The rise in ratings in GFCI 6 demonstrates a return of confidence to GFCI 4 levels, with the top scores here being very similar, and the bottom scores showing a small improvement.

It is clear that GFCI 5, based on assessments given during the second half of 2008, showed the low point in GFCI ratings with perceptions being affected by widespread recession and uncertainty about the future of financial services. The level of assessments has returned to pre-financial crisis levels reflecting increased optimism and indications that the end of the crisis is in sight.

Of the top 20 financial centres that were in GFCI 5, 15 have shown a reduction in the standard deviation of assessments. This indicates a greater degree of certainty and confidence than in 2008. This reduction in volatility may also indicate that future ratings may well be more stable.

London remains in top place and has extended slightly its lead over New York. London and New York still lead the field although the financial crisis has had a significant impact on both and the gap between them and the third placed centre has been cut from 81 points to 45. Hong Kong and Singapore have demonstrated stable, long term competitiveness and have joined London and New York as genuine global leaders.

The main concerns voiced about the leading centres' competitiveness are:

- ◆ the fear of a regulatory backlash that limits the freedom of financial institutions;
- ◆ the loss of skills and experience from the industry.

All Asian centres have shown a marked improvement in the GFCI ratings since GFCI 5. As well as being well supported by respondents from Asia itself, this may indicate that the Asian centres have been less badly affected by the recent crisis than many of the leading European and North American Centres. There has been a dramatic rise in the ratings of all Asian centres. Shenzhen is a new entry into the GFCI and has secured 5<sup>th</sup> rank due to very strong support from the other Asian centres. Shanghai has moved into the top ten with a gain of 117 in the ratings and Beijing has jumped to 22<sup>nd</sup> place with a rise of 135 points. Tokyo has risen back into the top ten with an increase of 63 points, having fallen to fifteenth place in GFCI 5.

The offshore centres have come under a fair degree of scrutiny during the financial crisis. Many offshore centres are regarded as 'tax havens' and there has been significant pressure applied to these centres by many national regulators as well as international bodies such as the OECD. A reduction in secrecy required by the internationally agreed tax standards, has been a key demand of the regulators. The rankings of the offshore locations have generally declined. GFCI 6 shows a strong correlation between the GFCI ratings and the status of offshore centres in the OECD tax standard implementation list. The centres on the 'white list' are rated higher by respondents than those on the 'grey list'.

GFCI 6 demonstrates a pattern that most of the leading centres are also the most 'connected' centres. London is rated by (and thus familiar to) over 80% of non-home respondents, New York is rated by two thirds of non-home respondents and Hong Kong is rated by 57% of non-home respondents.

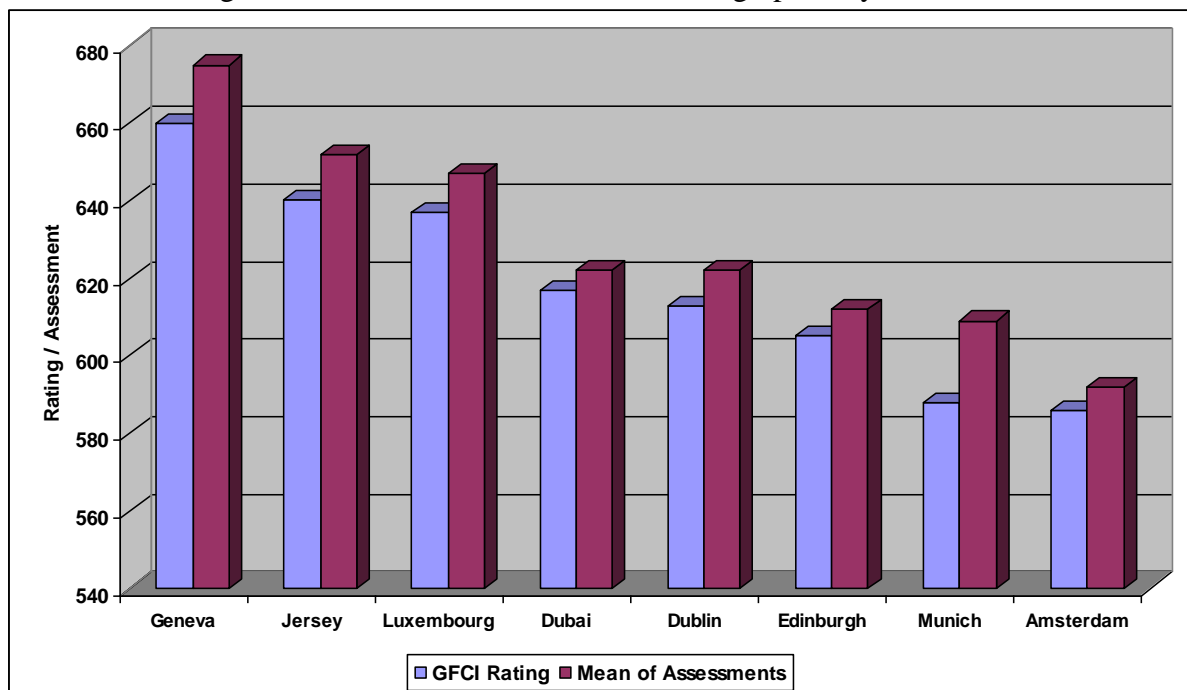
In GFCI 6, Dublin is in 23<sup>rd</sup> position with a score of 613 on a scale with a theoretical maximum of 1,000. Dublin's position in the GFCI has remained fairly constant in the four past editions of the GFCI:

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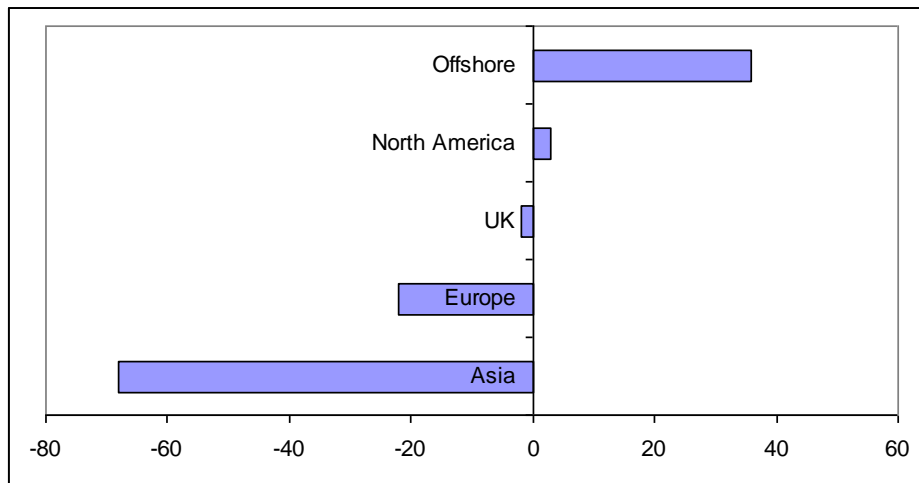
The scores and assessment details of other competitive centres are shown below. The assessments used in GFCI 6 were for the 24 months up to June 2009:

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The GFCI 6 ratings and mean assessments are illustrated graphically below:



The average assessment that Dublin received over the 24 months to June 2009 was 622. It is interesting however, to examine the different average assessments from respondents based in different regions around the world. The chart below shows how the averages vary by region:



Respondents from UK and North America are fairly neutral. Offshore centres rate Dublin more highly than respondents from elsewhere. The GFCI 6 model only includes five respondents from Dublin itself.

It is important to note that in the 24 months before GFCI 6 assessments were collected (January 2007 to December 2008) the average assessment given to Dublin was 666. In the period January to June 2009 the average assessment given was 575 – a decline of almost 14%. Respondents' perceptions of Dublin's indicate clearly that the city's reputation has suffered recently.

The GFCI model allows us to create a measure of reputation which we describe as 'reputational advantage'. If the average of assessments given to a centre is higher than the GFCI rating, this indicates that perceptions about a centre (a measure of reputation) are higher than the quantitative measures alone would suggest. In GFCI 5, Dublin's reputational advantage was + 27. In GFCI 6 the reputational advantage has fallen to just + 8.

The analysis in this report is based on an analysis of the GFCI ratings and the third party instrumental factors used in the GFCI model, and the recommendations are not based on detailed analysis of the associated policy implications for Dublin. This report is not intended to be a 'road-map' or a detailed action plan – it simply uses the analysis of the GFCI model to highlight potential areas for improvement. We have aimed to produce a report that acts as a starting point for further development of an action plan to improve Dublin's competitiveness.

*“The reputation of Dublin as a financial centre has really suffered in the financial crisis”.*

Edinburgh based Pension Fund Administrator

*“I am slightly surprised that Dublin has been quite so high in the GFCI - it's a great place to do business but I'm not sure it merits being in the top ten in the world”.*

London based Asset Manager

### 3. METHODOLOGY

The methodology for this analysis was based on examining the inputs for GFCI 6 – the instrumental factors and questionnaire responses. The research falls into 3 areas:

#### 3.1 Instrumental Factors

- ◆ examining the main instrumental factors in the GFCI to determine which are “influenceable” in the near term and which would take longer to alter;
- ◆ based on the “influenceable” instrumental factors identified above, comparing Dublin to other competitive centres – Amsterdam, Dubai, Edinburgh, Geneva, Jersey, Luxembourg and Munich;
- ◆ the analysis is based on the examination of the instrumental factor scores and assessments given to each centre by type and location – it does not involve primary research of each centre’s fundamentals;
- ◆ identifying “instrumental factor targets” for Dublin that could make a difference to the GFCI rating;

#### 3.2 GFCI Modelling

- ◆ undertaking several “what if” runs of the GFCI model to indicate how the “influenceable” factors make a difference to Dublin’s GFCI rating – this includes resetting Dublin’s instrumental scores to higher and lower levels;
- ◆ running sub-indices by market sector to identify Dublin’s strengths and weaknesses in banking, asset management, insurance, etc.;
- ◆ running sub-indices for areas of competitiveness (sets of instrumental factors – people, business environment, market access, infrastructure and general competitiveness) to determine where Dublin does well, where it does poorly and how Dublin compares with the directly competing centres.

#### 3.3 Analysis & Reporting

- ◆ writing a short report that includes the results of the above work, with data presented in both text and graphic form suitable for use by Dublin City Council in its follow up presentations and speeches (appropriately sourced as Z/Yen material);
- ◆ including within the report suggestions of possible opportunities and threats to Dublin’s competitiveness, and possible strategic priorities for Dublin to raise its competitiveness as a financial centre.

## 4. INSTRUMENTAL FACTORS

### 4.1 The Main GFCI Instrumental Factors

In order to discover the instrumental factors of particular interest, we have listed the top 20 (in terms of correlation to GFCI 6 rankings) in the table below. We have also included thirteen other city based instrumental factors with lower correlations as these are of potential interest to Dublin. We examine the main variables considered by each index and how influenceable these might be. Please note that these indices are either based on individual cities or are based on the countries where the financial centres are based:

Instrumental Factor <sup>3</sup>	Source	Country/ City Based	R <sup>2</sup> with GFCI
Centres of Commerce Index	MasterCard	City	0.549
World Competitiveness Scoreboard	IMD, World Competitiveness Yearbook	Country	0.487
Global Competitiveness Index	World Economic Forum	Country	0.413
City Brands Index	Anholt	City	0.388
Capital Access Index	Milken Institute	Country	0.352
Quality of Roads	World Economic Forum	Country	0.349
Credit Ratings	Institutional Investor Magazine	Country	0.343
Direct Real Estate Transaction Volumes	Jones Lang LaSalle	City	0.330
Banking Industry Country Risk Assessments	Standard & Poor	Country	0.309
Business Environment	Economist Intelligence Unit	Country	0.304
Capitalization of Stock Exchanges	World Federation of Exchanges	City	0.291
Global Cities Index	AT Kearney	City	0.284
Access Opportunities Index	SRI International	Country	0.282
Foreign Direct Investment Inflows	UNCTAD	Country	0.275
The World's Most Innovative Countries	Economist Intelligence Unit	Country	0.273
Number of International Fairs and Exhibitions	World Economic Forum	Country	0.269
CPI (percentage change on one year ago)	The Economist	Country	0.251
Economic Freedom of the World	Fraser Institute	Country	0.242
Index of Economic Freedom	Heritage Foundation	Country	0.237
E-Readiness Score	Economist Intelligence Unit	Country	0.233
Political Risk	Exclusive Analysis Ltd	Country	0.231
Opacity Index	Milken Institute	Country	0.217

<sup>3</sup> The table excludes "Intellectual Capital" and "Lifestyle Assets" by PWC, and "Volumes of Stock Futures and Options Trading" by World Federation of Stock Exchanges as these do not rank Dublin.

Office Space Around the World	Cushman & Wakefield	City	0.214
Real Estate Transparency Index	Jones Lang LaSalle	Country	0.211
Corruption Perception Index	Transparency International	Country	0.204
Value of Share Trading	World Federation of Exchanges	City	0.202
Wage Comparison Index	UBS	City	0.189
Volume of Share Trading	World Federation of Exchanges	City	0.179
Top Tourism Destinations	Eurostat	City	0.151
Office Occupancy Costs	CBRE	City	0.100
Broad Stock Index Levels	World Federation of Exchanges	City	0.038
Employee Effective Tax Rates	Price Waterhouse Coopers	City	0.033
Cost of Living	Mercer HR	City	0.030
Average Days with Precipitation	Sperling's Best Places	City	0.019
Personal Safety	Mercer HR	City	0.011
Quality of Living Survey	Mercer HR	City	0.009
Value of Bond Trading	World Federation of Exchanges	City	0.004
City Population Density	City Mayor Statistics	City	0.001

### 4.2 Dublin's Performance in the Main Instrumental Factors

In this section we examine the 35 instrumental factors listed in section 4.1 above. It is important to recognise that where we refer to ranks, these are **the ranks between GFCI centres only** (they are not rankings within the individual indices – some of which include over 150 countries or cities).

**Centres of Commerce Index (City Based)** – In this survey Dublin is ranked 27<sup>th</sup>, however it is in the top three of its peer group outranked only by Amsterdam in 10<sup>th</sup> position and Munich ranked 23<sup>rd</sup>. Geneva, Edinburgh and Dubai are further down the list outside the top 30.

The index is developed by a panel of experts in economics, sociology and urban studies. It classifies 75 cities according to their significance in international commerce and as global and regional economic and cultural centres. The index groups 43 indicators and 74 sub indicators (with different weightings) into 7 major factors.

- ◆ legal and political framework – the measures used for this factor are Moody's ratings, bank ratings, several indicators that compile the ease of dealing with licenses, of registering property and of trading across borders;
- ◆ economic stability – comprised of GDP growth volatility, exchange rate volatility and inflation volatility;
- ◆ ease of doing business – this factor covers many measures such as banking services, corporate tax burden, investor protection, ease of starting and closing a business, getting credit, employing workers, the number of conventions and exhibitions facilities and ease of entry;

- ◆ financial flow – measures the financial network a city has in terms of banking, insurance and securities; it also takes into account equity and earned transactions and the trade of derivatives and commodities contracts;
- ◆ business centre – reflects air passengers and air phone traffic, international air passengers and air cargo traffic. It also considers port TEU's<sup>4</sup>, the number of five star hotels and commercial real estate development;
- ◆ knowledge creation and information flow – comprised of 8 different quantitative measures: number of universities, number of medical schools, number of MBA programs, patent application per million people, search engine hits, researchers per million people, scientific and technical journal articles per million people, and broadband access per thousand people;
- ◆ liveability – this factor reflects the quality of life, basic services, health and safety and personal freedom.

Of all the listed factors Dublin scores very well only in ease of doing business, where it rivals Singapore, London, Hong Kong and New York. Unfortunately in other measures it falls behind many other cities and is in the lower half of the GFCI centres.

We have tried to assess how influenceable each factor is – how easily could Dublin's policy makers influence it's competitiveness in this factor in the short to medium term. In this instrumental factor, the 'legal and political framework' can be influenced through appropriate government policies.

**World Competitiveness Scoreboard (Country Based)** – Ireland is rated 29<sup>th</sup> in this factor behind Geneva, Amsterdam, Luxembourg and Munich (in that order).

The survey compiled by IMD, a leading global business school based in Geneva, ranks 57 economies in a competitiveness scoreboard; the scoreboard is based on 331 various criteria divided into 4 broad sub-groups:

- ◆ economic performance which measures size, growth, wealth and forecasts for the domestic economy, international trade, international investment, employment and price levels;
- ◆ government efficiency measures business legislation in terms of openness, competition and labour regulations, the institutional framework, fiscal policy, public finance and societal framework;
- ◆ business efficiency reflects business productivity, efficiency, management practices, attitudes and values, financial management, bank and stock market efficiency as well as costs, relations and availability of skills in the labour market;
- ◆ infrastructure measures basic, scientific and technological infrastructure as well as health, environment and education.

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<sup>4</sup> TEU – Twenty-foot Equivalent Unit – this is a unit of cargo capacity often used to describe the capacity of container ships or container terminals; it is based on the volume of a standard 20 foot long container

Many areas of Government Efficiency and Infrastructure are influenceable by policymakers and IMD offers detailed country profiles, which would help to better understand the country's position.

**Global Competitiveness Index (Country Based)** – Here Dublin is ranked 41<sup>st</sup> (this survey ranks more countries than the World Competitiveness Scoreboard described above). This ranking reflects the fact that the survey is country based and there are a number of countries outranking Ireland. Luxembourg and the Emirates are the only countries placed behind Ireland. Geneva is the leader in the peer group in 6<sup>th</sup>, followed by Munich in 12<sup>th</sup> and Amsterdam in 13<sup>th</sup> place.

The Global Competitiveness Index rankings are drawn from 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. It ranks 131 countries, which can explain why there is such a large gap between Ireland's rank in this factor and the similar sounding World Competitiveness Scoreboard, which ranks only 57 economies and where Ireland is 29<sup>th</sup>. The overall index is derived from three sub-indices:

- ◆ basic requirements include the main factors without which not even the most unsophisticated economy could not work – institutions, infrastructure, macroeconomic stability and health and primary education;
- ◆ efficiency enhancers are the factors that place a country's economy on the next stage of development; they are higher education, goods market efficiency, labour market efficiency, financial market sophistication, technological readiness and market size (which includes export markets to which domestic firms have access);
- ◆ innovation factors are the last two factors that serve to distinguish the most advanced knowledge based economies: business sophistication and innovation.

This index includes levels of competition and barriers to trade, both of which are potentially influenceable by policymakers. Ireland seemingly falls behind in the basic requirements with low scores for infrastructure and macroeconomic stability. Another area where Ireland could do more according to this survey is technological readiness.

**City Brands Index (City Based)** – Here Dublin is ranked 18<sup>th</sup> with Amsterdam and Geneva the only cities ranked ahead at 8<sup>th</sup> and 12<sup>th</sup> place respectively. Edinburgh is ranked 19<sup>th</sup> just after Dublin.

The City Brands Index is an analytical ranking of the world's city brands that ranks 40 well known cities on the responses of nearly 20,000 consumers in 18 countries. The results are a measure of how cities are perceived by others in terms of six components:

- ◆ presence - a city's international status and standing;
- ◆ place - a city's beauty, climate and other physical attributes;
- ◆ potential - a city's economic and educational opportunities;
- ◆ pulse - a city's urban appeal and lifestyle;

- ◆ people – a city's friendliness, openness, cultural diversification and safety;
- ◆ pre-requisites - a city's basic qualities including hotels, schools, public transport and sports.

This majority of measures in this index cannot be easily influenced by policymakers in the short term.

**Capital Access Index (Country Based)** – Dublin is ranked 35<sup>th</sup> along with Paris and followed closely by Dubai in 37<sup>th</sup> place. The peer group leaders in this survey are Geneva, Edinburgh and Jersey; Amsterdam is also ranked ahead of Dublin.

This index analyses the breadth, depth and vitality of capital markets across 122 countries that account for 99% of world GDP. Countries are ranked according to their support to economic activity. There are 58 variables assessed for each country, grouped into 7 components (sub indices) that include:

- ◆ macroeconomic environment – with 25% weighting – this component measures how favourable a country's macroeconomic environment is to running and financing a business;
- ◆ institutional environment – 25% weighting – the level to which a country's institutional framework supports business financing activities. Its variables include enforceable property rights, an efficient judicial system, bankruptcy procedures and levels of corruption;
- ◆ financial and banking institutions – 10% weighting – a measure of the level of involvement by financial institutions in business financing through ease of access to bank loans, efficiency and soundness of the banking system and the level of private sector credit;
- ◆ equity market development – 10% weighting – a measure of the importance of financing business operations for a given country through the liquidity of the stock market, its capitalisation relative to GDP and securitised assets issuance relative to GDP;
- ◆ bond market development – 10% weighting – some of the variables are private and public bonds relative to GDP and securitised asset issuance relative to GDP;
- ◆ alternative sources of capital – 10% weighting – measures the use of alternative financing tools such as venture capital, private placements and credit cards;
- ◆ international funding – 10% weighting – measures the level of foreign capital available in a given country through volatility of exchange rates, sovereign ratings, international reserve holdings, portfolio capital and FDI.

According to the Capital Access Index, Ireland doesn't do well in macroeconomic environment and equity market development; however it has a relatively good position in the rest of the components and is in the top three for international funding. Clearly a number of the variables used to construct this index are influenceable and the Milken Institute has a detailed breakdown of all the variables used for the composition of the seven components.

**Quality of Roads (Country Based)** – Dublin is ranked 54<sup>th</sup> in this measure outranked by a large margin by all other cities – the last but one from the peer group is Amsterdam that shares 29<sup>th</sup> place with Edinburgh. Geneva is the leader ranked 1<sup>st</sup>.

This index is derived from the World Economic Forum's Travel and Tourism Competitiveness Index. Quality of roads aims to rank countries according to the quality of their road infrastructure and is one of the measures used to compile a sub index reflecting a country's ground infrastructure. It is based on an opinion survey conducted through a questionnaire and is hence more indicative of the public's perception of the quality of roads rather than hard data.

In the actual survey Ireland is ranked 66<sup>th</sup> with the same rating as Mexico, Hungary, Georgia and Pakistan. Given that the rating is based on people's perceptions it is probably not directly influenceable in the short term. It is worth noting that in the Global Competitiveness Index (see above) Ireland actually has its lowest rank for infrastructure.

**Credit Ratings (Country Based)** – Dublin is ranked 35<sup>th</sup> ahead only of Dubai, which is 48<sup>th</sup>. Geneva is again top amongst the peer group, followed by Luxembourg in 4<sup>th</sup>, Munich in 5<sup>th</sup> and Amsterdam in 7<sup>th</sup> place.

The rankings are compiled by the Institutional Investor Magazine and are based on grades from 0 to 100 assigned by a multitude of senior sovereign risk analysts, economists and managers at leading financial institutions. The scores given reflect the probability that a country will default with 100 being the smallest risk and 0 – the greatest.

Clearly Dublin's position would have been affected by the downgrading of Ireland's credit rating. Ireland is already working hard to restore its otherwise high international position.

**Direct Real Estate Transaction Volumes (City Based)** – Dublin is ranked 14<sup>th</sup>, which makes it the leader in its peer group with Munich second in 18<sup>th</sup> place and Amsterdam third in 27<sup>th</sup>.

The Direct Real Estate Volumes measures the total value of commercial real estate traded in a market during 12 month period (covering Office, Retail, Industrial and Hotel investments). Residential, Development and Entity-level deals are excluded. Data is from over 150 Jones Lang LaSalle offices worldwide, and third party data providers.

This is not an easy measure to influence except indirectly through property, business and FDI friendly policies. It is worth noting that in the World Bank's Ease of Doing Business Index Ireland is ranked 79<sup>th</sup> in the measure called 'registering property' while 7<sup>th</sup> in the overall index.

**Banking Industry Country Risk Assessments (BICRA) (Country Based)** – Dublin is ranked 12<sup>th</sup>, which actually places it in the second tier of this index (see below) along with

Munich, Edinburgh and Luxembourg. Amsterdam and Geneva however are ranked 1<sup>st</sup> in the top tier, while Dubai is in 4<sup>th</sup> place.

Standard & Poor's Rating Services ranks the risk in 89 countries' banking systems according to their respective economic, regulatory and legal environment as well as the credit positions of the financial institutions that operate in this environment. Countries are given individual scores according to their financial systems' relative strengths and weaknesses, structure and performance of the country's economy, legal and regulatory infrastructure, quality and effectiveness of bank regulation and the track record of its central bank's crisis management; a key element that accounts for the credit structure is the proportion of gross problematic assets (GPA's) such as overdue loans, non-performing assets sold to special purpose vehicles and restructured debt including foreclosed assets (mainly real estate) recovered through loan rearrangements.

Legal and regulatory infrastructure as well as quality and effectiveness of bank regulation are influenceable by government policies. In this survey Ireland's banking system is placed in the 2<sup>nd</sup> of ten broad risk groups – the first group being the least risky; Ireland is also in the group that has the least GPA's.

**Business Environment (Country Based)** – Dublin is ranked 29<sup>th</sup> for this instrumental factor. It falls behind Geneva, Amsterdam, Edinburgh and Jersey and is ranked just ahead of Munich in 30<sup>th</sup> place.

The business environment ranking covers 82 of the world's more significant economies and measures their attractiveness to business. It is based on business surveys, quantitative data and expert assessments and reflects the general criteria used by businesses for the development of their strategic and investment location decisions. The scores are based on 91 indicators grouped into ten broad categories that reflect FDI policies, institutional effectiveness, market opportunities, financing, infrastructure, taxes, foreign trade and exchange regimes, labour market and skill endowments, macroeconomic and political stability as well as policies towards private enterprise and competition. The survey reflects a five year historical period (2002-2006) and a five year forecast period (2007-2011).

Many of the variables in this index are influenceable by policymakers - FDI policies, taxes, labour market and skill endowments, policies towards private enterprise and competition, etc.

**Capitalisation of Stock Exchanges (City Based)** – Dublin is ranked 33<sup>rd</sup> of only 39 cities in the GFCI. The only other city from the peer group that has an exchange ranked by WFE is Luxembourg and it ranks ahead of Dublin at 31<sup>st</sup> place.

The World Federation of Exchanges provides a monthly newsletter called FOCUS, which contains monthly statistics tables for the major stock exchanges around the world. Only 39 cities participating in the GFCI have stock exchanges significant enough to be ranked by WFE; in cases where a city has more than one such stock exchange the measures of all

exchanges were added up in order to best reflect the actual stock exchange activity taking place in this financial centre.

This factor is clearly not influenceable by policymakers.

**Global Cities Index (City Based)** – Dublin is ranked 36<sup>th</sup> behind Amsterdam at 21<sup>st</sup>, Dubai at 25<sup>th</sup> and Munich at 32<sup>nd</sup> place.

The Global Cities Index is a measure of the cities' international status and their influence on the rest of the world; this encompasses the cities that host to the biggest capital markets, the most elite universities, the most powerful international organisations, the wealthiest multinationals and the most diverse and well-educated populations. The survey ranks 60 cities according to 24 diverse indicators grouped into 5 broad dimensions:

- ◆ business activity – measures the value of a city's capital markets, the number of Fortune 500 firms headquartered and the volume of goods that pass through the city;
- ◆ human capital – includes the size of a city's immigrant population, number of international schools and percentage of citizens with university degrees;
- ◆ information exchange – the number of international news agencies, amount of international news in local newspapers and the number of broadband subscribers;
- ◆ cultural experience – includes measures that reflect the level of diverse attractions that the city can offer for residents and travellers – everything from major sporting events to the number of performing arts venues;
- ◆ political engagement – this measure includes the number of embassies and consulates, major think-tanks, international organisations, sister city relationships and political conferences that a city hosts.

In the overall survey Dublin is ranked 44<sup>th</sup> (some of the cities ahead of it are not part of the GFCI survey). The two areas where Dublin falls behind the most (it is in 48<sup>th</sup> place in both) are information exchange and political engagement. Dublin rates better than its overall rank in cultural experience (30<sup>th</sup>), human capital (39<sup>th</sup>) and business activity (41<sup>st</sup>).

This ranking is hard to influence by policymakers but it suggests that Dublin is not sufficiently politically engaged on the international level.

**Access Opportunities Index (Country Based)** – On this measure Dublin is 46<sup>th</sup> and takes the last place in its peer group. The top three are Geneva in 3<sup>rd</sup> place, and Amsterdam and Munich which share 11<sup>th</sup> place.

Access is described as “a catalytic process that enables interactions, contacts and exchanges among people, businesses and nations.” The concept of the index is to display how easy it is for international transactions to take place in the market and accounts for both physical and

information access. The index consists of 22 variables that measure physical and information access for 75 countries in three different classifications – access opportunities for people, for business and for nations:

- ◆ opportunities for people – considers whether people have improved their conditions as a result of better access that empowers them to focus on education, employment, information and participation in decision making; it also considers the level of interaction between people, their well-being and the level of improvement in their choice and expectations;
- ◆ access opportunities for business – measures the extent of market reach, the supply chain strength, levels of innovation, and growth and competitiveness.
- ◆ access opportunities for nations - measures overall economic well-being and growth, the national level of market openness through trade and FDI, the global connectivity of a nation through people's communications and the country's participation in world international organisations and treaties as well as national and international cohesion which accounts for indicators like religious and ethnic tensions, conflicts, government stability and financial risk.

This factor includes a number of measures that can be influenced to some extent by policymakers at the national level. Ireland however seems to be doing best in the opportunities for nations (2<sup>nd</sup> only to Luxembourg) and worst in the opportunities for business, notably in its supply chain strength and innovation rating. In the overall index Ireland falls behind other Northern and Western Europe countries and is ranked in the second quartile along with Iceland and most Southern and Eastern European countries.

**Foreign Direct Investment Inflows (Country Based)** – Dublin is ranked 45<sup>th</sup>, below Edinburgh, Jersey, Amsterdam and Munich. On the surface, this ranking seems very low. However, this is a country based index and thus measures Ireland rather than Dublin. It is estimated that Dublin attracts over half the entire national FDI flow and so the rating used by United Nations Conference on Trade and Development (UNCTAD) is likely to be artificially low.

As the world is becoming increasingly globalised, FDI is becoming an ever more important part of a country's economic landscape and one that requires expertise in distribution of capital, i.e. financial services. FDI inflows are also a good indicator of the degree to which a country's economy is open and business friendly (or offers high return on investment) according to foreign businesses perceptions. The data is compiled and regularly updated by UNCTAD.

The GFCI rates cities in this instrumental factor based on absolute values (rather than percentage changes on the previous year). It is however, worth noting that Ireland has experienced the largest percentage fall in FDI amongst the countries surveyed by UNCTAD.

Whilst FDI is important, it is not one of the factors that can be easily influenced in the short term. This is particularly the case for Ireland which has already done a fair amount of work in the legislative and regulatory areas.

**The World's Most Innovative Countries (Country Based)** – Dublin is ranked in 38<sup>th</sup> place and other centres in the peer group are well ahead of it. The top three in the peer group are Geneva in 3<sup>rd</sup>, Munich in 6<sup>th</sup> and Amsterdam in 15<sup>th</sup> place.

The Innovation Performance Index is compiled by the Economist Intelligence Unit. It ranks 82 countries according to how effectively they utilize knowledge for economic benefit and also provides a forecast of how those rankings may change in the next five years. The index consists of two main components:

- ◆ innovation outputs – measured by the sum of patents granted by the three major government offices in Europe, Japan and the US;
- ◆ innovation inputs:
  - direct enablers – reflects R&D spending, education of workforce, local research and ICT<sup>5</sup> infrastructures and broadband penetration; this measure has 75% weighting for innovation inputs;
  - innovation environment – reflects political environment, market opportunities, policy towards free enterprise and competition, policy towards foreign investment, foreign trade and exchange controls, taxes, financing, the labour market, and infrastructure; this measure has 25% weighting.

Although Ireland's score is not very high it ranks particularly well in the innovation environment measure. It is however not as well placed in direct enablers, which indicates that more needs to be done in order to directly encourage innovation.

Policymakers can indirectly influence spending on R&D and help improve the education of workforce as well as research and ICT infrastructures.

**Number of International Fairs & Exhibitions (Country Based)** – Dublin is ranked 49<sup>th</sup>. Munich, Edinburgh and Amsterdam are considerably ahead of Dublin in 6<sup>th</sup>, 8<sup>th</sup> and 16<sup>th</sup> places respectively; Geneva is 30<sup>th</sup>, while Dubai and Luxembourg are well behind in 62<sup>nd</sup> and 63<sup>rd</sup> places.

This index is derived from the World Economic Forum's Travel and Tourism Competitiveness Index and is based purely on hard data reflecting the average number of international fairs and exhibitions for a two year period. The number of international fairs and exhibitions is one of the measures used to compile a sub index reflecting a country's cultural resources. It is an important measure of a country's overall attractiveness and flow of (mainly) business travellers. Hosts of a large number of fairs and exhibitions will be more attractive for business ventures and hence for finance.

**Consumer Price Index (percentage change on previous year) (Country Based)** – Dublin is ranked 43<sup>rd</sup>. Cities based in countries that have experienced lower annual inflation are ranked ahead of Dublin – Amsterdam is 6<sup>th</sup>, Geneva 8<sup>th</sup>, Edinburgh and Jersey 11<sup>th</sup> and Luxembourg 31<sup>st</sup>. Dubai is not ranked in this factor.

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<sup>5</sup> Information and Communications Technology

The Economist publishes weekly economic and financial indicators including output, prices and jobs. The data used for retail price changes in GFCI is the percentage change in consumer prices on a year ago.

**Economic Freedom of the World (Country Based)** – Dublin is ranked 26<sup>th</sup>. This factor is country based and several countries that outrank Ireland in the Fraser Institute survey have several cities within the GFCI. This means that Dublin is in 26<sup>th</sup> place, whereas Ireland itself is ranked 10<sup>th</sup>. Geneva, Edinburgh and Jersey are hence ranked ahead of Dublin in 4<sup>th</sup> and 6<sup>th</sup> places, while the rest of the centres from the peer group are behind – Amsterdam is 32<sup>nd</sup>, Munich 33<sup>rd</sup>, Luxembourg 36<sup>th</sup> and Dubai 39<sup>th</sup>.

The index ranks 130 countries and is a joint venture involving seventy-one research institutes in seventy-one countries around the world. It measures the extent to which countries' institutions and principles support economic freedom. The index is comprised of 42 different elements which are combined into 5 broad components one of which is further split into three sub components:

- ◆ size of government – this component reflects four different elements: general government consumption as a percentage of total consumption; transfers and subsidies as a percentage of GDP; government enterprises and investment; and top marginal tax rates (income and payroll tax rates). A large public sector (and hence either high taxes or an unbalanced budget) is seen by many in financial services as a weakness. Ireland's public sector is comparatively large. This is therefore an area of concern in terms of financial service competitiveness;
- ◆ legal structure and security of property rights – there are seven mostly qualitative variables that are used to derive this measure: judicial independence; impartial courts; protection of property rights; military interference in rule of law and politics; integrity of the legal system; legal enforcement of contracts; and regulatory restrictions on the sale of real property;
- ◆ access to sound money – this component is derived through four elements: money growth; standard deviation of inflation; inflation in the most recent year; and freedom to run foreign currency bank accounts;
- ◆ freedom to trade internationally – this component concerns five elements: taxes on international trade; regulatory trade barriers; size of trade sector; black market exchange rates; and international capital market controls and foreign investment restrictions;
- ◆ regulation – This component is divided into 3 sub components:
  - credit market – regulations for banks' ownership, foreign bank competition, private sector credit and interest rate controls;
  - labour market – accounts for minimum wage, hiring and firing regulations, centralised collective bargaining, mandated costs of hiring and dismissal as well as conscription law;
  - business regulations – price controls, administrative requirements, bureaucracy costs, starting a business, extra payments and bribes, licensing restrictions, and cost of tax compliance.

Ireland's lowest rank among the five main components is in the size of government although regulation also gets a fairly weak rating (due mainly to credit market and labour market regulation). These areas are influenceable for policymakers in Ireland.

**Index of Economic Freedom (Country Based)** – Dublin is ranked 5<sup>th</sup>, behind only Hong Kong, Singapore and the two Australian cities Sydney and Melbourne. Geneva is a distant second within the peer group in 16<sup>th</sup> with Edinburgh and Jersey following in 18<sup>th</sup> place.

The Index of Economic Freedom measures 183 countries against a list of 50 independent variables divided into ten broad, equally weighted factors of economic freedom:

- ◆ business freedom – measures cost, time and complexity of procedures for starting a business, obtaining a license and closing a business;
- ◆ trade freedom – derived from weighted average trade barriers and non-tariff barriers such as the availability of restrictions of quantity, price, investment, customs or direct government intervention;
- ◆ fiscal freedom – reflects the tax burden through top tax rate on individual and corporate income and total tax revenue as percentage of GDP;
- ◆ government size – represents government expenditure as a percentage of GDP;
- ◆ monetary freedom – reflects the weighted average inflation rate and the presence of price controls;
- ◆ investment freedom – a qualitative index where countries are classified in tiers; e.g. 8 countries (Ireland included) are classified in the top tier, which represents countries that have very few restrictions on foreign investment due to national security, efficient bureaucracy, legal guarantees against expropriation of property and virtually no restrictions on transfers or capital transactions;
- ◆ financial freedom – a qualitative measure of banking security and independence of government control;
- ◆ property rights – another qualitative measure that measures the level to which a country's laws protect the right to private property and to which those laws are efficiently enforced;
- ◆ freedom from corruption – the scores for this measure are derived from Transparency International's Corruption Perceptions Index;
- ◆ labour freedom – there are six quantitative factors considered – the ratio of minimum wage to value added per worker, rigidity of hours, legally mandated notice period, mandatory severance pay, difficulty of hiring and difficulty of firing.

Clearly a number of the variables used to construct this index are influenceable but Ireland ranks quite high in most. However areas of concern appear to be fiscal freedom and government size – both clearly influenceable by policymakers. An area of lesser concern is labour freedom (another influenceable factor).

**E- Readiness Score (Country Based)** – Dublin is ranked 36<sup>th</sup> just behind the German centres that are both 34<sup>th</sup> (this index is also country based). The leader in the peer group is Amsterdam ranked 3<sup>rd</sup> with Geneva a distant second in 19<sup>th</sup> place.

The E-readiness score is published annually and ranks countries according to the state of their information and communications technology (ICT) and the capability of its businesses, governments and consumers to utilise it. The thinking behind the index is that the more a country does online, the more efficient (and transparent) its economy will be. The latest survey includes 69 different countries with scores from 0 to 10, 0 being the lowest and 10 the highest. The index evaluates the way a country influences its information and communications infrastructure through political, economic, technological and social means. The index is comprised of nearly 100 criteria with different weightings that are grouped in six main categories:

- ◆ connectivity – measures the ability for companies and people to access digital networks (mobile and the Internet) and services (through credit and identity cards);
- ◆ business environment – this is the Business Environment Index created by the EIU (see above);
- ◆ social and cultural environment – reflects the population's e-literacy and technical skills of the workforce;
- ◆ legal environment – this indicator concerns the laws governing Internet use and the legal frameworks influencing the use of technology in business for transactions, communications and information. In terms of legal environment European countries are behind most of the New World's developed economies;
- ◆ consumer and business adoption – measures the scale on which businesses and consumers use ICT by measuring the amount of time businesses and consumers spend accessing ICT services, their adoption levels of e-commerce and the availability of digital channels for government services;
- ◆ government and policy vision – this is an indicator of how committed the country's government is to ICT.

This index includes a number of measures (the legal environment and government and policy vision) that can be influenced to some extent by policymakers.

**Political Risk (Country Based)** – Dublin is ranked 42<sup>nd</sup>. This index is country based and Dublin's ranking appears low only because a number of countries that have several cities in the GFCI ranking are ranked higher in the original survey of Exclusive Analysis Ltd. The company specializes in forecasting political and violent risks worldwide and this index primarily reflects internal stability as well as external national security threats. Clearly this is not something that can be easily influenced in the short term by policymakers; rather it is the primary goal of policymaking.

**Opacity Index (Country Based)** – Dublin is ranked 7<sup>th</sup> and lead the peer group. It is followed by Munich in 10<sup>th</sup> place and Edinburgh and Jersey in 12<sup>th</sup>.

The Opacity Index ranks 48 countries that account for 77% of the world's population, 93% of the world's financial assets, 94% of the world's GDP and 99% of the world's equity trading volume. It is built of 65 objective variables from 41 different sources amongst which are the World Bank, the IMF and the International Securities Services Association. Countries are

ranked on a scale of 0 to 100 with 0 being perfectly transparent and 100 opaque; the rankings are based entirely on empirical observations and not as in most cases on expert opinion. The index is separated into 5 factors, which are determined as the problematic areas that institutions need to address in order to improve a country's prospects for economic growth and resilience. The factors are as follows:

- ◆ corruption;
- ◆ legal systems;
- ◆ enforcement policies;
- ◆ accounting and disclosure standards;
- ◆ regulatory quality.

As the overall rank indicates Ireland performs fairly well. Corruption and enforcement policies are however the two factors where it falls behind; Ireland is rated very highly for accounting and disclosure standards.

It is these five measures that make the difference between good and poor policymaking. Enforcement policies, accounting standards and regulatory quality are possibly the factors that can be influenced by policymakers.

**Office Space Around the World (City Based)** – Here Dublin is ranked 34<sup>th</sup> meaning that it is more expensive than Edinburgh and Amsterdam ranked 22<sup>nd</sup> and 23<sup>rd</sup> respectively. Other cities from the peer group are ranked behind Dublin with Munich at 37<sup>th</sup>, Luxembourg at 44<sup>th</sup>, Geneva at 46<sup>th</sup> and Dubai at 54<sup>th</sup> place.

This measure focuses on occupancy costs across the globe over the last 12 months and ranks the most expensive locations across the world in which to occupy office space. The figures taken are the averages for each city measured in Euros per square metre per year.

**Real Estate Transparency Index (Country Based)** – Dublin is ranked 26<sup>th</sup> behind Edinburgh and Jersey (that share 12<sup>th</sup> place) and Amsterdam that is ranked 22<sup>nd</sup>. Other centres from the peer group are ranked behind Dublin.

The transparency of global real estate markets is ranked using responses to a 27 question questionnaire - with 1 being transparent and 5 being opaque. Ranking is qualitative following global categorization standards and is conducted by Jones Lang LaSalle research and capital markets professionals and partners. The survey also provides ranking of the top 20 markets in the five sub indices categories – these mainly reflect the availability of data for:

- ◆ performance measurement;
- ◆ market fundamentals;
- ◆ listed vehicles;
- ◆ legal & regulatory environment;
- ◆ transaction process.

A potential area of concern for Ireland is market fundamentals, i.e. the availability of market fundamentals data. This is not directly influenced through policies.

**Corruption Perceptions Index (Country Based)** – Dublin is ranked 21<sup>st</sup> along with Edinburgh and Jersey. The only peer group centre that is ranked after Dublin is Dubai, placed 45<sup>th</sup>. The leader is Geneva and Amsterdam is in 8<sup>th</sup> place.

The annual Corruption Perceptions Index (CPI) ranks 180 countries and is based on the perceptions of resident business people and country analysts that provide their views about the levels of corruption that exist amongst public officials and politicians. The surveys used in compiling the CPI ask questions that relate to the misuse of public power for private benefit and do not differ between petty and grand corruption. This index forms one input to the Index of Economic Freedom (discussed above). In the survey conducted by Transparency International Ireland is ranked 16<sup>th</sup> along with the United Kingdom.

**Value of Share Trading (City Based)** – Dublin (i.e. the Irish Stock Exchange) is ranked 31<sup>st</sup> of 39 cities (some cities have more than one exchange listed). As mentioned the only other exchange ranked by WFE is the Luxembourg Stock Exchange, which is ranked behind Dublin at 36<sup>th</sup> place.

There is little that policymakers can do to influence the market forces that determine the stock exchange statistics. The stock exchange measures are nevertheless useful in assessing a city's attractiveness as a financial centre

**Wage Comparison Index (City Based)** – Dublin ranks 5<sup>th</sup> in this survey and 1<sup>st</sup> in the euro zone, making it an attractive workplace for employees. However it is worth noting that the survey was published in 2008 and the data was collected in 2007 (before the financial turmoil); it is probably unlikely that Dublin have preserved its leading position given the rising unemployment. Geneva is ranked 4<sup>th</sup> and is the only city from the peer group ahead of Dublin. Luxembourg and Munich are a more distant 9<sup>th</sup> and 11<sup>th</sup>.

The Wage Comparison Index compares the earnings of workers across 71 cities. It provides a gross wage comparison (used for GFCI) and a net wage comparison, using New York as the base city (with a score of 100). The index covers 14 occupations that represent a cross section of the work force in the industrial and service sectors. It is based on questionnaires sent to a number of companies in the relevant sector for each city that take into account age, personal status, education and length of employment. The survey reflects annual gross income including profit sharing, bonuses, holiday pay, additional months' salaries payments and family allowances measured in US dollars. There is also classification of net income, i.e. gross income after taxes and social security contributions.

This is not an area that policymakers can influence directly in the short term.

**Volume of Share Trading (City Based)** – Dublin is ranked 30<sup>th</sup> in volume of share trading and Luxembourg is 34<sup>th</sup>.

This is another measure taken from the monthly updates of the World Federation of Stock Exchanges and one that cannot be easily be influenced by policymakers.

**Top Tourism Destinations (City Based)** – As a well known tourist destination Dublin is 10<sup>th</sup> with Dubai the only peer group centre ahead of it; Amsterdam is ranked 16<sup>th</sup>. The World's Top 150 Tourism Destinations is a ranking of cities by the number of international arrivals over a year. It is estimated that around 80% of these arrivals are tourists but there were also the MICE (Meetings, Incentives, Conventions and Exhibitions) travellers.

Top international tourist destinations have a powerful incentive to invest in travel infrastructure, hotels and convention centres and thus improve the overall quality of living and working there.

**Global Office Occupancy Costs (City Based)** – Dublin is ranked 49<sup>th</sup>. Jersey and Amsterdam are leaders in the peer group in 23<sup>rd</sup> and 25<sup>th</sup> places respectively. A distant third is Munich in 33<sup>rd</sup> place. Edinburgh, Geneva and Luxembourg are ranked 42<sup>nd</sup>, 44<sup>th</sup> and 46<sup>th</sup>, which leaves Dubai the only centre ranked behind Dublin in 52<sup>nd</sup> place.

This index is a guide to accommodation costs in prime office locations. It covers 137 business districts in 49 countries worldwide, comparing the occupancy costs per workstation as opposed to unit area, in order to better reflect the true costs of accommodation. Occupancy costs per workstation reflect differing space utilisation standards, which are defined as the net usable area (space that is functional to the user, including lift lobbies and pantries if the occupier has exclusive use over these; stairwells and other common areas are not included) divided by the number of planned workstations for which the space is intended.

This factor is largely influenced by supply and demand although can be influenced to some extent by policymakers, i.e. through standardisation of net usable area. The lower rank (as compared to office space around the world) indicates that workstations in Dublin occupy more space.

**Broad Stock Index Levels (City Based)** – Dublin is ranked 20<sup>th</sup> of 45 indices (some exchanges like OMX have different indices for the capitals of the countries they combine). Luxembourg is ranked 29<sup>th</sup> and Amsterdam (included in this rank because of the Euronext Amsterdam Index AAX) is well behind in 41<sup>st</sup> place.

**Employee Effective Tax Rates (City Based)** – Dublin is ranked 50<sup>th</sup> in this measure. This fairly low rank contrasts with the usually high ranking of Ireland in tax related indices. Of the peer group, Dubai is the undisputed leader in 1<sup>st</sup> with Jersey and Geneva following in 18<sup>th</sup> and

19<sup>th</sup> places. Luxembourg and Edinburgh are also ranked before Dublin in 34<sup>th</sup> and 46<sup>th</sup> places, while Munich and Amsterdam fall behind taking 53<sup>rd</sup> and 64<sup>th</sup> places.

The employee effective tax rates are calculated by dividing the net compensation for each city by its gross compensation and then subtracting the value from 1. The figures provided by PwC specifically for the GFCI are based on a 'typical' financial services employee.

**Cost of Living (City Based)** – The cost of living in Dublin has, over recent years been considered high. This is, of course a relative measure and compared with many large capital cities, such as London, New York, Singapore or Tokyo, the current cost is relatively low. The Cost of Living Index by Mercer ranks the cities according to how expensive they are - the city that is ranked number one is the most expensive. The GFCI ranks the financial centres according to how attractive they are for the finance industry; so we invert the ranks so that the higher up the list, the lower the cost of living is. In this measure Dublin is ranked 11<sup>th</sup>. Munich, Luxembourg and Amsterdam are ranked ahead of Dublin (and are therefore cheaper) in 3<sup>rd</sup>, 6<sup>th</sup> and 9<sup>th</sup> places respectively.

The survey is designed to help multinational companies and governments establish the compensation allowances for their expatriate employees. It measures the relative cost of 200 different items – food, household goods, clothing, housing, transport, entertainment. The index has New York as a base of comparison, i.e. New York's score is 100 and the cost is measured in dollars, hence it is dependent on foreign exchange fluctuations.

This measure is complex and dependent on a host of factors so it is hard to influence for policymakers.

**Average Days with Precipitation (City Based)** – Dublin is ranked 64<sup>th</sup> ahead of Edinburgh which takes 68<sup>th</sup> place. All other centres are ranked ahead with Dubai the clear leader at 1<sup>st</sup> place and Geneva a very distant second from the group at 40<sup>th</sup>.

This factor is included as an indication of the weather that residents of a city experience. In meteorology precipitation is known as any product of the condensation of atmospheric water vapour that is deposited on the earth's surface i.e. rain, snow, hail, sleet and virga (precipitation that begins falling to the earth but evaporates before reaching the ground). It is not hard to assume that all things being equal people as well as businesses would prefer places that have fewer days of precipitation. This cannot be influenced by policymakers.<sup>6</sup>

**Personal Safety Index (City Based)** – Dublin is ranked 13<sup>th</sup> in this measure; Luxembourg and Geneva take 1<sup>st</sup> and 2<sup>nd</sup> places. The only other centre ahead of Dublin is Munich in 10<sup>th</sup> place, while Amsterdam is just behind in 14<sup>th</sup>.

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<sup>6</sup> Although Yuri Luzhkov, the mayor of Moscow, is not convinced; earlier this year he announced a plan to stop the snow in his city. <http://www.timesonline.co.uk/tol/news/environment/article6824041.ece>

The personal safety ranking covers 215 cities worldwide and is based on internal stability, levels of crime, effectiveness of law enforcement and relationships with other countries. Personal safety is clearly important for employees that consider opportunities to work abroad and less safe places along with the companies that operate in them may have difficulties attracting skilled professionals for that reason.

This measure is complex and hard to influence in the short term.

**Quality of Living (City Based)** – Here Dublin ranks 18<sup>th</sup> (5<sup>th</sup> in the peer group). Geneva is 3<sup>rd</sup>, Munich 5<sup>th</sup>, Amsterdam 10<sup>th</sup> and Luxembourg 14<sup>th</sup>. The survey provides a measure to firms and governments that send employees abroad and need to calculate “hardship allowances” – premium compensations for expatriates who expect to experience considerable worsening of their standard of living in their new location. It is conducted annually through a questionnaire and ranks cities based on their political, economic and socio-cultural environment, medical and health considerations, education and schools, public services and transportation, recreation, consumer goods, housing and natural environment. Again this measure is quite complex and cannot be easily influenced by policymakers.

**Value of Bond Trading (City Based)** – Dublin (the Irish Stock Exchange) is ranked 11<sup>th</sup> and Luxembourg 29<sup>th</sup>. It should be noted that there are only 31 cities ranked according to this measure. The World Federation of Stock Exchanges does not provide data on value of bond trading for a number of stock exchanges otherwise ranked for equity trading and capitalization.

**City Population Density (City Based)** – Dublin is ranked 22<sup>nd</sup> with Dubai the only city from the peer group ranked ahead in 17<sup>th</sup>. Munich is close behind ranked 24<sup>th</sup>.

This measure ranks cities according to the density of their population measured in people per square kilometre. Population density is an important measure that usually relates to overcrowding, quality of public services, crime intensity, health and safety environment and overall quality of living.

The table below shows a summary of Dublin's performance in the main instrumental factors in comparison with the other major financial centres:

Instrumental Factor	Dublin	Amsterdam	Dubai	Edinburgh	Geneva	Jersey	Luxembourg	Munich
Centres of Commerce	27 <sup>th</sup>	10 <sup>th</sup>	35 <sup>th</sup>	34 <sup>th</sup>	31 <sup>st</sup>	-	-	23 <sup>rd</sup>
World Competitiveness Scoreboard	29 <sup>th</sup>	18 <sup>th</sup>	-	33 <sup>rd</sup>	8 <sup>th</sup>	33 <sup>rd</sup>	20 <sup>th</sup>	21 <sup>st</sup>
Global Competitiveness Index	41 <sup>st</sup>	14 <sup>th</sup>	50 <sup>th</sup>	21 <sup>st</sup>	6 <sup>th</sup>	21 <sup>st</sup>	43 <sup>rd</sup>	12 <sup>th</sup>
City Brands Index	18 <sup>th</sup>	8 <sup>th</sup>	-	19 <sup>th</sup>	12 <sup>th</sup>	-	-	-
Capital Access Index	35 <sup>th</sup>	23 <sup>rd</sup>	37 <sup>th</sup>	7 <sup>th</sup>	5 <sup>th</sup>	7 <sup>th</sup>	-	40 <sup>th</sup>
Quality of Roads	54 <sup>th</sup>	29 <sup>th</sup>	15 <sup>th</sup>	29 <sup>th</sup>	1 <sup>st</sup>	-	23 <sup>rd</sup>	5 <sup>th</sup>
Credit Ratings	35 <sup>th</sup>	7 <sup>th</sup>	48 <sup>th</sup>	17 <sup>th</sup>	1 <sup>st</sup>	17 <sup>th</sup>	4 <sup>th</sup>	5 <sup>th</sup>
Direct Real Estate Transaction Volumes	14 <sup>th</sup>	27 <sup>th</sup>	-	28 <sup>th</sup>	35 <sup>th</sup>	-	31 <sup>st</sup>	18 <sup>th</sup>
Banking Industry Country Risk Assessments	12 <sup>th</sup>	1 <sup>st</sup>	38 <sup>th</sup>	12 <sup>th</sup>	1 <sup>st</sup>	-	12 <sup>th</sup>	12 <sup>th</sup>
Business Environment	29 <sup>th</sup>	15 <sup>th</sup>	45 <sup>th</sup>	16 <sup>th</sup>	4 <sup>th</sup>	16 <sup>th</sup>	-	30 <sup>th</sup>
Capitalization of Stock Exchanges	33 <sup>rd</sup>	-	-	-	-	-	31 <sup>st</sup>	-
Global Cities Index	36 <sup>th</sup>	21 <sup>st</sup>	25 <sup>th</sup>	-	-	-	-	32 <sup>nd</sup>
Access Opportunities Index	46 <sup>th</sup>	11 <sup>th</sup>	20 <sup>th</sup>	28 <sup>th</sup>	3 <sup>rd</sup>	28 <sup>th</sup>	21 <sup>st</sup>	11 <sup>th</sup>
FDI Inflows	45 <sup>th</sup>	24 <sup>th</sup>	-	7 <sup>th</sup>	-	7 <sup>th</sup>	-	25 <sup>th</sup>
Most Innovative Countries	38 <sup>th</sup>	15 <sup>th</sup>	56 <sup>th</sup>	28 <sup>th</sup>	3 <sup>rd</sup>	28 <sup>th</sup>	-	6 <sup>th</sup>
International Fairs & Exhibitions	49 <sup>th</sup>	16 <sup>th</sup>	62 <sup>nd</sup>	8 <sup>th</sup>	30 <sup>th</sup>	-	63 <sup>rd</sup>	6 <sup>th</sup>
Consumer Price Index	43 <sup>rd</sup>	6 <sup>th</sup>	-	11 <sup>th</sup>	8 <sup>th</sup>	11 <sup>th</sup>	31 <sup>st</sup>	11 <sup>th</sup>
Economic Freedom of the World	26 <sup>th</sup>	32 <sup>nd</sup>	39 <sup>th</sup>	6 <sup>th</sup>	4 <sup>th</sup>	6 <sup>th</sup>	36 <sup>th</sup>	33 <sup>rd</sup>
Index of Economic Freedom	5 <sup>th</sup>	28 <sup>th</sup>	53 <sup>rd</sup>	18 <sup>th</sup>	16 <sup>th</sup>	18 <sup>th</sup>	31 <sup>st</sup>	39 <sup>th</sup>
E-Readiness Score	36 <sup>th</sup>	3 <sup>rd</sup>	49 <sup>th</sup>	21 <sup>st</sup>	19 <sup>th</sup>	21 <sup>st</sup>	-	34 <sup>th</sup>
Political Risk	42 <sup>nd</sup>	21 <sup>st</sup>	45 <sup>th</sup>	30 <sup>th</sup>	19 <sup>th</sup>	30 <sup>th</sup>	16 <sup>th</sup>	23 <sup>rd</sup>
Opacity Index	7 <sup>th</sup>	34 <sup>th</sup>	-	12 <sup>th</sup>	26 <sup>th</sup>	12 <sup>th</sup>	-	10 <sup>th</sup>
Office Space Around the World	34 <sup>th</sup>	23 <sup>rd</sup>	54 <sup>th</sup>	22 <sup>nd</sup>	46 <sup>th</sup>	-	44 <sup>th</sup>	37 <sup>th</sup>
Real Estate Transparency Index	26 <sup>th</sup>	22 <sup>nd</sup>	51 <sup>st</sup>	12 <sup>th</sup>	38 <sup>th</sup>	12 <sup>th</sup>	40 <sup>th</sup>	30 <sup>th</sup>
Corruption Perceptions Index	21 <sup>st</sup>	8 <sup>th</sup>	45 <sup>th</sup>	21 <sup>st</sup>	5 <sup>th</sup>	21 <sup>st</sup>	15 <sup>th</sup>	18 <sup>th</sup>
Value of Share Trading	31 <sup>st</sup>	-	-	-	-	-	36 <sup>th</sup>	-
Wage Comparison Index	5 <sup>th</sup>	15 <sup>th</sup>	27 <sup>th</sup>	-	4 <sup>th</sup>	-	9 <sup>th</sup>	11 <sup>th</sup>
Volume of Share Trading	30 <sup>th</sup>	-	-	-	-	-	34 <sup>th</sup>	-
Top Tourism Destinations	10 <sup>th</sup>	16 <sup>th</sup>	7 <sup>th</sup>	36 <sup>th</sup>	48 <sup>th</sup>	-	50 <sup>th</sup>	28 <sup>th</sup>
Office Occupancy Costs	49 <sup>th</sup>	25 <sup>th</sup>	52 <sup>nd</sup>	42 <sup>nd</sup>	44 <sup>th</sup>	23 <sup>rd</sup>	46 <sup>th</sup>	33 <sup>rd</sup>
Broad Stock Index Levels	20 <sup>th</sup>	-	-	-	-	-	35 <sup>th</sup>	-
Employee Effective Tax Rates	50 <sup>th</sup>	64 <sup>th</sup>	1 <sup>st</sup>	46 <sup>th</sup>	19 <sup>th</sup>	18 <sup>th</sup>	34 <sup>th</sup>	53 <sup>rd</sup>
Cost of Living	11 <sup>th</sup>	9 <sup>th</sup>	14 <sup>th</sup>	-	27 <sup>th</sup>	-	6 <sup>th</sup>	3 <sup>rd</sup>
Average Days with Precipitation	64 <sup>th</sup>	62 <sup>nd</sup>	1 <sup>st</sup>	68 <sup>th</sup>	40 <sup>th</sup>	60 <sup>th</sup>	49 <sup>th</sup>	52 <sup>nd</sup>
Personal Safety	13 <sup>th</sup>	14 <sup>th</sup>	27 <sup>th</sup>	-	2 <sup>nd</sup>	-	1 <sup>st</sup>	10 <sup>th</sup>
Quality of Living Survey	18 <sup>th</sup>	10 <sup>th</sup>	-	-	3 <sup>rd</sup>	-	14 <sup>th</sup>	5 <sup>th</sup>
Value of Bond Trading	11 <sup>th</sup>	-	-	-	-	-	29 <sup>th</sup>	-
City Population Density	22 <sup>nd</sup>	-	17 <sup>th</sup>	-	-	-	-	24 <sup>th</sup>

For simplicity, this summary shows ranks amongst the peer group centres examined (because the statistical model used to build the GFCI treats blanks differently from zeros, we have ignored blank values in this summary).

The table highlights a few comparisons<sup>7</sup> worth noting (and which are used as the basis of the 'what-if' analysis later in this report):

- ◆ Dublin is ranked higher than Amsterdam in 7 factors and ranked lower in 24;
- ◆ Dublin is ranked higher than Dubai in 19 factors and ranked lower in 7;
- ◆ Dublin is ranked higher than Edinburgh in 8 factors and ranked lower in 17 (they are equal in 2);
- ◆ Dublin is ranked higher than Geneva in 8 factors and ranked lower in 22;
- ◆ Dublin is ranked higher than Jersey in 3 factors and ranked lower in 15;
- ◆ Dublin is ranked higher than Luxembourg in 13 factors and lower in 14;
- ◆ Dublin is ranked higher than Munich in 12 factors and lower in 19.

A summary of the analysis of instrumental factors is shown below:

Instrumental Factor	R <sup>2</sup> with GFCI	Dublin's Comparative Performance	Influenceability
Centres of Commerce Index	0.549	Medium	Mid-Low
<b>World Competitiveness Scoreboard</b>	<b>0.487</b>	<b>Weak</b>	<b>High</b>
Global Competitiveness Index	0.413	Weak	Medium
City Brands Index	0.388	Medium	Low
<b>Capital Access Index</b>	<b>0.352</b>	<b>Weak</b>	<b>High</b>
Quality of Roads	0.349	Weak	Medium
Credit Ratings	0.343	Weak	Medium
Direct Real Estate Transaction Volumes	0.330	Strong	Low
Banking Industry Country Risk Assessments	0.309	Strong	Medium
<b>Business Environment</b>	<b>0.304</b>	<b>Weak</b>	<b>High</b>
Capitalization of Stock Exchanges	0.291	Weak	Low
Global Cities Index	0.284	Weak	Low
Access Opportunities Index	0.282	Weak	Medium
Foreign Direct Investment Inflows	0.275	Medium	Low
The World's Most Innovative Countries	0.273	Weak	Medium-Low
<b>Number of International Fairs and Exhibitions</b>	<b>0.269</b>	<b>Weak</b>	<b>High</b>
CPI (percentage change on one year ago)	0.251	Weak	Medium
Economic Freedom of the World	0.242	Medium	High

<sup>7</sup> These comparisons exclude indices where one or both of the cities being compared do not have values.

Index of Economic Freedom	0.237	Strong	High
<b>E-Readiness Score</b>	<b>0.233</b>	<b>Weak</b>	<b>High</b>
Political Risk	0.231	Weak	Low
Opacity Index	0.217	Strong	High
Office Space Around the World	0.214	Weak	Low
Real Estate Transparency Index	0.211	Medium	Medium
Corruption Perception Index	0.204	Medium	Medium
Value of Share Trading	0.202	Weak	Low
Wage Comparison Index	0.189	Strong	Low
Volume of Share Trading	0.179	Weak	Low
Top Tourism Destinations	0.151	Strong	Medium
Office Occupancy Costs	0.100	Weak	Low
Broad Stock Index Levels	0.038	Medium	Low
<b>Employee Effective Tax Rates</b>	<b>0.033</b>	<b>Weak</b>	<b>High</b>
Cost of Living	0.030	Strong	Low
Average Days with Precipitation	0.019	Weak	None
Personal Safety	0.011	Strong	Low
Quality of Living Survey	0.009	Strong	Low
Value of Bond Trading	0.004	Strong	Low
City Population Density	0.001	Medium	Low

### 4.3 Instrumental Factor Targets for Dublin

As outlined above, Dublin performs well and at least in line with its peer group in many instrumental factors. Policy targets to improve the performance in instrumental factors are therefore less important than for many financial centres. We can however, suggest possible instrumental factor targets for Dublin if we examine:

- ◆ the instrumental factors where Dublin is weak compared to its peer group;
- ◆ the instrumental factors which are potentially influenceable by policy makers.

The instrumental factors which meet these criteria are highlighted above and listed here:

Instrumental Factor	Supplier
World Competitiveness Scoreboard	IMD, World Competitiveness Yearbook
Capital Access Index	Milken Institute
Business Environment	Economist Intelligence Unit
Number of International Fairs and Exhibitions	World Economic Forum
E-Readiness Score	Economist Intelligence Unit
Employee Effective Tax Rates	Price Waterhouse Coopers

#### World Competitiveness Scoreboard

Based on four categories:

- ◆ economic performance - size, growth, wealth, employment and price levels;

- ◆ government efficiency - business legislation - openness, competition, labour regulations, fiscal policy;
- ◆ business efficiency - productivity, efficiency, management practices, financial management, bank and stock market efficiency, costs, skills;
- ◆ infrastructure measures - basic, scientific and technological.

### Capital Access Index

Based on seven categories:

- ◆ macroeconomic environment;
- ◆ institutional environment (including property rights, judicial system, bankruptcy procedures and levels of corruption);
- ◆ financial and banking institutions (including ease of access to bank loans, efficiency and of systems);
- ◆ equity market development (including the liquidity of the stock market, capitalisation relative to GDP and securitised assets issuance);
- ◆ bond market development (including private and public bonds relative to GDP and securitised asset issuance);
- ◆ alternative sources of capital (including use of venture capital and private placements);
- ◆ international funding (including level of foreign capital available, volatility of exchange rates, sovereign ratings, FDI and international reserve holdings).

### Business Environment

Based on ten categories:

- ◆ FDI policies;
- ◆ institutional effectiveness;
- ◆ market opportunities;
- ◆ financing;
- ◆ infrastructure;
- ◆ taxes;
- ◆ foreign trade;
- ◆ exchange regimes;
- ◆ labour market and skill endowments;
- ◆ macroeconomic and political stability.

### Number of International Fairs and Exhibitions

Based on hard data reflecting the average number of international fairs and exhibitions for a two year period.

### E-Readiness

Based on six categories:

- ◆ connectivity (the ability of companies and people to access digital networks and services);
- ◆ business environment (used the Business Environment Index created by the EIU);
- ◆ social and cultural environment (population's e-literacy and technical skills of the workforce);

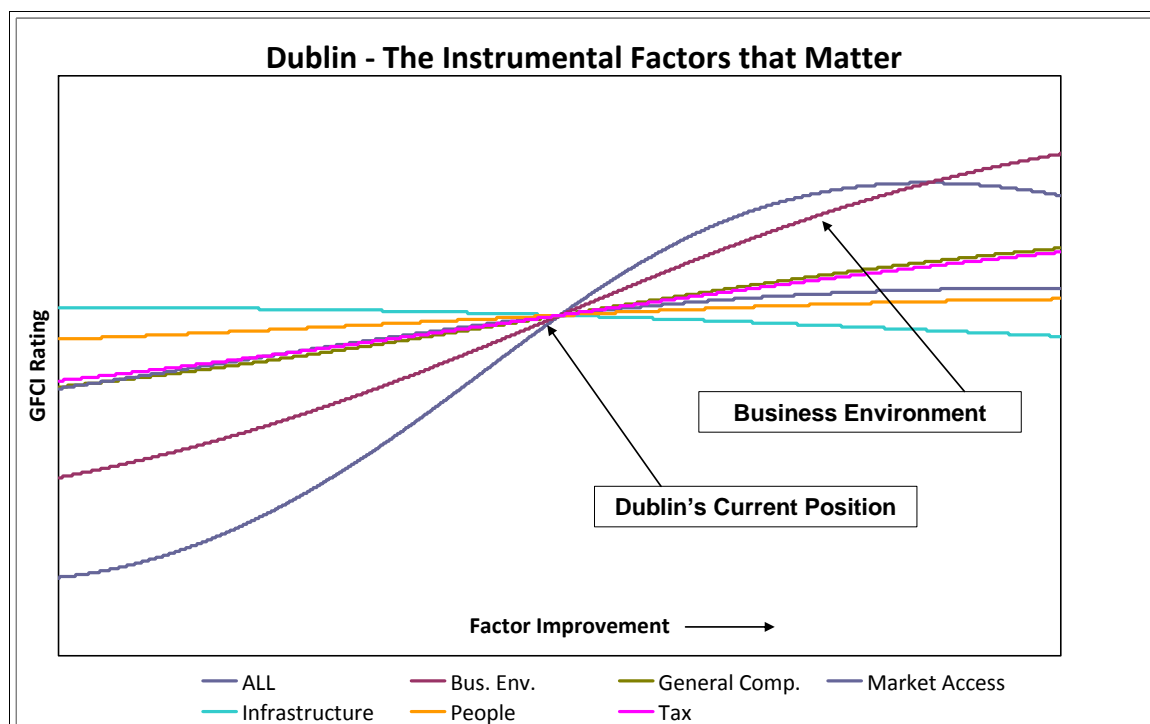
- ◆ legal environment (the laws governing internet use and legal frameworks for the use of technology in business for transactions, communications and information);
- ◆ consumer and business adoption (time businesses and consumers spend accessing ICT services, their adoption levels of e-commerce);
- ◆ government and policy vision (how committed the country's government is to ICT).

### Employee Effective Tax Rates

PwC run a tax model for the World Bank and have adapted for the GFCI to reflect a more typical financial services employee.

The GFCI splits the factors of competitiveness into five areas – business environment, people, market access, infrastructure and general competitiveness. Examining the categories of the six instrumental factors above, it is clear that many are broadly to do with the business environment.

During the compilation of the GFCI over the past three years and with other research we have conducted in this area, we have gathered a large volume of data. We are able to model this data to show the effect that improvements in the different areas of competitiveness might make to a particular financial centre. This is mapped for Dublin below:



An improvement in 'business environment' factors will have a larger positive effect on Dublin's standing in the GFCI than improvements in any other group of factors. In short, stable politics, government policy, economic conditions, good regulation, low bureaucracy,

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low corruption and a 'trustworthy' environment appear to be the most significant factors for Dublin at present.

### 5. OTHER ANALYSIS

To test the relevance of the instrumental factors above, GFCI 6 was remodelled, changing Dublin's scores in the top 25 instrumental factors to those of Jersey and Geneva:

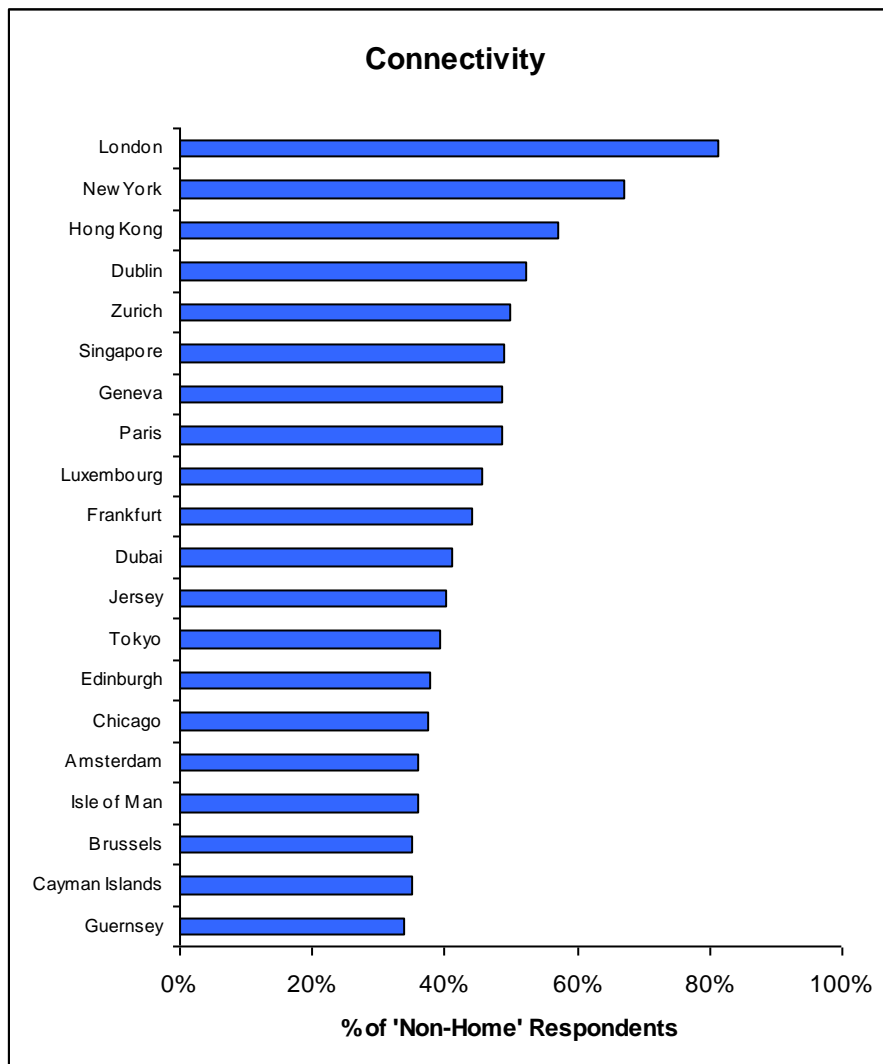
	Remodelled GFCI 6 Rating	Remodelled GFCI 6 Rank	Effect on GFCI 6 Rating	Effect on GFCI 6 Rank
Dublin with Jersey scores in top 25 instrumental factors	618	21 <sup>st</sup>	Up 5 points from 613	Up 2 places from 23 <sup>rd</sup>
Dublin with Geneva scores in top 25 instrumental factors	631	17 <sup>th</sup>	Up 18 points from 613	Up 6 places from 23 <sup>rd</sup>

Dublin's rating rose by 5 points when remodelled with Jersey's scores and rose by 18 points when remodelled with Geneva's.

These tests offer an indication of how volatile Dublin's rating might be. In reality, of course, if the scores in these instrumental factors did change, we would expect people's perceptions (and hence their assessments) of Dublin to change also. As identified in Section 4 above, Dublin performs well in many of the instrumental factors. The what-if analysis here confirms this. Replacing Dublin's scores with those of higher placed cities has a fairly marginal affect on the GFCI rating.

As noted earlier in this report, the GFCI model allows us to create a measure of 'reputational advantage'. If the average of assessments given to a centre is higher than the GFCI rating, this indicates that perceptions about a centre (a measure of reputation) are higher than the quantitative measures alone would suggest. In GFCI 5, Dublin's reputational advantage was +27 (the GFCI rating was 618 against the average assessment of 622). In GFCI 6 the reputational advantage has fallen to just +8.

Despite a recent fall in reputation, Dublin is still a very well connected centre. Responses to the GFCI give a strong indication of 'connectivity' – how well connected a financial centre is with other centres. Respondents are asked to rate only those centres with which they are familiar. It follows that the number of assessments given to a centre by people not based there, indicate how well that centre is known by (and possibly visited by) foreigners – at least those in financial services. By this measure Dublin does very well - over half of GFCI respondents who are not based there feel sufficiently familiar with the centre to provide an assessment:



## 6. DUBLIN AGAINST ITS PEER GROUP

### 6.1 GFCI Peer Group Sub-indices by Area of Competitiveness

As part of the analysis into Dublin's competitive position we created a mini-index of Dublin and the peer group – this is what we refer to here as the Peer Group GFCI. This model just includes the eight directly competitive centres in the region:

Centre	Peer Group GFCI Rank	Peer Group GFCI Rating	Main GFCI Rating
Geneva	1	653	660
Jersey	2	641	640
Luxembourg	3	637	637
Dubai	4	626	617
<b>Dublin</b>	<b>5</b>	<b>621</b>	<b>613</b>
Edinburgh	6	616	605
Amsterdam	7	607	586
Munich	8	598	588

The Peer Group GFCI model was re-run a number of times to generate sub-indices by area of competitiveness. Generally the results only show fairly small changes in the ratings. When the model is run with only 'People' related instrumental factors, Dublin remains in 5<sup>th</sup> place losing two points against the Peer Group GFCI as a whole:

Rating for People Factors

Centre	Rank	Rating	Influence
Geneva	1	653	0
Luxembourg	2	636	-1
Jersey	3	633	-8
Dubai	4	623	-3
<b>Dublin</b>	<b>5</b>	<b>619</b>	<b>-2</b>
Edinburgh	6	612	-4
Amsterdam	7	608	1
Munich	8	581	-17

When the model is run with only 'Business Environment' related instrumental factors, Dublin drops to 6<sup>th</sup> and loses seven points. This probably reflects Dublin's relative performance in business environment instrumental factors discovered in Section 4 of this report:

### Rating for Business Environment Factors

Centre	Rank	Rating	Influence
Geneva	1	655	2
Luxembourg	2	638	1
Jersey	3	632	-9
Dubai	4	626	0
Edinburgh	5	613	-3
<b>Dublin</b>	<b>6</b>	<b>612</b>	<b>-7</b>
Amsterdam	7	608	1
Munich	8	586	-12

When the model is run with only 'Infrastructure' related instrumental factors, Dublin remains in 5<sup>th</sup> place and remains with 621 points:

### Rating for Infrastructure Factors

Centre	Rank	Rating	Influence
Geneva	1	651	-2
Luxembourg	2	636	-1
Jersey	3	636	-5
Dubai	4	622	-4
<b>Dublin</b>	<b>5</b>	<b>621</b>	<b>0</b>
Edinburgh	6	615	-1
Amsterdam	7	603	-4
Munich	8	581	-17

When the model is run with only 'Market Access' related instrumental factors, Dublin moves up to 4<sup>th</sup> place and gains one point. All other centres, except Luxembourg, in the peer group suffer a reduction in points:

### Rating for Market Access Factors

Centre	Rank	Rating	Influence
Geneva	1	650	-3
Luxembourg	2	639	2
Jersey	3	631	-10
<b>Dublin</b>	<b>4</b>	<b>622</b>	<b>1</b>
Dubai	5	617	-9
Edinburgh	6	606	-10
Amsterdam	7	605	-2
Munich	8	584	-14

When the model is run with only 'General Competitiveness' related instrumental factors, Dublin climbs above Dubai into 4<sup>th</sup> place and gains three points:

**Rating for General Competitiveness Factors**

<b>Centre</b>	<b>Rank</b>	<b>Rating</b>	<b>Influence</b>
Geneva	1	655	2
Luxembourg	2	639	2
Jersey	3	636	-5
<b>Dublin</b>	<b>4</b>	<b>624</b>	<b>3</b>
Dubai	5	623	-3
Edinburgh	6	615	-1
Amsterdam	7	608	1
Munich	8	588	-10

### 6.2 GFCI Peer Group Sub-indices by Industry Sectors

The Peer Group GFCI model was run for different industry sectors – using only those responses from people in the relevant industry. We compared the results of these ‘industry sector’ tests to see how Dublin’s rating is ‘influenced’ by just using responses from one sector. In summary the results are:

Sector	Rank	Influence
Banking	5 <sup>th</sup>	-8
Asset Management	6 <sup>th</sup>	+15
Insurance	1 <sup>st</sup>	+5
Government & Regulatory	4 <sup>th</sup>	-52
Professional Services	4 <sup>th</sup>	+32

These scores indicate that Dublin is viewed particularly highly by professionals in the insurance and reinsurance sectors. Dublin is placed higher than all other peer group centres by this sector. The full indices for these sectors are shown below:

#### Banking Sector

Centre	Rank	Rating	Influence
Geneva	1	653	0
Luxembourg	2	648	11
Dubai	3	639	13
Jersey	4	626	-15
<b>Dublin</b>	<b>5</b>	<b>613</b>	<b>-8</b>
Amsterdam	6	609	2
Munich	7	608	10
Edinburgh	8	606	-10

#### Asset Management Sector

Centre	Rank	Rating	Influence
Jersey	1	668	27
Geneva	2	663	10
Edinburgh	3	649	33
Luxembourg	4	644	7
Dubai	5	638	12
<b>Dublin</b>	<b>6</b>	<b>636</b>	<b>15</b>
Amsterdam	7	622	15
Munich	8	612	14

### Insurance Sector

Centre	Rank	Rating	Influence
<b>Dublin</b>	<b>1</b>	<b>626</b>	<b>5</b>
Geneva	2	619	-34
Luxembourg	3	601	-36
Dubai	4	598	-28
Munich	5	597	-1
Edinburgh	6	595	-21
Jersey	7	593	-48
Amsterdam	8	588	-19

### Government & Regulatory Sector

Centre	Rank	Rating	Influence
Geneva	1	612	-41
Dubai	2	591	-35
Luxembourg	3	586	-51
<b>Dublin</b>	<b>4</b>	<b>569</b>	<b>-52</b>
Munich	5	557	-41
Amsterdam	6	548	-59
Edinburgh	7	546	-70
Jersey	8	495	-146

### Professional Services Sector

Centre	Rank	Rating	Influence
Jersey	1	699	58
Geneva	2	687	34
Edinburgh	3	655	39
<b>Dublin</b>	<b>4</b>	<b>653</b>	<b>32</b>
Munich	5	653	55
Dubai	6	649	23
Luxembourg	7	646	9
Amsterdam	8	646	39

It is interesting to note that Dublin is in 1<sup>st</sup> place in Insurance whilst being in 5<sup>th</sup> and 6<sup>th</sup> places respectively for Banking and Asset Management. Dublin's strength in Insurance is clearly indicated by these results.

## 7. SUMMARY OF DUBLIN'S STRENGTHS & WEAKNESSES

The scope of this research project only allows us to comment on current strengths and current weaknesses that we have observed through our work on the GFCI. Analysis of the main instrumental factors, the industry and area of competitiveness sub-indices and modelling of the GFCI data and comments made to us by GFCI respondents indicate the following:

### Strengths:

- ◆ **A venue for the insurance and reinsurance industries** – responses from professionals in the insurance and reinsurance sectors rate Dublin very highly. Fund administration, whilst not a separate sub-index within the GFCI, was mentioned as being strong by several respondents;
- ◆ **access to international financial markets** – the Market Access Sub-index puts Dublin in 4<sup>th</sup> place amongst its peer group and it is viewed favourably in this area;
- ◆ **a good 'all-rounder'** – our research shows that in order to be a successful financial centre, a city needs to be good at most things – Dublin generally scores well in most instrumental factors and is in 4<sup>th</sup> place in the General Competitiveness Sub-index which indicates that the 'whole is greater than the sum of the parts' – good performance in most areas gives a city a strong overall rating;
- ◆ **connectivity with other financial centres** – many financial professionals around the globe know Dublin. A well connected city gains from global trade and benefits from being part of the global financial network.

### Weaknesses:

- ◆ **Business Environment** – Dublin performs less well in the Business Environment Sub-index as a result of relatively poor performance in certain instrumental factors. These include the World Competitiveness Scoreboard; the Capital Access Index; the Business Environment Index; the Number of International Fairs and Exhibitions; the E-Readiness Score and Employee Effective Tax Rates; and are detailed on pages 32-34 of this report.
- ◆ **the current economic situation** – the current economic climate in Ireland and the limited power of the Government to encourage growth and stimulate the economy means that many people have pessimistic expectations for the Irish economy over the next two years;
- ◆ **the tarnishing of 'Brand Ireland' (and 'Brand Dublin')** – several respondents we have spoken to during the course of our research think that the 'brand image' of Dublin has suffered more than many centres as a result of the financial crisis;
- ◆ **rapid employment and property cost changes** – Dublin has held a position of strength on the basis of operational cost advantage in the past. Employment and property cost rises in the few years up to 2008 led to Dublin's cost advantages being eroded. Many of these cost increases are currently being reversed fairly rapidly by economic conditions.

## 8. POSSIBLE THREATS TO DUBLIN

Possible threats to Dublin's ambitions to rise in importance as an international financial centre come from several sources.

### European Centres

Firstly, other European and Scandinavian centres are concentrating their efforts on becoming more competitive. Centres have realised that vibrant, competitive financial centres give cities economic advantages in information, knowledge and access to capital. Several of the well known centres in Europe, for example Edinburgh, Munich and Amsterdam, are attempting to gain recently lost ground and re-examining the factors of competitiveness where they are weakest. Specialist or niche centres including Zurich and Geneva are trying to consolidate their positions in their specialist sectors such as asset management. Both cities are popular with the asset management community and continue to prosper. Scandinavian and Northern European centres are also examining the factors of competitiveness. Edinburgh and the Isle of Man are currently behind Dublin but have already begun to invest in raising the awareness and image of their financial sectors.

### Asian Centres

GFCI 6 has seen the rapid rise of the Asian centres. Hong Kong, Singapore, Shenzhen, Shanghai and Beijing are all now above Dublin in the GFCI ratings. Taipei and Seoul, just below Dublin in GFCI 6, are currently researching how they can improve their competitiveness. The rapid rise of the "-ai" centres – Dubai and Mumbai cannot be ignored by any serious international financial centre. These centres have been frequently mentioned by respondents to the GFCI questionnaire when asked which centres are likely to become more important over the next few years. Each of the three centres poses a different competitive threat.

Dubai has created a specialist financial services region in order to create an attractive environment for financial services organisations. The Dubai International Financial Centre (DIFC) is a 110-acre zone that opened in 2004. It has succeeded in attracting high calibre firms from around the world with benefits such as zero tax rates, allowing 100 per cent foreign ownership, no restrictions on foreign exchange or repatriation of capital, operational support and business continuity facilities. The DIFC has been created around best regulatory practice from centres such as London, New York and Hong Kong. Creating this environment has meant that people are now being attracted to the DIFC and market liquidity is developing. The regulatory model used by the DIFC might serve as a useful example to centres that wish to become more competitive. Dubai is currently in the midst of a severe economic downturn which has slowed its progress and tarnished its reputation but it is likely to recover.

Mumbai has grown in significance as a financial centre over the past decade. Its appeal is that of a low cost centre for operational and 'back-office' staff. A number of the North American and European investment banks have 'offshored' a significant number of their operations staff because of the potential cost savings. It has however been noted that this cost advantage has been diminishing recently as costs in India rise and some of the perceived cost advantages have not materialised.

### **Regulatory Knee-Jerk**

This is a threat to all financial centres at present. It is all too easy and tempting for national and international regulators to clamp down on financial institutions after the financial crisis of the last eighteen months. Whilst a review of regulatory oversight is necessary and welcome, it is possible that new regulation could have unintended consequences that will lead to a loss of competitiveness for certain financial centres. Ireland is currently in agreement with proposed EU legislation but financial centres within the EU are likely to have less say over new regulations as these may be imposed on a Europe wide basis.

### **Economic Conditions**

The global financial crisis and resulting economic slowdown is a threat to Dublin. It would appear from the GFCI results that there is a 'flight to safety' during this crisis with people in financial services putting their faith (and business) in the quality of the most well established financial centres. This might make it harder for Dublin to make improvements in its competitive position in the short term.

The state of the Irish economy is therefore a risk to Dublin's competitiveness at present. A struggling economy has a negative effect on people's perceptions of a financial centre (Dubai is a good example of this at present). A weak economy reduces tax income for the Government who may in turn decide to cut back on infrastructure expenditure, training or other factors such as promotional expenditure.

### **Loss of Skills and Experience**

As jobs in the financial sector are shed, there is a danger that many of the people affected will seek employment in other sectors or even move abroad. What we describe as 'People factors' in GFCI research are second only in perceived importance to 'Business Environment' factors in determining the competitiveness of a financial centre. Of all the People factors, the 'Availability of Skilled Personnel' is the most commonly cited factor. It is vital that in times of an economic slow down, a centre tries to maintain and develop its pool of talent.

## 9. POSSIBLE STRATEGIC PRIORITIES & CONCLUSION

Potential strategic priorities for Dublin include:

- ◆ to work with national and European governments to improve the areas indicated by relatively poor performance in instrumental factors;
- ◆ to lobby the EU regarding financial regulation;
- ◆ to nurture the insurance and reinsurance industries;
- ◆ to utilise tax advantages and current strengths as a 'trusted' or 'long finance' centre;
- ◆ to rebuild the strength of brand Ireland;
- ◆ further primary research.

### **To Improve Areas of Relatively Poor Performance:**

The main areas where Dublin's performance in the GFCI instrumental factors might be improved were highlighted in Section 4 and include the World Competitiveness Scoreboard; the Capital Access Index; the Business Environment Index; the Number of International Fairs and Exhibitions; the E-Readiness Score and Employee Effective Tax Rates.

Dublin policymakers should examine the methodology used in constructing these indices and identify where improvements can be made. Although Z/Yen have used the instrumental factors in the GFCI model, we are not the originators of these. If you feel that Ireland or Dublin has been treated 'unfairly' in any of the indices then a very valid, useful and effective form of marketing is to take this up with the organisations concerned. These organisations have contact details on their websites and are usually very receptive to feedback. In the past some have altered their methodologies to reflect certain factors they did not fully appreciate. This form of direct feedback benefits all parties – the originators get a better and more authoritative index, Dublin is more 'front of mind' with these organisations, Dublin's performance might well rise in the indices and this could have a knock-on effect in the GFCI.

### **To Converse with the EU on Financial Regulation:**

As reported above there is a real danger that national and international regulators will impose new regulations. Currently Ireland is in agreement with EU regulatory proposals but all future regulations should be studied to identify potential unintended consequences that could lead to a loss of competitiveness for Dublin. Dublin must protect the financial services industry and also be seen to protect the industry.

### **To Nurture the Insurance and reinsurance Industries:**

The insurance and reinsurance industries clearly value Dublin as an important location in which to do business. It is clearly important that Dublin preserves this situation both for the value that the insurance and reinsurance industries bring to the city and so that these sectors can be used to promote the financial centre as a whole. The insurance and reinsurance sectors should be consulted on proposed changes in regulation and the city should 'signal' that it intends to look after this sector in the long term.

### **To Position as a 'Trusted' or 'Long Finance' Centre:**

We believe that the recent publicity surrounding many offshore centres as locations for hiding money from the tax authorities and for money-laundering leaves a niche for another centre to become a 'trusted' centre – one that imposes strict anti-money laundering measures and is fully transparent to tax authorities. We also believe that there is a niche for a financial centre that specialises in what we refer to as 'long finance' (explained at [http://www.zyen.com/Knowledge/Articles/long\\_finance.htm](http://www.zyen.com/Knowledge/Articles/long_finance.htm)).

### **To Rebuild the Lustre of Brand Ireland / Brand Dublin:**

We believe that the brand image of Dublin has suffered more than many centres as a result of the financial crisis. This is seen in the GFCI ratings, was perceived by several respondents to the GFCI questionnaire and is also demonstrated by a decline in Dublin's reputational advantage. As reported earlier, in GFCI 5, Dublin's reputational advantage was +27. In GFCI 6 the reputational advantage has fallen to just +8.

This must determine one key strategic priority. The reputation of Dublin as a financial centre must be enhanced. This needs to be achieved through marketing and PR – building the brand of Dublin.

*"I love Dublin but many people just don't think of it as a financial centre - it could do so much more to promote itself".*

London based venture capitalist

Crucially, Dublin should be marketing itself as a very competitive centre for financial services activity and particularly insurance and reinsurance. In addition to mainstream marketing activities, one means of marketing Dublin is to get the financial community in the city to participate in the GFCI questionnaire. This will draw attention to Dublin's competitiveness and help raise Dublin's profile as an international financial centre. **The link to the survey is: <http://www.fm2x.com/gfci/>**

### **Further Primary Research**

As we point out in Section 2, the analysis in this report is based on an analysis of the GFCI ratings and the third party instrumental factors used in the GFCI model, and the recommendations are not based on detailed analysis of the associated policy implications for Dublin. This report is not intended to be a 'road-map' or a detailed action plan – it simply uses the analysis of the GFCI model to highlight potential areas for improvement. We have aimed to produce a report that acts as a starting point for further development of an action plan to improve Dublin's competitiveness.

We believe that Dublin should conduct or commission some detailed primary research on the city's performance in the key areas of competitiveness to back up (or possibly contradict) the findings of this analysis. An action plan for improving Dublin's competitiveness should be developed once this primary research has been conducted. The Z/Yen Group would like to thank Jamie Cudden, the Research Manager in the Office of International Relations & Research within Dublin City Council for his invaluable help in the preparation of this

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research. We would also like to wish Dublin City good luck in further enhancing its position as an international financial centre.

## 10. APPENDICES

### Appendix A – Methodology

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

- **Instrumental factors (external indices that contribute to competitiveness):** Objective evidence of competitiveness was sought from a wide variety of comparable sources. For example, evidence about the infrastructure competitiveness of a financial centre is drawn from a survey of property and an index of occupancy costs. Evidence about a fair and just business environment is drawn from a corruption perception index and an opacity index. A total of 64 external sources were used in GFCI 6. Not all financial centres are represented in all the external sources, and the statistical model takes account of these gaps.
- **Financial centre assessments:** By means of an online questionnaire, running continuously since 2007, we now have 36,497 financial centre assessments drawn from 1,802 respondents. Respondents assess the competitiveness of financial centres that they know. The online questionnaire is ongoing to keep the GFCI up-to-date with people’s changing assessments.

The 64 instrumental factors were selected because the features they measure contribute in various ways to the fourteen competitiveness factors identified in previous research<sup>8</sup>. These are shown in below:

Competitiveness Factors and their relative importance

Competitiveness Factors	Rank
The availability of skilled personnel	1
The regulatory environment	2
Access to international financial markets	3
The availability of business infrastructure	4
Access to customers	5
A fair and just business environment	6
Government responsiveness	7
The corporate tax regime	8
Operational costs	9
Access to suppliers of professional services	10
Quality of life	11
Culture & language	12
Quality / availability of commercial property	13
The personal tax regime	14

<sup>8</sup> Source: Z/Yen Limited, The Competitive Position of London as a Global Financial Centre., (November 2005).

Financial centres are added to the GFCI model when they receive five or more mentions in Question 15 of the online questionnaire – “Are there any financial centres that might become significantly more important over the next 2 to 3 years?” A centre is only given a GFCI rating and ranking if it received more than 100 assessments in the online survey.

At the beginning of work on the GFCI, a number of guidelines were set out, to ensure that centre assessments and instrumental factors were selected and used so as to generate a credible, dynamic rating of competitiveness for financial centres. Additional Instrumental Factors are added to the GFCI model when relevant and meaningful ones are discovered.

The guidelines for independent indices used as instrumental factors are:

- Indices should come from a reputable body and be derived by a sound methodology.
- Indices should be readily available (ideally in the public domain) and ideally be regularly updated.
- Relevant indices can be added to the GFCI model at any time.
- Updates to the indices are collected and collated at the end of each quarter.
- No weightings are applied to indices.
- Indices are entered into the GFCI model as directly as possible, whether this is a rank, a derived score, a value, a distribution around a mean or a distribution around a benchmark.
- If a factor is at a national level, the score will be used for all centres in that country; nation-based factors will be avoided if financial centre (city) based factors are available.
- If an index has multiple values for a city or nation, the most relevant value is used (and the method for judging relevance is noted).
- If an index is at a regional level, the most relevant allocation of scores to each centre is made (and the method for judging relevance is noted).
- If an index does not contain a value for a particular city, a blank is entered against that centre (no average or mean is used). Only indices which have values for at least ten centres will be included.

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

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

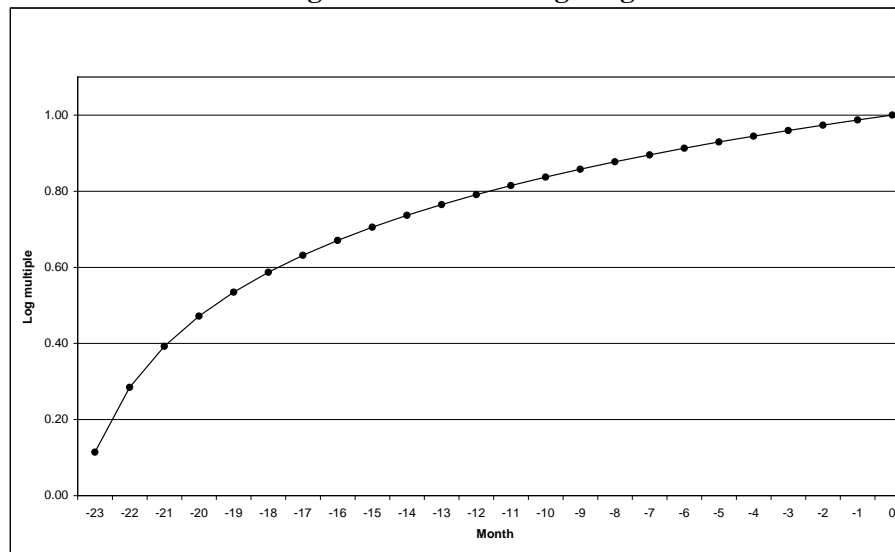
The guidelines for financial centre assessments by respondents are:

- Responses are collected via an online questionnaire which runs continuously. A link to this questionnaire is emailed to the target list of respondents at regular intervals and

other interested parties can fill this in by following the link given in the GFCI publications.

- Financial centre assessments will be included in the GFCI model for 24 months after they have been received.
- 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:

**Log Scale for time weightings**



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

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

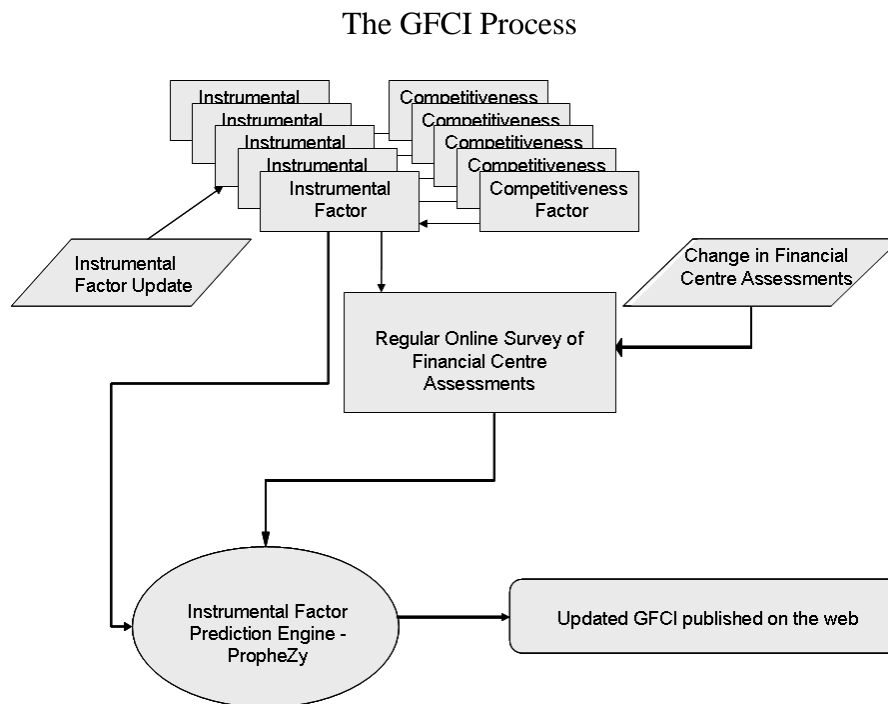
*If an investment banker gives Singapore and Sydney certain assessments then, based on the relevant data for Singapore, Sydney and Paris, how would that person assess Paris?*

*Or*

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

Financial centre predictions from the SVM are re-combined with actual financial centre assessments to produce the GFCI – a set of financial centre ratings. The GFCI is dynamically updated either by updating and adding to the instrumental factors or through new financial centre assessments. These updates permit, for instance, a recently changed index of rental costs to affect the competitiveness rating of the centres.

The process of creating the GFCI is outlined diagrammatically below:



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

- Several indices can be used for each competitive factor 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.
- Sector-specific ratings are being developed by using the business sectors represented by questionnaire respondents. This could make it possible to rate London as competitive in Insurance (for instance) while less competitive in Asset Management (for instance).
- Over time, as confidence in the GFCI increases, the factor assessment model can be queried in a ‘what if’ mode - “how much would London rental costs need to fall in order to increase London’s ranking against New York?”

Part of the process of building the GFCI was extensive sensitivity testing to changes in factors of competitiveness and financial centre assessments. The accuracy of predictions given by the SVM was tested against actual assessments. Over 80% of the predictions made were accurate to within 5%.

### Appendix B – The Online Questionnaire

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

The questions in the most recent version of the questionnaire are as follows:

- 1 Your name:
- 2 What is your job title/main area of responsibility?
- 3 The name of your organisation:
- 4 In which industry is your organisation?
  - Investment Banking
  - Commercial Banking
  - Retail Banking
  - Insurance
  - Asset Management
  - Legal Services
  - Accounting Services
  - Trade Association
  - Regulatory Body/Central Bank
  - Government
  - Other – Please Specify
- 5 In which centre are the headquarters of your organisation?
- 6 Approximately how many employees are there at the headquarters of your organisation?
  - Fewer than 100
  - 100 to 500
  - 500 to 1,000
  - 1,000 to 2,000
  - 2,000 to 5,000
  - More than 5,000
- 7 Approximately how many employees does your organisation have worldwide?
  - Fewer than 100
  - 100 to 500
  - 500 to 1,000
  - 1,000 to 2,000
  - 2,000 to 5,000
  - More than 5,000
- 8 In which financial centre are you based?

We will send a copy of our research findings to all participants in this survey. If you would like to receive a printed copy of the report please enter your address below (your details will not be passed on to any third parties).

- 9 If you would prefer to receive a copy of the research findings electronically, please enter your email address (this will not be passed to any third parties). Or if you've already given us your email address, just tick the box.
- 10 If you are familiar with any of the following European financial centres, please rate them as locations in which to conduct your business (1 being Very Poor and 10 being Excellent):

- Amsterdam
- Athens
- Brussels
- Budapest
- Copenhagen
- Dublin
- Edinburgh
- Frankfurt
- Geneva
- Glasgow
- Helsinki
- Lisbon
- London
- Luxembourg
- Madrid
- Milan
- Monaco
- Moscow
- Munich
- Oslo
- Paris
- Prague
- Reykjavik
- Rome
- St Petersburg
- Stockholm
- Tallinn
- Vienna
- Warsaw
- Zurich

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

- Boston
- Buenos Aires
- Chicago
- Mexico City
- Montreal
- New York
- Rio de Janeiro
- San Francisco
- Sao Paulo
- Toronto
- Vancouver
- Washington D.C.

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

- Bahrain
- Bangkok
- Beijing
- Dubai
- Hong Kong
- Jakarta
- Kuala Lumpur
- Manila
- Mumbai
- Osaka
- Qatar
- Riyadh
- Seoul
- Shanghai
- Shenzhen
- Singapore
- Taipei
- Tokyo

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

- Gibraltar

- Guernsey
  - Hamilton (Bermuda)
  - Isle of Man
  - Jersey
  - Johannesburg
  - Malta
  - Mauritius
  - Melbourne
  - Sydney
  - The Bahamas
  - The British Virgin Islands
  - The Cayman Islands
  - Wellington
- 14 Do you have any comments regarding the competitiveness of the financial centres mentioned?
- 15 Are there any important financial centres we have missed?
- 16 Which financial centres do you believe are suffering most from the current financial crisis (and why)?
- 17 Which are the most significant risks to financial centre competitiveness posed by the current crisis?
- 18 Are there any financial centres that might become significantly more important over the next 2 to 3 years?
- 19 In which financial centre (or centres) is your organisation most likely to open up a new operation within the next 2 to 3 years?
- 20 Do you have any comments on the factors that affect the competitiveness of financial centres?
- 21 We are keen to track changes in people's perceptions about city competitiveness over time. Would you be prepared to participate in this survey on a regular (approximately every six months) basis? In return you would receive a regular update on the Global Financial Centres Index.
- 22 Do you have any business contacts or associates who may be interested in helping us with this survey? If so, please forward them a link to this survey or enter their email address here (it will be used for no other purpose).