

GEMACA II

**COMMERCIAL REAL ESTATE DEVELOPMENT
AND THE “CITY OFFER”**

19th OCTOBER 2001

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1. Background

Jones Lang LaSalle has produced this paper as a component of the Gemaca II¹ Real Estate study, which is part of the European project on metropolitan competitiveness.

The paper explores commercial real estate development and its contribution to the “city offer”, and consists of the following sections:

Part A: Office Development Analysis:

- For each of the main cities covered by the Gemaca II study (see below), we have analysed the relationship between office completions and key explanatory variables (e.g. economic growth, vacancy rates, prime rental change and gross returns). We have focused our analysis on two five-year periods (i.e. 1998-2002 and 1988-1992), which broadly correspond to the last major development upswings in Europe. This analysis has enabled a quantification of the relative responsiveness and price elasticity of the supply-side in each city.

Part B: Individual City Overviews:

- We have then sought to interpret the relative responsiveness of the supply-side (focusing on the most recent period) in the office markets of each of the eight metropolitan areas: Amsterdam/Randstad, Brussels, Dublin, Düsseldorf, Edinburgh, Frankfurt, London and Paris.
- We have addressed the following set of issues in qualitative terms:
 1. What has triggered/dampened the development response? How responsive are developers to economic growth, the supply position, rental growth and real estate returns?
 2. Where has development occurred? What is the relative balance of development between “core” and “edge-of-town” location? What has been the impact of “new” development zones, new infrastructure or presence of major institutions on development patterns?

¹ The Gemaca consortium comprises the Institute d’Aménagement et d’Urbanisme de la Région d’Île de France (Paris), London School of Economics, Institut für Landes und Stadtentwicklungsforschung des Landes Nordrhein-Westfalen (Dortmund) and the Dublin Institute of Technology.

3. What are the general characteristics and quality of new development? What is the relative balance of newly built space to refurbished space, and the balance of traditional office development to campus style development?
4. What are the constraints to the supply side? How loose or constrained is the planning framework and land use system? What has been the role of national/regional/local government/inward investment agencies? How is the local business environment (e.g. regulation, tax, culture) impacting on the supply side?
5. How has development been funded? What is the relative balance between leasing and owner occupation? What are the development risks/uncertainties? How important are international/local financial institutions?
6. Who are the main developers/investors? How international are the development/investment markets? What is the balance of international to local players? How “closed” is the market to outside players?

Part C: Key Themes

In the final section, we have identified the key themes running through the quantitative and qualitative research, and sought to conclude on how property development is contributing to the “city offer”.

This report is also supported by a presentation “Commercial Real Estate Development and the City Offer”, which was presented at the Gemaca II Seminar on October 5th 2001.

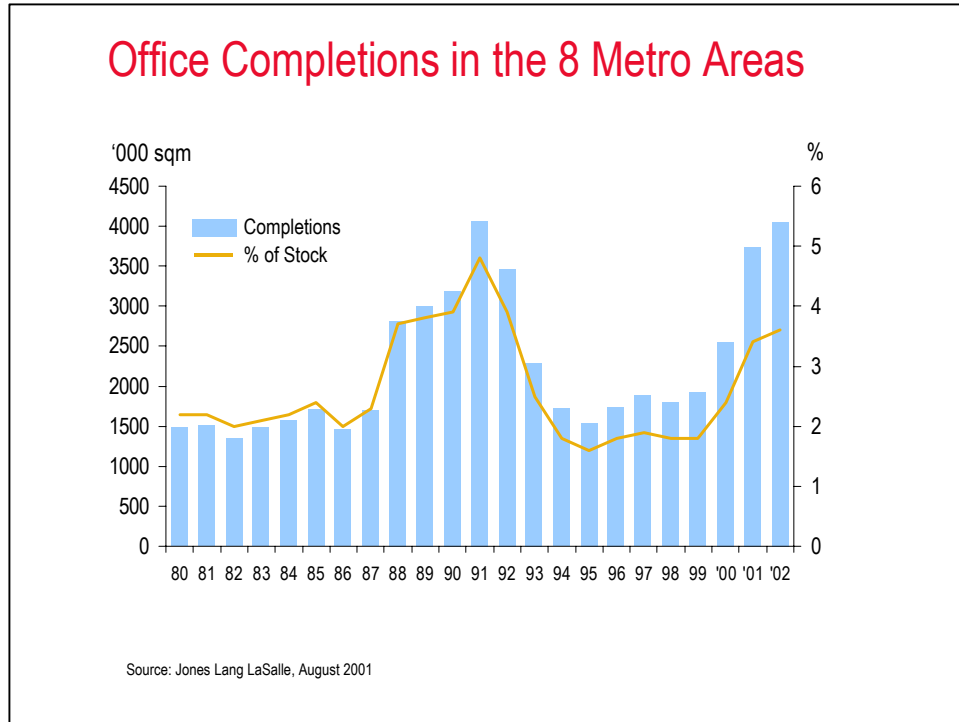
2. Office Development Analysis

- In this section, we analyse the trends in commercial office development in the eight metropolitan areas. We look at the relationship between annual office completions and key influences on development (e.g. economic growth, prime rental change, gross returns and vacancy rates) in both overall terms and at an individual city level.
- What have been the overall development trends over the past two decades?

2.1. Overall Office Development Trends

- Since 1980, approximately 53 million m² of commercial office space has been completed (or will be completed by the end of 2002) in the 8 major metropolitan areas covered by this analysis. This equates to an average of 2.5 million m² per annum or 2.6% pa of the total stock.
- However, as *Figure 1* (page 5) illustrates the pattern of this development has been high cyclical and over the last two decades, we can observe two development cycles.
 - *1986-1995* – a development cycle which started in the mid 1980s, which accelerated sharply from 1988, with a peak in completions occurring in 1990-1992. Over the 5 years from 1988 to 1992, office completions averaged 4.0% pa of the total stock, well above the long-run average.
 - *1995-2002* - following the development boom of the early 1990s, development activity fell sharply during the mid 1990s, with office completions averaging only 1.8% pa during the 1994-1998 period. Since 1998, development activity has gradually risen, and is now back above trend. Currently (i.e. 2001) office completions are running at 3.4% of total stock, with projections indicating that activity will rise to 3.8% of stock in 2002.
- The total amount of floorspace developed has reached similar levels during both cycles (both peaking at over 4 million m²). However, expressed as percentage of the total stock, it is evident that the current development upswing is less pronounced than ten years ago. Whilst completions averaged 4.0% pa over the 1988-92 period, the equivalent figure for 1998-2002 is only 2.6% pa.

Figure 1 – Annual Office Completions 1980-2002 (total floorspace and as a % total stock)



- What has triggered this cycle of development? How responsive have developers been to the key development triggers – the strength occupier demand (as measured by overall economic growth), the supply-demand balance (as measured by the vacancy rate) and real estate performance (as measured by rental growth and gross returns).
- Each of these measures has been plotted against office completions:
 - *Figure 2* (page 7) plots completions (as a percentage of total stock) against the combined economic growth rates of the eight metropolitan areas. A lagged relationship between economic growth rates and office completions can be observed, with a lag of 3 years showing the best fit (correlation coefficient of 0.68). The analysis indicates that the higher levels of development between 1988-92 are, in part, a response to stronger and more sustained levels of economic growth during the late 1980s. Between 1985-89, for example, economic growth averaged 3.5% pa, compared with 2.4% pa between 1995-99.
 - The weaker supply side response during the current development upswing also reflects a legacy of high vacancy rates during the mid 1990s. As *Figure 3* (page 7) shows, vacancy rates in the eight metropolitan areas rose to 9.2% in 1994, and it has taken several years for this over-supply to be absorbed. Vacancy rates only fell below 5% in 1999. Moreover

the over-supply of the mid 1990s has resulted in reluctance on the part of banks to lend for speculative development. Not only has this led to lower overall completions, but has also resulted in a higher proportion of pre-lettings during the recent cycle.

- An inverse relationship between office completions and vacancy rates can be observed, with a lag of 3 years providing the best fit (with a correlation coefficient of -0.68).
- The supply response is also a reflection of change in real estate prices and performance. *Figures 4 and 5* (page 8) plot office completions against rental growth and gross returns respectively for prime offices in the eight metropolitan areas. Again, a lagged relationship (of 2-3 years) between completions and rental change and gross returns can be observed.

So looking at the office markets overall across the eight metropolitan areas, a relationship can be observed between the main development triggers (i.e. economic growth, vacancy rates, rental growth and gross returns) and office completions, with a lag of 3 years showing the best fit.

Figure 2 – Annual Office Completions (as a % of total stock) v Economic Growth 1980-2002

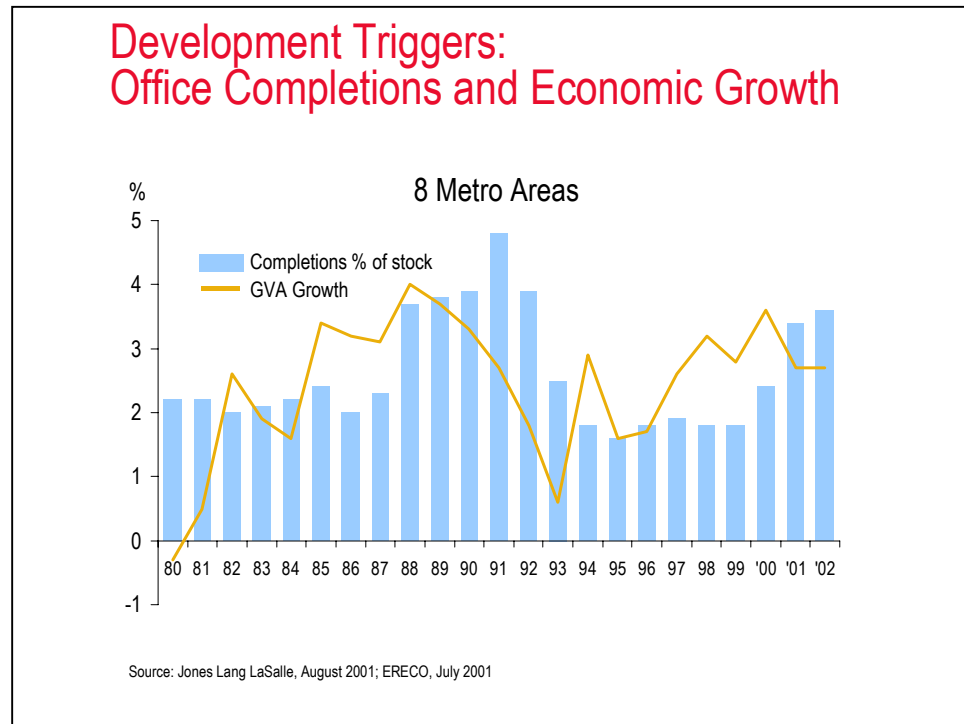


Figure 3 – Annual Office Completions (as a % of total stock) v Vacancy Rates 1980-2002

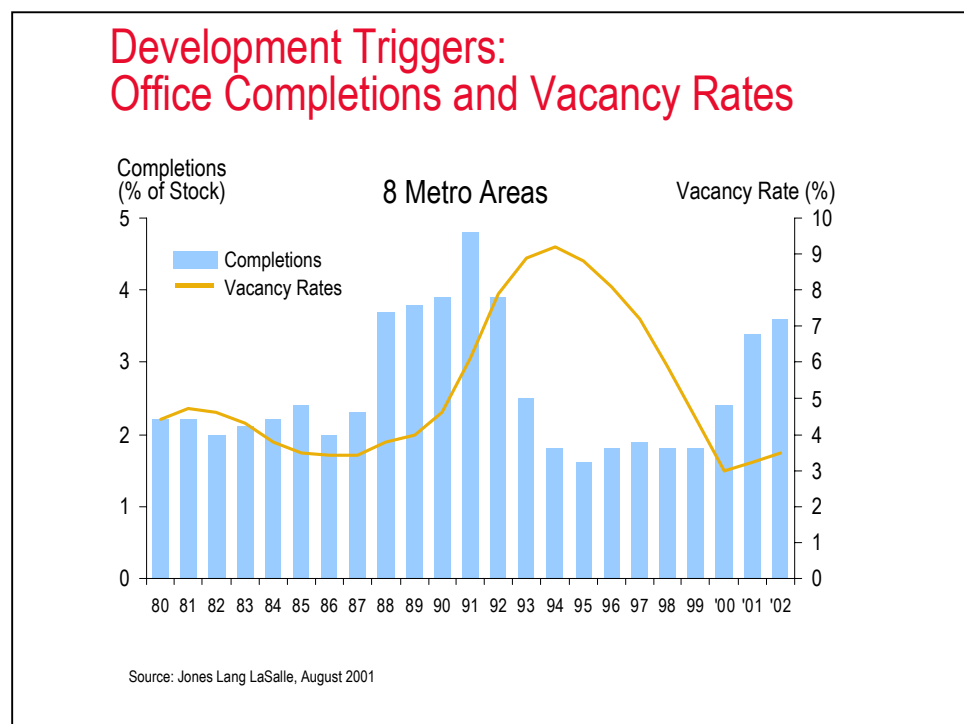


Figure 4 – Annual Office Completions (as a % of total stock) v Prime Rental Change 1980-2002

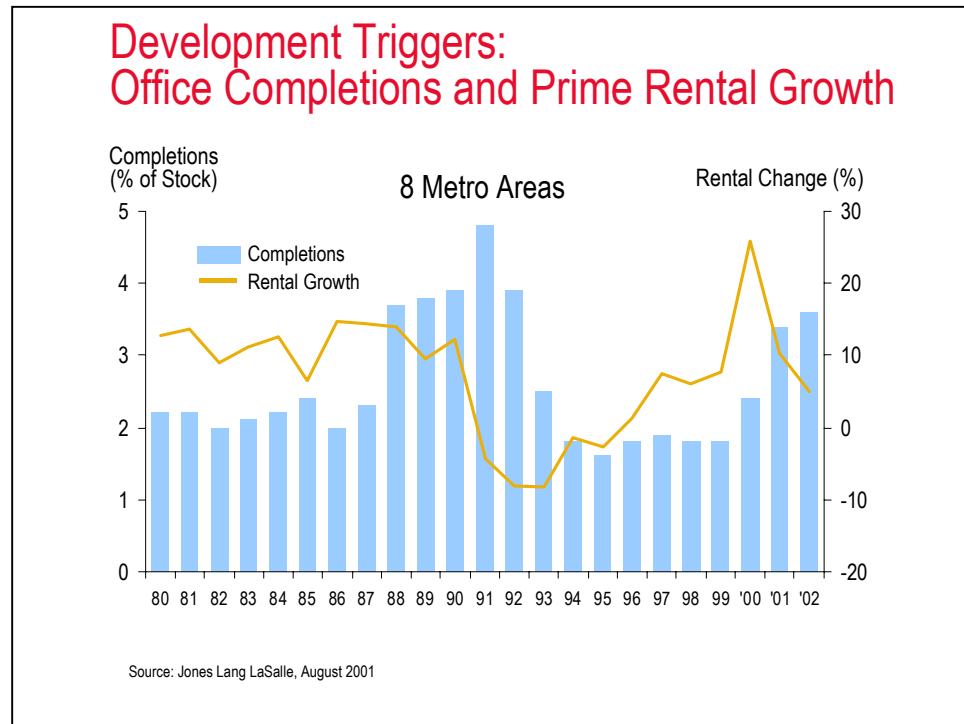
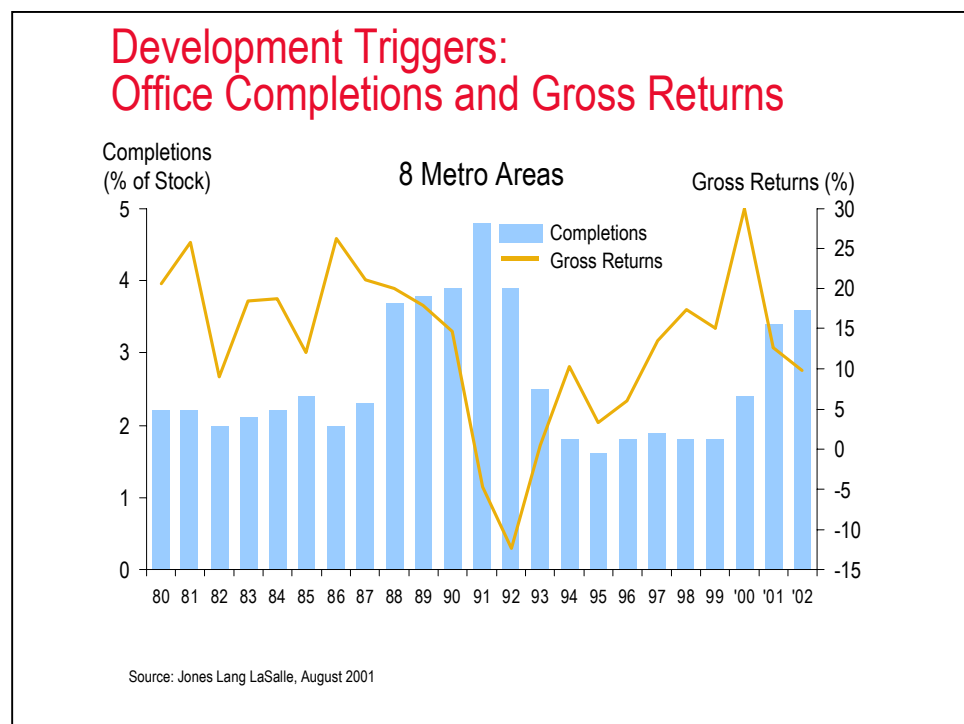


Figure 5 – Annual Office Completions (as a % of total stock) v Gross Returns 1980-2002



2.2. City Development Trends

2.2.1. Development Response - Time Series

- At the level of the individual metropolitan area, the trend in office completions show a broadly similar profile to the composite trends, with all office markets showing development peaks between 1988-1992 and between 2000-2002 (*see Figure 6 below*).

Figure 6: City Development Cycles

	Peak in Last Development Cycle	Peak in Current Development Cycle
Amsterdam/Randstad	1992	2002
Brussels	1989	2002
Dublin	1991	2001
Dusseldorf	1991	2002
Edinburgh	1990	2001
Frankfurt	1988	2001
London	1991	2002
Paris	1992	2002

- The key differences between the eight office markets lie in both the **quantity** and **volatility** of the supply side response.

2.2.2. Development Response - Quantity

- Figures 7-9* (page 11-12) plot office completions as a percentage of total stock by city. We have focused our analysis on two five-year periods (i.e. 1998-2002 and 1988-1992), which broadly correspond to the last major development upswings.
- Over the 1988-92 period, the highest levels of development activity were found in London, Dublin, Düsseldorf and Paris, with relatively weak development responses in both the Randstad and Brussels.
- Over the 1998-02 period, the development response weakened in most markets, with the exception of Dublin and Brussels (where activity has risen) and the Randstad (where it has

remained stable). Strongest development responses are found in Dublin, Brussels, Düsseldorf and the Randstad.

- Over the two periods Dublin has shown the strongest development response, at nearly 5% pa over the 1988-92 period, and nearly 10% pa over the 1998-2002 period.
- Düsseldorf has also shown above average development response during both periods.
- London and Paris saw a high supply side response in 1988-92, but the response has been much weaker in the current cycle.
- In contrast, the relative supply side responses of Brussels and the Randstad cities of Amsterdam and The Hague have been higher during the current cycle.
- In both Edinburgh and Frankfurt, the supply side responses were below average during the first periods, while both were in line between 1998 and 2002.

2.2.3. Developer Response - Volatility

- *Figure 10* (page 12) plots the average level of completions in each market (over the 1986-2002 period) against its standard deviation (as a measure of volatility).
- It shows that Dublin has the most volatile completion series, with strong development responses in 1990-91 and 1999-2002. This can in part be explained by the relatively small size of the market, so that individual schemes have a much greater impact on the overall level of activity.
- Both London and Frankfurt also have higher levels of volatility (i.e. a more cyclical pattern of development activity).
- Brussels and the Randstad have relatively low levels of volatility, in other words, a relatively stable pattern of development activity.

Figure 7: Office Completions by market (as a % of total stock), 1988-92

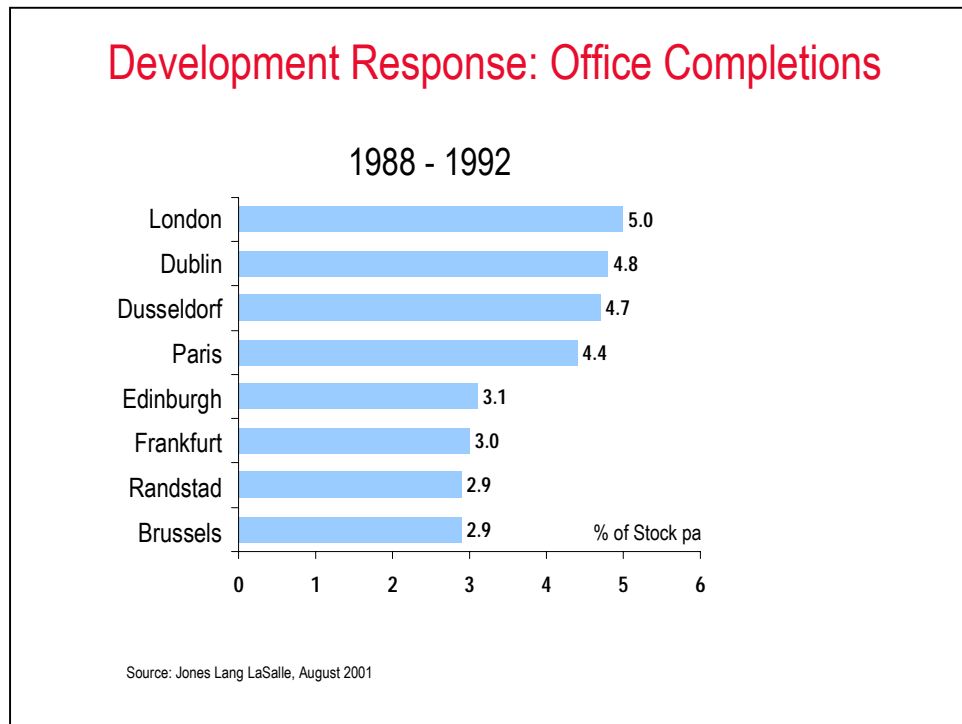


Figure 8: Office Completions by market (as a % of total stock), 1998-02

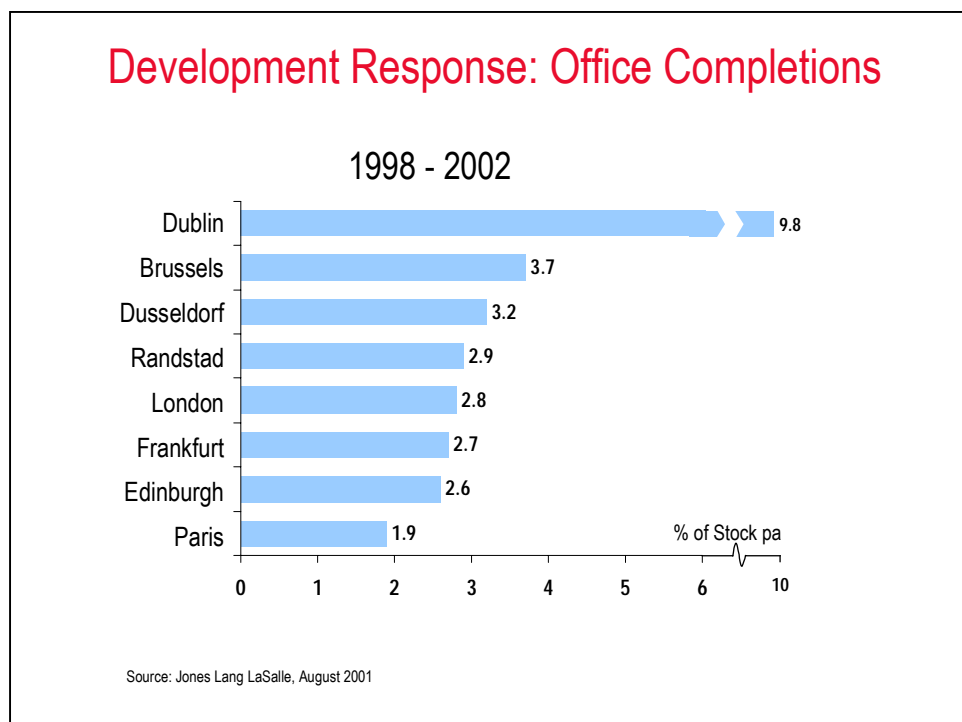


Figure 9: Office Completions by market (as a % of total stock), 1988-92 and 1998-02

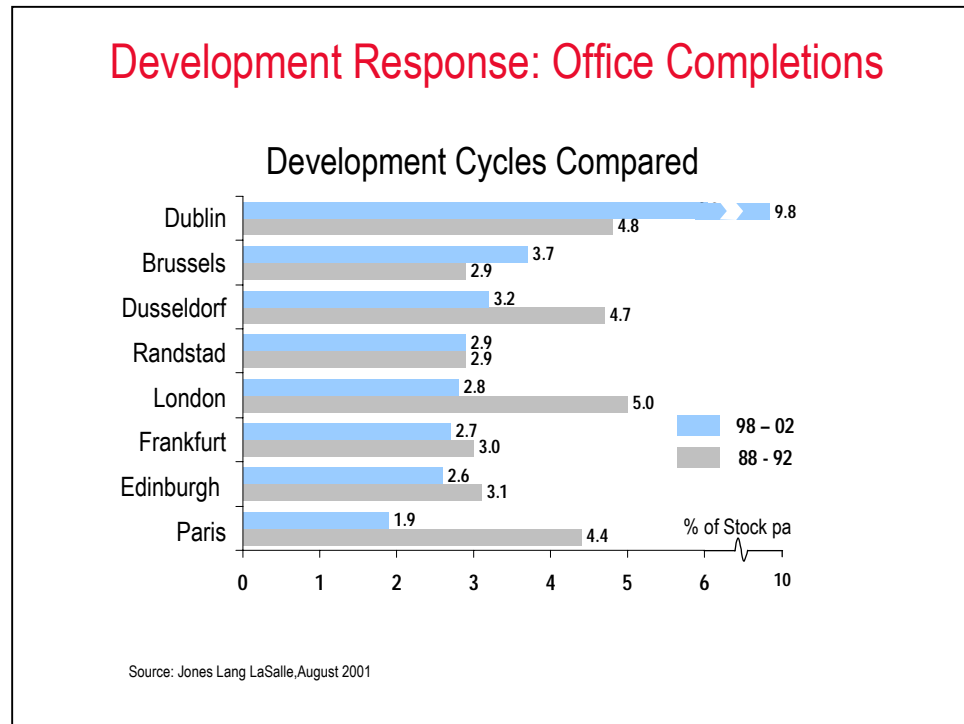
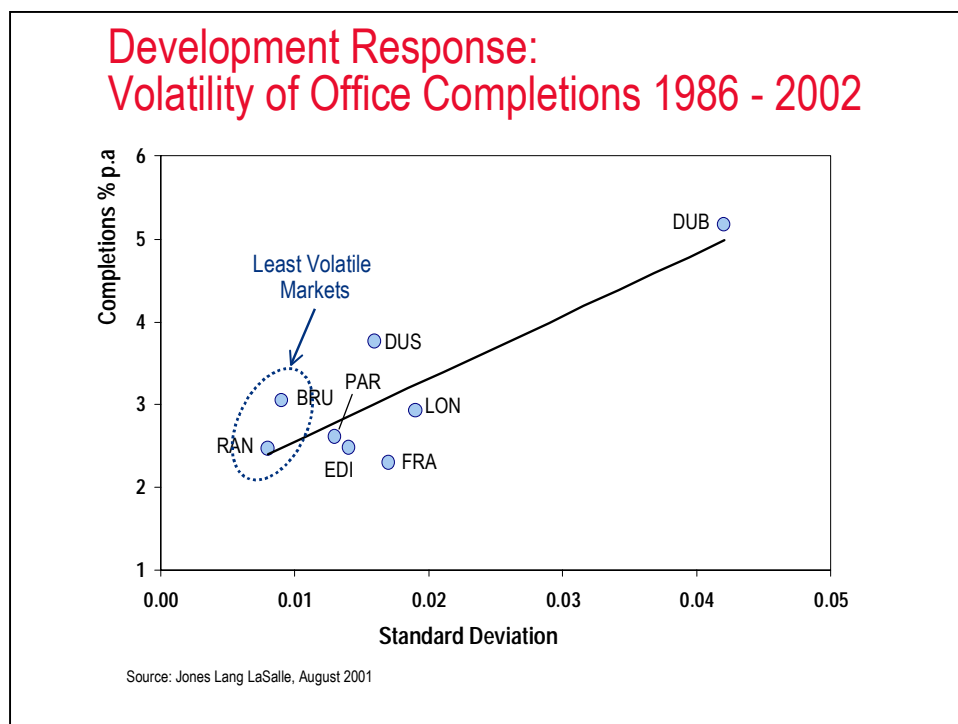


Figure 10 – Volatility of Office Completions 1986-02 (quantity v volatility)



2.2.4. Development Triggers

- In order to start to explain the development response at the level of the metropolitan area, completion rates have been plotted against the key development triggers - economic growth, vacancy rates, prime rental change and gross returns (*Figures 11-14*).
- We have focused on the current development cycle 1998-2002, and have used a lag of 3 years to reflect the lagged statistical correlations found at the European aggregate level.
- In terms of economic growth (*Figure 11*), we can observe a lagged correlation between economic growth and completions. This analysis indicates a stronger than expected supply-side response in Dublin and Dusseldorf, and to a less degree Brussels. A weaker than expected response was found in the Dutch cities (notably Utrecht, Rotterdam and The Hague).
- The relationship between vacancy rates and completions is weaker (*Figure 12*). Nonetheless, it points to an over response in Dublin, and an under response in Utrecht.
- The relationship between rental growth and completions (*Figure 13*) point to an over response in Dublin, Dusseldorf and Brussels. It indicates an under response in the Dutch cities, London and to a lesser extent, Edinburgh.
- Finally, in terms of gross returns (*Figure 14*), again the analysis points to an over-response in Dublin, Dusseldorf and Brussels, and an under-response in the Dutch cities.

Figure 11 – Office Completions v Economic Growth

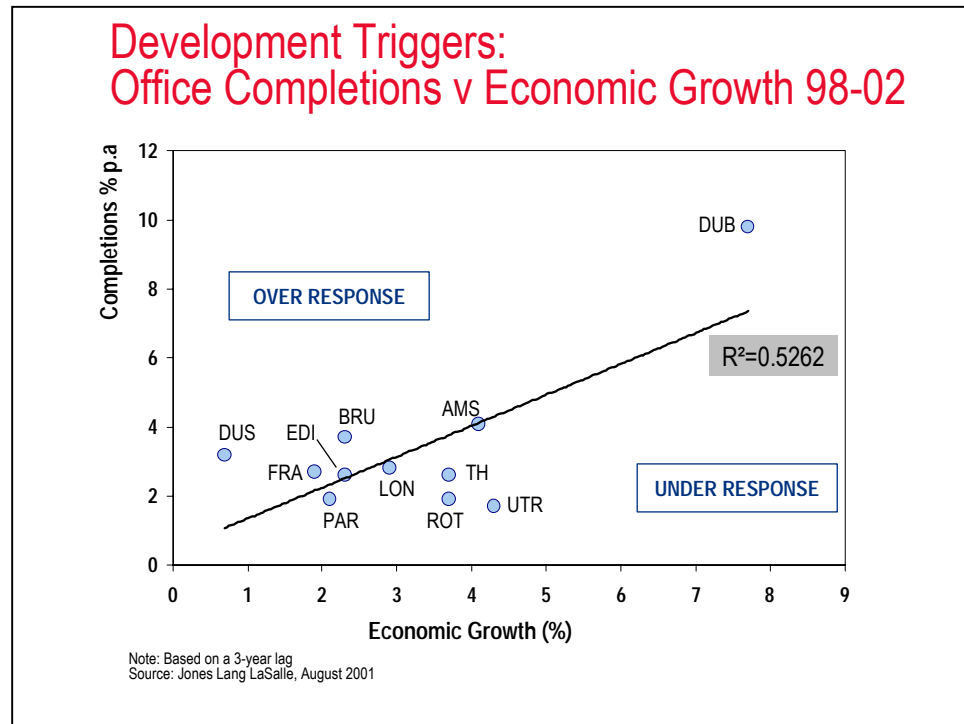


Figure 12 – Office Completions v Vacancy Rates

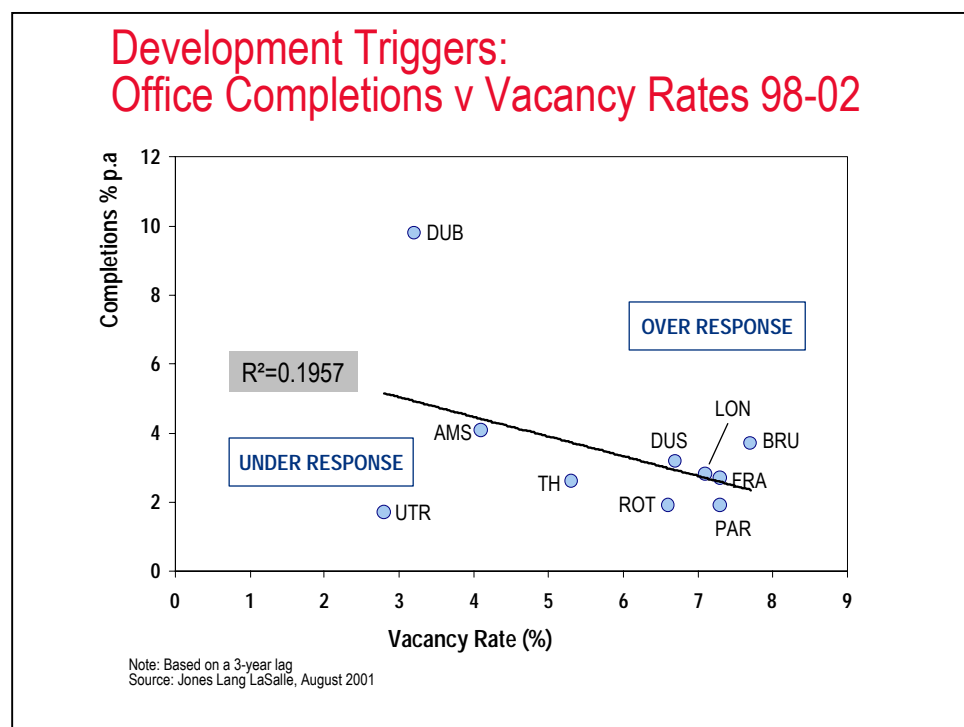


Figure 13 – Office Completions v Rental Growth

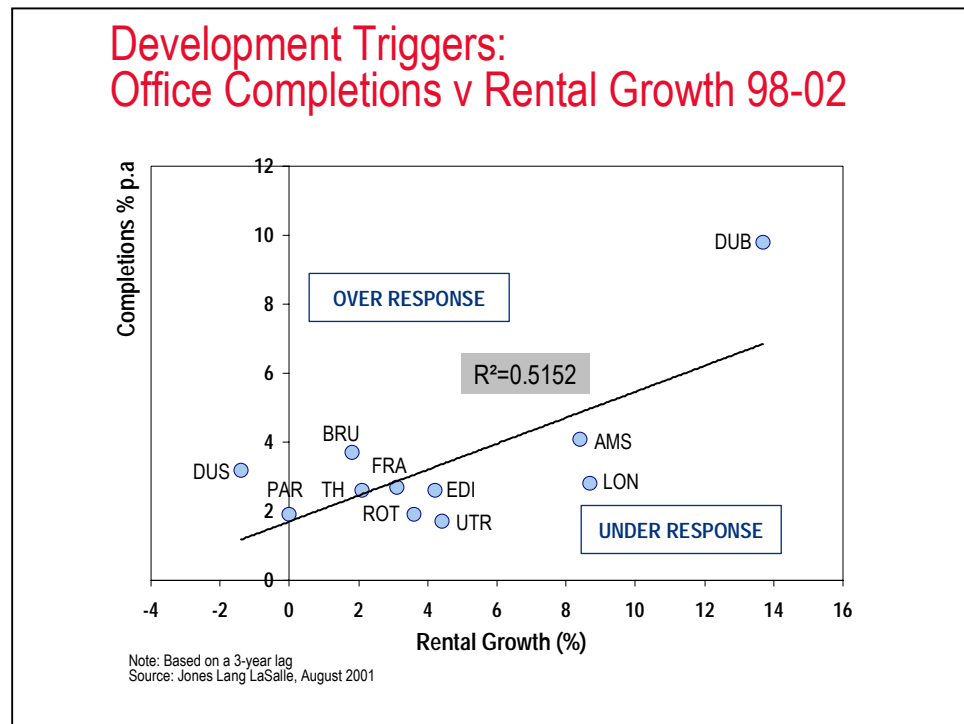
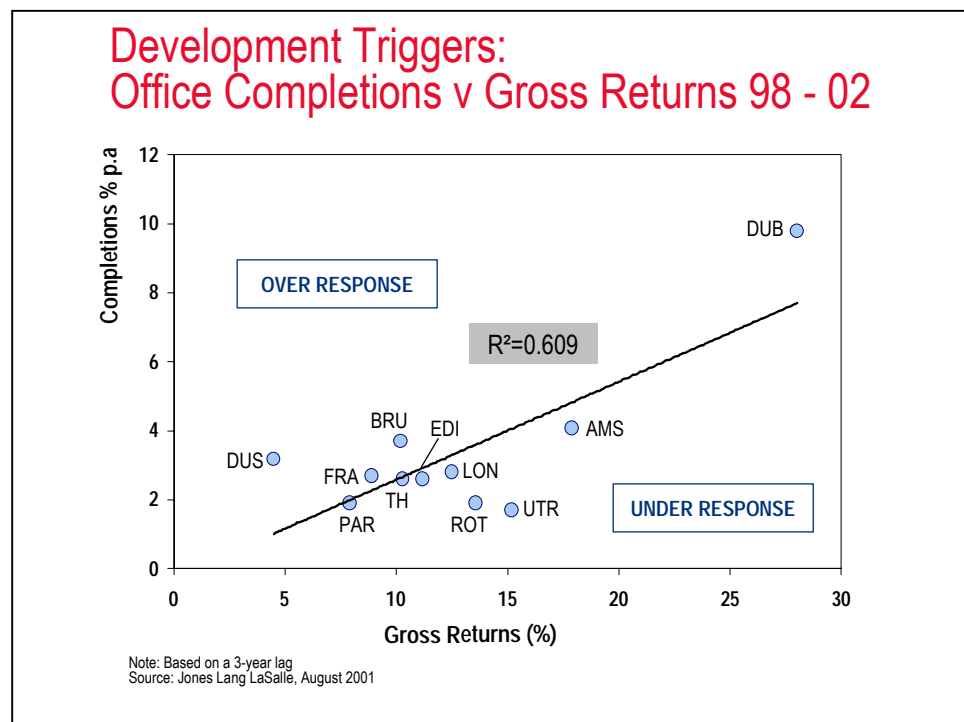


Figure 14 – Office Completions v Gross Returns



2.2.5. Summary

- The analysis has enabled a broad quantification of the relative responsiveness of the supply-side in each city during the current development cycle, which has been summarised in *Figure 15*.
- The analysis points to an over response in Dublin, Dusseldorf and Brussels.
- In Frankfurt, London and Paris, the response in the current cycle has been more measured, and is probably a reaction to the strong supply side response in the last development cycle.
- Edinburgh is showing a measured supply side response in the current cycle.
- The Randstad cities have a relatively stable supply side response, although the analysis indicates an under response in the current cycle.

Figure 15 – Summary of relative supply responsiveness

Development Triggers: Supply Responsiveness				
	Economic Growth	Vacancy Rates	Rental Growth	Gross Returns
Dublin	✓	✓	✓	✓
Brussels	✓	✓	✓	✓
Dusseldorf	✓	=	✓	✓
Frankfurt	=	=	=	=
Paris	=	X	=	=
London	=	=	X	=
Edinburgh	=	na	X	=
Randstad	X	X	X	X

✓	Over response
X	Under response
=	Measured response

- Whilst these development triggers do provide some explanation for the differing supply-side responses, it is evident that other factors come into play. In the following section, we have overlaid this analysis with a qualitative review of the supply-side dynamics in each city.

3 Individual City Overviews:

3.1 Amsterdam/Randstad²

Summary Table

Supply-Side	COMPLETIONS (%)*	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
AMSTERDAM						
1988-1992	2.7	1985-1989	7.8	2.5	2.1	11.5
1998-2002	4.1	1995-1999	4.1	4.1	8.4	17.9
AVERAGE	3.4		6.0	3.3	5.3	14.7
ROTTERDAM						
1988-1992	3.4	1985-1989	9.5	3.1	-1.7	7.3
1998-2002	1.9	1995-1999	6.6	3.7	3.6	13.6
AVERAGE	2.7		8.1	3.4	1.0	10.5
UTRECHT						
1988-1992	4.7	1985-1989	5.2	6.3	1.2	9.5
1998-2002	1.7	1995-1999	2.8	4.3	4.4	15.2
AVERAGE	3.2		4.0	5.3	2.8	12.4
THE HAGUE						
1988-1992	1.4	1985-1989	6.1	2.8	3.1	11.9
1998-2002	2.6	1995-1999	5.3	3.7	2.1	10.3
AVERAGE	2.0		5.7	3.3	2.6	11.1
RANDSTAD						
1988-1992	2.9	1985-1989	7.4	3.5	1.1	10.1
1998-2002	2.9	1995-1999	4.8	3.9	5.2	14.9
AVERAGE	2.9		6.1	3.7	3.2	12.5
EUROPEAN AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

*Amsterdam, The Hague & Utrecht – completions only recorded for 1990, 1991 & 1992

² Comprising cities of Amsterdam, Rotterdam, The Hague and Utrecht

3.1.1. RESPONSE TO DEVELOPMENT TRIGGERS

- The Randstad has a relatively well-regulated supply-side response, and over the two periods of analyses, the level of office completions has remained stable at 2.9% pa in the four Randstad cities. However as a consequence, during the most recent period of favourable economic and property market conditions (i.e. economic growth was stronger, vacancy rates were lower and real estate performance was higher in the lead up to the current development cycle), the development response has been much lower than the development triggers indicate.
- However, this disguises very different supply-side responses between the four Randstad cities. In the most recent period, the supply-side response in Amsterdam and The Hague has been stronger than for either Utrecht or Rotterdam.
- Developers have increasingly focused on Amsterdam, which has recorded the highest level of completions over the 1998-2002 period, at 4.1% pa of total stock. The increase in completions in Amsterdam is in line with the city having the strongest rental growth and gross returns, and the largest fall in availability between the two periods of analysis. It also reflects demand fundamentals, with the city perceived to be the only one of the four cities to have the right business environment to attract leading international companies.
- In the other three Randstad cities, the office markets are small and completion figures can be heavily distorted by individual schemes. Nonetheless, there is evidence that development activity has increased in The Hague over the two periods, driven by demand factors (demand from government and major local occupiers), rather than supply (vacancy rates remained relatively high). In contrast, the supply-side response in Utrecht has been weak, despite strong economic growth and improving real estate market conditions.

3.1.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- The Randstad is a polycentric and relatively decentralised office market.
- Nearly 40% of the stock is located in the Amsterdam region.

In *Amsterdam*:

- The traditional CBD (Centrum) accounts for only 27% of the total office stock and the prime office area is located in Amsterdam Zuid (centred on the World Trade Centre) where a critical mass of modern offices has developed (26% of the total stock).

- The peripheral areas of the South East (15%), Sloterdijk (11%), East (9%), Buitenveldert (7%) and South West (5%) account for the remaining 47% of stock.
- Development is currently focused in the Sloterdijk and South East districts, areas well connected to the public transport system. As evidence of this, between 1998 and 2002, Sloterdijk and South East account for 28% and 20% of all Amsterdam completions.
- In general, new developments are planned at intercity locations (such as railway stations) and at locations on the periphery of the main cities, that are conveniently accessible by car, (areas that were previously less favoured by users).
- To the south of Amsterdam, the City of Amsterdam is promoting the South Axis (or Zuidas) near to Schiphol Airport, as part of a master plan developed in 1997. Amsterdam's city government has also introduced stricter parking regulations meaning that developers are forced to locate at public transport junctions. South Axis will therefore have rapid rail, bus and metro links to central Amsterdam and elsewhere. The development combines high-tech offices with a mixed-use environment of leisure facilities, shops and residential areas. Significantly, ING and ABN AMRO are involved in the scheme, both building offices for owner-occupation. Their presence will undoubtedly increase the prestige of the scheme and attract other occupiers.

In *The Hague*:

- The CBD (Centre, Adjacent Centre/New, Adjacent Centre/Other) account for 52% of the total office stock, but only 45% of completions between 1998 and 2002.
- The highest level of completions (26%) is in the more peripheral district of Binckhorst. This is a former industrial area that is being redeveloped and is well located for public transport.

In *Rotterdam*:

- 44% of the total office stock is located in the Centre and Adjacent districts. However these districts represent only 29% of all completions between 1998 and 2002.
- The surrounding areas of Alexanderpolder, Brainpark and Kop Van Zuid dominate new development activity, representing 57% of all completions.
- Longer term, new office development is planned around Rotterdam central railway station, which will provide a new focus of development activity.

In *Utrecht*:

- 41% of total office stock is located in the centre of Utrecht, and in contrast to other markets, the district accounts for a larger proportion of recent completions. Furthermore, redevelopment is rare, as even lower-quality buildings are easy to lease

3.1.3. CHARACTERISTICS OF NEW DEVELOPMENT

- Anecdotal evidence suggests that the quality of completions in Amsterdam is much higher in comparison with the previous peak in the building cycle in the early 1990s. Investors and users are increasingly imposing higher requirements on office buildings and the enhancement of the environment around office locations is also rising. As standards become more homogeneous, location is becoming paramount.
- In Amsterdam there are differences in the characteristics of buildings between districts. The South East and South Axis areas are characterised by larger, high-rise buildings with a high density and are often multi-use. This is in contrast to the West and East areas where developments tend to be smaller and densities are lower.

3.1.4. SUPPLY-SIDE CONSTRAINTS

- Land prices in Amsterdam have been stable in recent years at relatively high levels, and they do not appear to follow other market trends. Labour costs have also increased, which combined with high land prices and rising yields, has resulted in an erosion of development profit.
- Traditionally municipalities have imposed a minimum level of pre-letting prior to construction and although this is rarely any longer the case, developers appear wary to build speculatively.
- There is also limited land available in central Amsterdam and this has forced development into surrounding districts, where space has been maximised by increasing building density, such as has happened in the South Axis.
- The Dutch business environment, and that of Amsterdam in particular, is very conducive to attracting international companies. There is good market information, and subsidies from the government are often available.

3.1.5. DEVELOPMENT FUNDING

- In the second half of the 1990s developers were taking on a high proportion of the risk and funding speculative development themselves. This has started to change recently with German

funds beginning to fund developments, but often requiring 50% pre-letting.

- The ratio of leasing to ownership is assessed to be 95:5 in Amsterdam, Rotterdam and The Hague, and marginally lower in Utrecht at 90:10.

3.1.6. MAIN DEVELOPERS & INVESTORS

- The Dutch development/investment market is relatively open, particularly Amsterdam. In 2000 for example, Dutch investors accounted for 67% of the total investment market, with German investors accounting for 23% and other overseas investors a further 10%. In Amsterdam, the Dutch share of the investment market has averaged approximately 60% over the 1996-99 period.

3.2 Brussels

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
BRUSSELS						
1988-1992	2.9	1985-1989	2.6	2.5	11.5	23.9
1998-2002	3.7	1995-1999	7.7	2.3	1.8	10.2
AVERAGE	3.3		5.2	2.4	6.7	17.1
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

3.2.1. RESPONSE TO DEVELOPMENT TRIGGERS

- Over the 1988-1992 period, the supply-side response in Brussels was subdued relative to underlying real estate market conditions. Despite low vacancy rates, double-digit rental growth and gross returns (which were the second highest of the cities analysed), office completions totalled only 2.9% over the 1988-1992 period.
- In the most recent period the supply-side has shown greater responsiveness, reacting more strongly than expected to the development triggers. Despite higher levels of vacant space, lower economic growth, and weaker rental growth and gross returns, completions increased from 2.9% of total stock between 1988-1992 to 3.7% in 1998-2002.
- Against the overall trend (and along with Dublin), Brussels is one of the few cities to have registered a higher proportion of completions in the most recent period of analysis.
- The Brussels region has the least volatile level of development activity of the cities analysed.

3.2.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- The majority of Brussels office stock is found within the 19 Communes area (90%). The Quartier Leopold (32%) forms the prime district and combined with Centre, Nord and Louise accounts for 68% of the total stock. The Decentralised districts and Periphery (i.e. outside the 19 communes) account for the remaining 22% and 10% of office stock respectively.

- A significant proportion of development activity in the most recent period has been in the Periphery, a reaction to the scarcity of space and tight planning regime in the CBD districts of Leopold, Louise and Central. Whilst the Periphery saw only minimal activity between 1988 and 1992, it accounted for 30% of completions over the 1998-2002 period, (representing the highest of any district in the Brussels Region). The Quartier Leopold saw the second highest amount of office completions, at 26%.
- The presence of the administration of the European Union (EU) has contributed to greater stability in the Brussels office market. The EU currently occupies an estimated 1.4 million m² of floorspace (nearly 15% of the total). The EU has provided a stable source of demand for office space, a trend that will continue with the accession of new countries. Much of the space taken by the EU is located in the Quartier Leopold, and there is reluctance among EU institutions to move away from these prime locations.
- New development is also occurring around the two main train terminals in Brussels (Gare du Nord and Gare du Midi), mirroring trends in other European cities that are taking advantage of key public transport nodes for new development. The Gare du Midi is being developed by Eurostation, a subsidiary of the Belgian National railway company. The 1995 regional plan for Brussels has encouraged this trend to develop around the stations by restricting supply in the city centre.
- There is also a trend towards new development in greenfield sites, notably to the south of Brussels in the Brabant-Walloon region, areas with a good infrastructure and residential stock, that suffer less from congestion than other parts of the periphery, such as Zaventem.

3.2.3. CHARACTERISTICS OF THE NEW DEVELOPMENT

- Of the 10.3 million m² office stock, approximately 45% is more than 15 years old, 35% between 5 and 15 years old and 19% has been completed in the last 5 years. Nearly 90% of the office stock in the Periphery is less than 15 years old, while 42% is less than 5 years old (this compares to 22% for the Leopold district and 10% for the Centre).
- Business and office parks have dominated new development activity in the Periphery, while due to the high density of old buildings, most completions in the CBD are refurbishments that retain the original facade. In the Leopold district there is more scope for demolition as there is a higher prevalence of buildings originating from the 1960s, in which case only the concrete shell may be retained.

3.2.4. SUPPLY-SIDE CONSTRAINTS

- Planning legislation that sets limits on the height of buildings in the CBD and lower business costs have helped fuel the increased activity in the Periphery, but the lack of a Brussels postcode in this district has possibly hindered demand from international companies.

3.2.5. DEVELOPMENT FUNDING

- The margins accepted by developers are declining. Although they can often be up to 35-40%, developers tend to settle at a minimum of 15-20% (excluding financial costs).
- The ratio of leasing to ownership is assessed to be 75:25.
- Funding is dominated by Belgium financial institutions.

3.2.6. MAIN DEVELOPERS & INVESTORS

- In a survey of JLL European Capital Markets representatives, the Brussels development market was perceived as fragmented, and dominated by local players, with international developers often beaten down by planning issues and the nuances of the local market.
- International developers appear to have more success when joining forces with local players in joint ventures. For instance, PRICOA bought Banimmo, a Belgium company specialising in refurbishing office buildings. Local developer, Bernheim Comofi, is owned by US company Security Capital. UK property company Slough Estates is another international developer that has been active in Brussels, building the Pegasus office park in Zaventem in the Periphery.
- Margins and rentals are also often seen as too low to attract international investors.

3.3 Dublin

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
DUBLIN						
1988-1992	4.8	1985-1989	7.4*	2.9	13.8	22.2
1998-2002	9.8	1995-1999	3.2	7.7	13.7	28.0
AVERAGE	7.3		5.3	5.3	13.8	25.1
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

**Average for 1988 and 1989 only*

3.3.1. RESPONSE TO DEVELOPMENT TRIGGERS

- Dublin has seen the strongest supply-side response of all the metropolitan areas analysed. Completions increased from 4.8% pa of total stock between 1988-1992 to 9.8% pa in 1998-2002, more than 3½ times the average level.
- The strong developer response in the most recent period can be seen as a reaction to the strong economic growth, rental growth and gross returns between 1995 and 1999. Of the measures examined, economic growth appears to be the key variable that differentiates the supply-side response between the two periods under analysis. Between 1995 and 1999, economic growth was the highest among the cities monitored, at 7.7%.
- However, the current supply-side response is in excess of the level that the development triggers would indicate.
- For the first five years of the current boom, the response of developers was very cautious, based on the lessons learned in 1991/92. Although the supply rate has risen in the last two years, it is still unlikely to produce vacancy rates in excess of 5% in the city centre in the next year. There is a risk of oversupply in parts of the suburbs where the developer response has been less disciplined.

3.3.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- Dublin has a relatively centralised office stock. Of the total Dublin office stock of just under 2 million m² (a figure that has more than doubled since 1990), approximately 77% is within the CBD and 23% in the suburbs.
- The International Financial Services Centre (IFSC), located close to the heart of the city centre on the site of former docklands, was conceived as part of the City of Dublin's plan for urban renewal in the mid-1980s. The area was initially developed as a public/private partnership, with the government providing land, tax incentives, rental allowances and planning powers and a private consortium designing, building and financing the project. IFSC continues to be the focus of development in the current cycle.
- Between 1988 and 1992 approximately 86% of completions were located in the city centre (which includes the IFSC), with the remaining 14% in the suburbs. The situation has been reversed between 1998 and 2001, with an estimated 66% of completions in the suburbs and the remaining 34% in the city centre.
- The establishment of the IFSC has seen the emergence of a cheaper 'edge of prime' district, with occupiers recognising the need to be centrally located in order to have access to the labour market. Examples include the new Citibank back office in the IFSC and Iona Technologies locating in Dublin 4 to attract staff.
- In the most recent period, business and office parks, such as those in City West and Cherrywood, have also been the focus of development. These have primarily been located in suburban areas within the M50 ring road, attracting TMT and financial services occupiers

3.3.3. CHARACTERISTICS OF THE NEW DEVELOPMENT

- Development has been less controlled in the suburbs, often carried out by less experienced developers. There has also been a trend of converting industrial estates into business and office parks.
- Levels of refurbishment remain low, even in the city centre, with sites still available in the opened up docklands area. The IFSC mirrors the mixed-use trend seen across Europe, with the development incorporating hotels, restaurants, residential and retail elements.

3.3.4. SUPPLY-SIDE CONSTRAINTS

- Apart from delays in the planning process, Dublin suffers from few supply-side constraints.
- Ireland's economy has undergone a structural change in the last decade. The availability of government grants, low corporate tax rates and a relatively low paid, well educated workforce have translated into strong employment growth in recent years as the Irish economy has attracted foreign direct investment. These factors have driven GVA growth, and subsequently, the strong supply-side response.
- Through the Investment and Development Agency (IDA), Ireland has targeted and attracted inward investment from electronics and engineering, pharmaceuticals and healthcare products, computer software, financial services and internationally traded services.

3.3.5. DEVELOPMENT FUNDING

- Bank lending has been cautious during the current cycle with funding dominated by Irish institutions, property companies and banks. The ratio of leasing to ownership is assessed to be 90:10.

3.3.6. MAIN DEVELOPERS & INVESTORS

- Irish investors and developers dominate the market. However UK developers have also been active. British Land were involved in the original consortium that developed the IFSC and are currently developing at Cherrywood. Low levels of international activity may reflect the relatively small size of the market (and the associated lack of liquidity) as well as the scarcity of investment grade stock.

3.4. Düsseldorf

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
DUSSELDORF						
1988-1992	4.7	1985-1989	4.7	1.6	3.1	9.3
1998-2002	3.2	1995-1999	6.7	0.7	-1.4	4.5
AVERAGE	4.0		5.7	1.2	0.9	6.9
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

3.4.1. RESPONSE TO DEVELOPMENT TRIGGERS

- Düsseldorf has recorded one of the highest completion levels of the cities analysed during both periods, despite weak economic growth, below average rental growth and low gross returns.
- The supply response during both periods has been more positive than the development triggers would indicate.
- Completions have fallen during the 1998-2002 period, a reflection of higher vacancy rates, negative rental growth and weak returns. Nonetheless at 3.2% pa of stock, it is still above the average of the cities analysed.

3.4.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- As in Frankfurt and Munich, developers prefer to stick to prime locations, thus reducing letting risk. However, only 5% of all office completions were in the City district, with 28% in the fringe areas of the Hagen (harbour area) and City-Ost districts. The area around the airport (Flughafen) district is also an emerging development location.

3.4.3. CHARACTERISTICS OF NEW DEVELOPMENT

- New office developments are characterised by larger floorplates, with double floors for cabling and ventilation. 'Top-cooling' air-conditioning and better parking facilities are also common features.

- Business parks, the most recent generation of which are more akin to office parks, are an important development product, with much of Germany's supply concentrated around Düsseldorf in the Neuss and Ratingen regions, which together represent 15% of all office completions.

3.4.4. SUPPLY-SIDE CONSTRAINTS

- The influence of the City on the property market is significant. Of all German cities, it can take the longest to get building consent in Düsseldorf (around 15 months). However, exceptions have been made when the authorities have seen the vacancy rate declining rapidly.

3.4.5. DEVELOPMENT FUNDING

- In a survey of JLL European Capital Markets representatives, the Düsseldorf development market was perceived as relatively profitable, with margins estimated at between 7-10% (including financial costs).
- The leasing to ownership ratio is estimated at 80:20.

3.4.6. MAIN DEVELOPERS & INVESTORS

- In the same survey, Düsseldorf is categorised as a well functioning market with various local, national and international players. However, although UK, Dutch and French investors have shown interest in the Düsseldorf market, in general, international investors play only a minor role in the Düsseldorf investment market compared to the larger German cities.

3.5. Edinburgh

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
EDINBURGH						
1988-1992	3.1	1985-1989	2.1	3.2	27.2	28.5
1998-2002	2.6	1995-1999	NA	2.3	4.2	11.2
AVERAGE	2.9		NA	2.8	15.7	19.9
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

3.5.1. RESPONSE TO DEVELOPMENT TRIGGERS

- Although the supply response was weaker between 1988 and 1992, Edinburgh has been in line with the average during the current cycle.
- The below average level of completions in the initial period was despite strong real estate performance, low vacancy and steady economic growth.
- The level of completions in Edinburgh has fallen from 3.1% of total stock to 2.6% between the two periods under analysis, reflecting lower economic growth and weaker real estate performance.

3.5.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- 75% of the total office stock is located in the city centre, with the remaining 25% evenly split between South Gyle and Other Decentralised areas.
- Traditionally the office centre consisted of the historic area north of the city's main shopping thoroughfare, Princes Street. However, in the mid-80s as part of the city's master plan, a former railway goods yard was developed just to the south west of the historic centre. This district, known as the Exchange, has now become the prime Edinburgh office location and has seen the redefinition of the city centre. The historic city centre and the Exchange are assessed to account for approximately 60% of all completions between 1998 and 2002.

- Further away from the historic centre (towards the airport to the west), South Gyle has become established as an alternative office location to the city centre. In the most recent period, this district is assessed to represent 30% of all completions. This area is marginally cheaper than the prime city centre, closer to the airport and can provide large floorplates.
- More recently, other decentralised areas such as Leith, Granton and Fountainbridge (home of the Edinburgh Quay scheme) have attracted development and are assessed to represent 10% of completions between 1998 and 2002.

3.5.3. CHARACTERISTICS OF NEW DEVELOPMENT

- South Gyle and the nearby Edinburgh Park have been characterised by office park developments. They have therefore tended to attract technology companies, but have also lured financial services and head offices.
- New developments in the decentralised areas have followed the mixed-use trend across Europe. The Edinburgh Quay scheme comprises offices as well as leisure and retail space along with upmarket apartments. Similarly, the redevelopment (and regeneration) of the former gasworks site at the Granton waterfront to the north of the city, is described as a mixed-use urban scheme incorporating business space, mixed retail, commercial and restaurant facilities. It also includes areas of public open space and site provision for a new primary school.

3.5.4. SUPPLY-SIDE CONSTRAINTS

- At a macro and strategic level, the role of the local authorities has been very pro-active in developing a master plan for the city. However, planning delays at the micro-level have stifled development activity. In the historic centre this has been compounded the restrictive role of bodies such as Historic Scotland and the Cockburn Association. Such bodies are consulted when any of Edinburgh's listed buildings are involved in, or affected by, development schemes. Significantly, their role is not to promote economic development but to protect the city's historic centre and its status as a World Heritage Site. This has led to height and size restrictions on new developments.
- As a result of the restrictive planning controls in the city centre, there is a dearth of buildings constructed in the 1960s and 70s that can now be refurbished. Those that were built during this period have often been let on long leases and have not yet been released onto the market.

3.5.5. DEVELOPMENT FUNDING

- As the home of both the Royal Bank of Scotland and the Bank of Scotland (now HBOS), Edinburgh developers have had access to local commercial funding. Increasingly, these institutions are also taking equity stakes in the developments they fund or occupy.

3.5.6. MAIN DEVELOPERS & INVESTORS

- Anecdotal evidence suggests that Edinburgh is a relatively international market, although dominated by UK-based investors and developers. As the UK's second largest financial centre, Edinburgh is often the first destination outside London and the South East for international investor's capital.
- Edinburgh has also traditionally been the home of a number of local insurance and pension funds such as Scottish Life, Standard Life and Scottish Widows. They all have fairly high weightings of property in the city (often including head offices which have often been developed for owner occupation) and thus have not been particularly active in recent years.

3.6. Frankfurt

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
FRANKFURT						
1988-1992	3.0	1985-1989	2.3	3.6	14.9	24.0
1998-2002	2.7	1995-1999	7.3	1.9	3.1	8.9
AVERAGE	2.9		4.8	2.8	9.0	16.5
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

3.6.1. RESPONSE TO DEVELOPMENT TRIGGERS

- The supply response in Frankfurt during the two periods of analysis has been below the eight-city average, and has remained fairly stable between the two periods, despite different economic and property market circumstances.
- The level of completions has fallen only marginally in Frankfurt between the two periods, from 3.0% pa to 2.7% pa.
- In the lead up to 1988-92 (i.e. 1985-89), Frankfurt recorded a low level of available space, but GVA growth, rental growth and gross returns were in line with average levels.
- In contrast, between 1995 and 1999, Frankfurt had a much higher amount of available space and lower levels of GVA growth, rental growth and gross returns. This has prompted only a marginally lower level of completions in 1998-2002 than 1988-1992.
- Other factors, such as German reunification and the decision to locate the European Central Bank in Frankfurt are likely to have complicated the relationship between completion levels and the explanatory variables.

3.6.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- 63% of Frankfurt's office stock is located in the central area (Banking, West, City and West End).
- As such, the highest proportion of the construction work remains focused in the Banking area, representing 29% of all completions between 1998 and 2002, with a further 14% in the surrounding City district. These districts only account for 19% and 16% of total office stock.
- An additional 14% of completions are located in the peripheral Niederrad district, an area that represents 8% of total office stock.
- Following the trend in many other European cities, in 1999 the City of Frankfurt agreed plans to redevelop the main railway station. These plans involve the lowering of the existing station to allow the construction of new high-rise office blocks. However, there has been uncertainty over the scheme, as the plan requires Deutsche Bahn, the German railway company, to bear the initial cost of lowering the station.

3.6.3. CHARACTERISTICS OF NEW DEVELOPMENT

- In line with trends across Europe, new office development in Frankfurt is often combined with residential, retail and leisure areas in order to create a balanced living and working environment.
- New developments are also surpassing previous standards in terms of quality. One such example being the Junghofstraße development in the Banking district being built by US developers HRO. In many of the central sub-markets old buildings are demolished with modern areas such as Frankfurter Welle, Bosch, Areal and Europa Viertel emerging between the Bankenlage and Westend districts.
- Developers are being forced increasingly by the planning authorities to pay greater attention to ecological aspects, especially air-conditioning, with more companies adopting the 'top-cooling' and 'water-cooling' technologies. So-called 'Trader Space' is also becoming more common feature of new developments, with teams, or even whole companies, occupying a single unconfined area.

3.6.4. SUPPLY-SIDE CONSTRAINTS

- As the home of the stock exchange, Frankfurt has been very aggressive in its attempts to establish itself as the financial centre of Europe and local authorities have played a significant

role in attempting to attract inward investment.

- When the Social Democratic Party (SPD) was elected it changed the plans the Christian Democratic Union had for Frankfurt, permitting the development of new high-rise office blocks within the city.
- However the authorities positive stance towards development contrasts with the reality of development (characterised by planning delays and difficulties in site assembly).

3.6.5. DEVELOPMENT FUNDING

- In response to a shortage of supply an increasing number of investors, including funds, banks, and even insurance companies, have turned to development despite the associated risks, but rather, attracted by the associated high income.
- In general, the traditional developers no longer dominate the German development market, with partnerships between developers and investors becoming more common.

3.6.6. MAIN DEVELOPERS & INVESTORS

- More so than any other German city, Frankfurt is has been in a strong position to attract foreign investment. It sells itself as the financial centre of continental Europe, with the European Central Bank, its Stock Exchange, location advantages and international outlook.
- As for all German cities, property investment is dominated by German investors, particularly open-ended funds. These funds have been forced into development by the lack of investment product, with developers looking to them, rather than the banks, for funding.
- Active local developers include Groß & Partner, OFB and FAW.
- The Frankfurt Junghofstraße development also clearly demonstrates the international nature of the Frankfurt market with the US company HRO to get funding from German bank Westdeutsche Immobilien.
- Development by owner-occupiers such as Commerzbank is also more common than in other cities, reflected in a leasing to ownership ratio of 50:50.

3.7. London

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
LONDON						
1988-1992	5.0	1985-1989	3.2	3.7	20.9	21.9
1998-2002	2.8	1995-1999	7.1	2.9	8.7	12.5
AVERAGE	3.9		5.2	3.3	14.8	17.2
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

3.7.1. RESPONSE TO DEVELOPMENT TRIGGERS

- London recorded the strongest supply-side response during the first period of analysis (1988-2002), with completions representing 5.0% pa of total stock. This was a response to low levels of availability, above average rental growth and gross returns, and above average economic growth. However the level of response was stronger than the development explanatory variables indicate.
- The development response in the most recent period (1998-2002) has been more measured and broadly in line to the responses in other cities.
- Between 1998 and 2002 the proportion of completions fell to 2.8%. Lower levels of completions in the most recent period correspond to above average availability, along with more moderate GVA growth, rental growth and gross returns between 1995-1999.

3.7.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- Greater London has approximately 27 million m² of office stock. Two thirds of the stock is located in Central London (comprising West End at 52%, the City at 42% and Docklands 6%).
- Central London has traditionally been characterised by a lack of land for new development (particularly in the West End), and this was a factor in the emergence of Docklands as a new office development area. Over the 1998-92 period, Docklands accounted for approximately 20% of all Central London completions. A very similar picture exists for the most recent period

(1998-2002), with Docklands representing a disproportionate 19% of all central London completions, the City at 50% and the West End at 29%.

- The Docklands developers were very closely involved with plans to extend the infrastructure that serves the area (firstly with the extension of the Docklands Light Railway to the City, and later the Limehouse Link, and also contributing to the government funding of the Jubilee Line underground extension). In particular, it was the pressure from Canary Wharf to extend the Jubilee Line that brought about the infrastructure enabling the development to move from its originally intended 'backroom' function supporting the City, to becoming viewed as a potential 'front office' location.
- Areas around existing transport hubs (notably rail termini) are now attracting major development, and are likely to be the focus of new development activity. The current development around Paddington Station reflects the demand for large, well-specified and well-located office space with rents below the nearby prime West End. This type of development is also very closely linked to the general regeneration of the area, not only creating office space, but also residential and leisure facilities. Other key rail termini for future redevelopment include Kings Cross and Waterloo.

3.7.3. CHARACTERISTICS OF THE NEW DEVELOPMENT

- Jones Lang LaSalle's analysis indicates that a relatively high proportion of the Central London stock (40% to 45%) is of Grade A quality. Since 1997, research suggests that there has been a much higher level of refurbishments in West End (approximately 30% by number) than in the City (10%) and the Docklands (100% new-builds).
- Increasingly, the quality of the working environment is becoming an important part of the human resources 'offer' when attempting to attract new employees. There is now a trend to create a mixed-use environment in which office users can socialise and shop as well as work. Environment, technology and working styles have all become leading edge issues for development schemes.

3.7.4. SUPPLY-SIDE CONSTRAINTS

- In 1982 the Isle of Dogs was designated an Enterprise Zone in an attempt to regenerate the area after it had fallen prey to urban decay. This offered tax allowances to both investors and developers and removed planning restrictions. Only after the Docklands became more accessible was it able to overcome the inertia of businesses to move away from the City and West End. It then began to attain sufficient critical mass to attract major occupiers. In

recent years, because of the large floorplates available at Canary Wharf, it has benefited from a business culture that has looked to bring previously disparate companies (often created through mergers and acquisitions) under a single location in an attempt to improve efficiency. For instance, in September 2001, Barclays announced its plans to move its staff from a number of separate offices in the City and West End, to a single new development in Canary Wharf. In the wake of the 11th September terrorist attacks, Canary Wharf announced it is putting any further speculative developments on hold due to the current economic uncertainty.

- In response to the success of Canary Wharf, the Corporation of London, the City's local authority, started to give planning consents for larger floor areas in an attempt to stem the flow of companies relocating to the Docklands. In a recent example, the corporation has finalised the assembly of a site close to the flagship financial centre of Broadgate that may become the City's biggest office development opportunity.
- As happened at Canary Wharf, new areas such as Paddington Basin have to persuade businesses of the advantages of relocating. In particular, they have to overcome the reticence of occupiers to be the first into an area before it has become established.
- The decision of the new Greater London Authority to locate its offices south of the Thames at London Bridge City in Southwark will undoubtedly be instrumental in reinvigorating the surrounding areas.

2.7.5. DEVELOPMENT FUNDING

- After the oversupply situation of the early 90s, lenders and funders have been much more hesitant to finance speculative development during the current cycle. For instance, the Jones Lang LaSalle/IPD Property Lending Survey for the first half of 2001 shows that, while 11% of new loans to property were for pre-let development, only 3% was for speculative schemes. Some observers believe this will result in a higher proportion of refurbishments over less risky new-builds.
- Development has traditionally been funded by, and forward-sold to, institutions, often from the UK or Germany. However, institutional demand has waned as rental growth prospects have fallen and this has recently seen an increase in the developments funded by highly geared private individuals. German mortgage banks remain the key source of debt finance.
- In London developers are assessed to accept 15-20% profit on cost after financing overheads.
- The ratio of leasing to ownership is assessed to be 95:5.

3.7.6. MAIN DEVELOPERS & INVESTORS

- London is very open to outside players; Nonetheless, it has been either UK or US developers that have carried out a high proportion of the recent development.
- During 2000, UK investors represented 73% of central London investment, with the US accounting for 7%, Germany 5%, the Middle East 4%, Ireland 2% and Other Overseas 9%.

3.8. Paris

Summary Table

Supply-Side	COMPLETIONS (%)	EXPLANATORY VARIABLES (THREE YEAR LAG)	VACANCY RATE (%)	GVA GROWTH (%)	RENTAL GROWTH (%)	GROSS RETURNS (%)
PARIS						
1988-1992	4.4	1985-1989	2.8	4.2	8.4	18.4
1998-2002	1.9	1995-1999	7.3	2.1	0.0	7.9
AVERAGE	3.2		5.1	3.2	4.2	13.2
AVERAGE (EIGHT CITIES)						
1988-1992	4.0	1985-1989	3.6	3.5	11.7	19.4
1998-2002	2.6	1995-1999	6.9	2.4	3.9	11.0
AVERAGE	3.3		5.3	2.9	7.8	15.2

3.8.1. RESPONSE TO DEVELOPMENT TRIGGERS

- The supply response in the Paris Region has broadly matched the eight city average over the two periods analysed (3.2% pa average in Paris compared to 3.3% for the 8-cities).
- However, Paris saw a stronger supply response over the 1988-92 period (4.4% pa), whilst during the 1998-2002 period, the supply response has been relatively weak (at only 1.9% pa), less than half the level of 1988-92.
- The differences in the two periods can be explained by market fundamentals. Over the period leading up to 1988-1992, all the explanatory variables were favourable, with a combination of strong economic growth, low vacancy rates and strong real estate performance (rents and gross returns) characterising the Paris market,
- In the lead up to the most recent development cycle, conditions were less favourable, with the Paris market taking a number of years to recover from the recession of the mid 1990s. The supply response has therefore been correspondingly weaker, despite the recent (i.e. 2000) strong performance of the Paris economy and real estate market.

3.8.2. LOCATION OF THE DEVELOPMENT ACTIVITY

- Whilst the City of Paris has one of the largest concentrations of offices in Europe, Paris has a relatively decentralised office stock, with over half the stock located outside the intra-muros.

- Within the City and Inner Suburbs, the CBD (Financial District and Golden Triangle) accounts for 26%, the remaining areas of the City of Paris account for a further 21% and the Inner Suburbs make up the remaining 53% (La Defense 9%, Golden Crescent 17% and the remaining Inner Suburbs 27%).
- Tightly controlled urban planning has meant that most high-rise development has occurred in areas away from the CBD such as La Defense, while refurbishment, rather than new building, has dominated the CBD. This is reflected by the fact that while La Defense makes up 9% of stock, between 1998 and 2002 it represents 21% of all completions in the Ile-De-France Region.
- New development locations are also beginning to emerge to the north of the city between the CBD and Charles-de-Gaulle airport in areas such as Saint Denis, Clichy and Saint Ouen, which have good public transport facilities.

3.8.3. CHARACTERISTICS OF THE NEW DEVELOPMENT

- The emerging developments to the north of the city have been characterised by high quality buildings, with good facilities, sophisticated architectural designs and are well adapted to companies' functional needs. The buildings are also of a high technical specification but retain low operating costs. This accords with the current demand from large companies for modern buildings with large floorplates that will accommodate the industry trend towards consolidation. These developments are of both business park style and traditional office design.

3.8.4. SUPPLY-SIDE CONSTRAINTS

- Paris has also benefited from government-led schemes to attract new business into emerging areas, such as in the Rive Gauche redevelopment area. The success of these schemes has been demonstrated with high-profile letting to Accenture (formerly Anderson Consulting).
- New technology, research and finance companies have also been attracted to the Rive gauche area by the presence of the French National Library and the Ministry of Finance.

3.8.5. DEVELOPMENT FUNDING

- Due to the low cost of capital, and with demand for internal returns after financing of 20-25%, US investors have been forced into the development market and have started to take on the associated high risks. US developers are typically backed by major institutional investors including US pension funds. US opportunity funds have also diversified into development in the search for higher risk and return profiles.

- International developers have tended to take greater risks than local developers, developing in emerging areas and being prepared to build speculatively.

3.8.6. MAIN DEVELOPERS & INVESTORS

- International investors represented 61% of total investments in Paris in 2000 (US 29%, Germany 22%, the UK 5%, the Netherlands 3% and other international investors a further 3%), with French investors representing 38%.
- Paris has seen a fairly balanced mix of domestic and international developers in recent years. As mentioned above, American developers such as HRO and Tishman Speyer, and investment banks such as Goldman Sachs, have been key developers, as have the German open-ended funds. UK investors such as Hammerson and Slough Estates also have development exposure in Paris.

4. Key Themes

- Our analysis has found that office development in the main metro areas has responded to occupier demand (as measured by city economic growth), the supply-demand balance (as measured by vacancy rates) and real estate performance (rental growth and gross returns) with varying degrees of sensitivity. There have been clear differences between and within cities, and between cycles. For example both Dublin and London appear to have relatively cyclical supply side responses, whilst Randstad and Brussels have a relatively well-regulated and stable supply side responses.
- However, factors other than economic growth, the supply-demand balance and real estate performance inevitably impact on the development response. For instance, based on the experience of the early 1990s, there has been an increased reluctance on the part of banks to lend for speculative development. This has been reflected in the higher proportion of pre-lettings and lower overall completions, particularly in those markets that “over-responded” in the last development cycle, such as London and Paris.
- City authorities and developers are reacting to the need to attract both occupiers and inward investment, thus directly or indirectly enhancing the city offer. Developers are favouring sites that can accommodate the larger floorplates demanded by international companies. This has been driven by the current climate of mergers and acquisitions, with companies housing previously disparate organisations in single locations. In cities with well-established and historic cores, suitable sites tend only to be found around the periphery. As a result, these areas have often experienced a disproportionate amount of development in the current cycle.
- Within the traditional CBDs, public transport interchanges are providing a new focus for development, with city authorities eager to promote development around established rail termini. The good transport links provided by such locations appeal to occupiers wishing to maximise access to the labour market.
- Environment, technology and working styles are leading edge issues for developers and city authorities. With occupiers demanding improved working environments, new developments are more likely to be mixed-use, creating an environment that incorporates leisure, retail and residential elements alongside offices. The working environment is increasingly becoming a key element of the ‘human resources offer’ used to attract employees. This has gone hand-in-hand with the desire of city authorities to regenerate previously neglected, often peripheral,

areas, improving the city offer as a result. Innate differences in planning policy between and within cities have also determined the location of new development.

- Notions of global competitiveness pervade the plans drawn up by local authorities. For instance, Frankfurt has been particularly aggressive in promoting itself as the financial capital of continental Europe. However, strategic vision can often conflict with development reality as city authorities and developers struggle to assemble suitable sites or clash with conservation groups.
- Competitiveness and the need to enhance 'offer' also exist within cities. The traditional centres of office occupation (such as the City of London) have had to find new ways to attract occupiers as peripheral locations (such as the Docklands) have become established.
- It is therefore clear that developers and city authorities have responded to quantifiable market 'triggers' over the last 20 years, but that patterns of development are also driven by the existing physical, economic and administrative infrastructure.

5. Glossary

5.1. Rental Growth

The percentage increase in prime office rent. Average annual rental growth is calculated on the basis of the geometric (compound) mean of each year's rental growth.

Prime office rent represents the top open-market rent that could be expected for a notional office unit of the highest quality and specification in the best location in a market, as at the survey date. The rent quoted normally reflects prime units of over 500 m² of lettable floorspace, which excludes rents that represent a premium level paid for a small quantity of space.

5.2. Gross Returns

Gross Returns represent the sum of the net annual income and annual capital appreciation (or depreciation) expressed as a percentage of the initial capital value for a notional office building of the highest quality and specification in the best location within a market.

Gross Returns are calculated from prime rents, prime yields and capital values. They are intended to provide a benchmark for the comparison of performance between locations. They illustrate returns at the top end of the market and cannot be compared to the performance of a specific property. This method will tend to overstate returns relative to a portfolio index as it assumes a perpetually new building and annual reversion to prime rent every year, and makes no allowance for possible voids, depreciation of rental values as a result of building age, or the differences in lease terms between countries.

Calculation: Gross Return: $(\text{Current Capital Value} - \text{Previous Capital Value (same quarter previous year)}) / \text{Previous Capital Value} \times 100 + \text{current year Mid-Point Yield}$

Average annual gross returns are normally calculated on the basis of the geometric (compound) mean of each year's total returns.

5.3. Vacancy Rates

The Vacancy Rate represents immediately vacant office floorspace in all completed buildings within a market as at the survey date (normally at the end of each quarter period), expressed as a percentage of the total stock.

5.4. Stock

Stock represents the total amount of completed office space in buildings mainly used for office purposes within a market that is capable of occupation regardless of the type of ownership or type of building quality, as at the survey date (normally at the end of each quarter period).

Stock includes both commercial and public sector offices, purpose-built offices, offices that have been structurally converted from other uses and independent offices that are part of mixed-use development. It excludes, however, ancillary offices within property that is predominantly used for non-office purposes, e.g. retail, distribution/warehousing or industrial uses.

5.5. Completions

Completions represent floorspace completed during the survey period (normally annually) within a market. Completions include both new development and refurbished accommodation that has been substantially modernised.

5.6. Gross Value Added (GVA) Growth

The gross value added data used in this report has been sourced from the European Economic Research and Advisory Consortium (ERECO, May 2001).

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