1

Introduction

COPYRIGHTED MATERIAL

Throughout history, the image of a city has been identified with the cathedral, the palace, the market place and the factory chimney, but today the office is arguably the prime symbol of a modern city's development (Cowan et al, 1969). Offices now dominate the centre of the cities we live in, and whereas once a cathedral was the focal point of a city's skyline this has now quite likely been replaced by tall, plate-glass office citadels. Very often a city can be recognised by the skyline of tall office buildings and structures. One historic example is 'The Three Graces' of the Liverpool waterfront: the Royal Liver Building (1911), the Cunard Building (1916) and the former offices of the Mersey Docks and Harbour Board (1907) that is now a UNESCO World Heritage site. In Shanghai, there was a deliberate plan to create a memorable skyline in the new financial district, Lujiazui. Many offices, even if they are not high-rise, are landmark buildings at major street junctions or squares. With the city centre normally the central business district, as the predominant built form offices represent a major element of the signature of a city.

Offices are increasingly the principal locus of economic activity. The amount of office space in England and Wales has more than doubled since 1980 (Mayor of London, 2009). The shift to a service economy from a manufacturing economy in developed countries, especially in cities, during the latter half of the last century is reflected in the rise of office-based employment. A high proportion of workers in service industries – accountants,

Office Markets & Public Policy, First Edition. Colin Jones.
© 2013 Colin Jones. Published 2013 by Blackwell Publishing Ltd.

lawyers, surveyors, bankers, insurance brokers, etc and managers through to specialist service and clerical staff – spend their working day in an office. The history of office development is bound up with the evolving economy of cities and new technologies.

The cluttering of city skylines by offices also emphasises the capital sums invested in this real estate. A large office block in London could be worth more than £20 m and financial institutions in the UK invested £66bn in offices in 2006 (Investment Property Databank, IPD, 2007). Office areas, especially financial centres, are the most expensive areas of real estate in the world. Foreign real estate investment often targets 'trophy' offices. With real estate investment increasingly part of the globalisation of capital markets, major offices can be an integral part of an international real estate investment labyrinth involving vast sums of money. In December 2009, for example, Dubai World sent shudders through global financial markets after requesting a six month 'hold' on interest payments to a range of international banks in order to restructure its $26bn debt, part of it invested in offices around the world.

The aim of this chapter is to provide the context for the book. It begins by reviewing the history of offices, noting the interaction between their changing built form, technological progress and commercial activity. The next section considers the development of office markets through the prism of a series of city profiles that offer a historical perspective on their current roles and built form. The chapter then takes a wider view of the trends in office markets, drawing on the evidence in the first two sections. The final part of the chapter briefly sets out the logic of the subsequent chapters and how they link together.

History of offices

Offices have probably always existed within large, multifunctional buildings whether they be, for example, palaces, houses, education establishments or factories.Up to at least the 18th century the administration of trading companies and banking was undertaken from houses. This is illustrated with some examples from London, the leading commercial centre of the 18th century. The East India Company, founded in 1600, built a headquarters in London in 1726 while the Bank of England was built in 1732. And while the 18th century saw a take-off in professional services, such as lawyers and financial services, to cope with the increasing complexity of trade and government these were not administered from offices (Clark, 2009).

Lloyd's of London, now the largest specialist insurance market in the world, started life as an informal group of marine insurance brokers meeting in Edward Lloyd's coffee house in 1688. Gradually the community became

more formalised and it leased rooms in the Royal Exchange, a centre for commerce, in 1774 (Lloyd's, 2010). Similarly, the London Stock Exchange was initiated at the end of the 17th century in a coffee house where prices of stocks and commodities were listed. In 1773, the first purpose-built building was constructed, comprising a dealing room on the ground floor and a coffee house above (London Stock Exchange, 2010). Over this period, whilst areas of cities were beginning to be created that specialised in particular office functions – for example, the administration of the law – the office as a generic built form did not really exist (Cowan et al, 1969).

The industrial revolution replaced the old cottage industries and brought the establishment of the factory and cities as we know them, with the latter becoming the centre of manufacturing. There were wider implications for the scope of economic activity in cities and the scale of office functions, both of which led ultimately to the establishment of offices as separate entities. The expansion of industrial activity required systems to control and finance these new businesses, and this in turn brought a growth in the number of messages and financial transactions such as bills and agreements. These economic activities, the associated communication and the control of complexity, are essentially offices functions. As these functions expanded with the increasing intricacy of the organisation needed to finance, administer and support the industrial revolution, offices began to exist in their own right (Cowan et al, 1969). Supporting specialist services such as insurance either expanded substantially or developed during this period in line with the growth of manufacturing, and were also based in offices (see examples below).

The office block as a distinct building form in its own right began to evolve in the early 19th century. Initially, residential buildings were converted, and then in the 1840s speculative purpose-built office development began to emerge. Development then accelerated in Western economies during the latter half of the century with a rapid growth of office employment (Scott, 1996). The detachment between administration and production and the promotion of offices was facilitated by the development of the telegraph. Originally invented in 1746, it was only following a method for printing messages devised in 1854 that an extensive cable system was constructed to permit widespread use of the telegraph. Two decades later the detachment process was accelerated by the extensive use of the telephone invented in 1876. Commercial production of the typewriter in the 1870s and the spread of high-speed shorthand (stenography) also contributed to the efficiency of office functions and shaped the design of office buildings (Cowan et al, 1969).

After 1850 came the first generation of large-scale headquarters erected for banks and other institutions. From the beginning, these new offices often sought to adopt distinctive architecture and new construction technologies.

Oriel Chambers, a five-storey office block in Liverpool, was one of the first 100% iron-framed, glass curtain-walled buildings, constructed in 1864 (Oriel Chambers, 2009). The first building that combined both metal frames with the invention of the hydraulic lift (elevator) was the Home Insurance Building, built in 1884 in Chicago, often referred to as the first skyscraper in the world. Originally it was ten storeys and two more were added later. In fact, the building was not a pure steel-framed building and relied upon both metal and masonry to support it. In 1888, a patent was taken out in America for iron skeletal frame buildings and the construction method subsequently gained wide acceptance. It was the beginning of the skyscraper era (Emporis, 2010a).

New York in particular embraced the new building engineering techniques, and from 1890 to 1973 the world's tallest building was in the central business district of Manhattan. It began with the New York World Building built for a newspaper, which was one of a number of tall buildings built for this purpose on the same street. It was replaced as the tallest building by the Park Row Building with 29 storeys in 1899 (Emporis, 2010b). The building was originally commissioned by an investor as a speculative office building; it contained 950 offices and accommodated about 4000 workers (Aviewoncities, 2009a). Initial occupiers of the offices included the Associated Press news agency as well as the headquarters of the private operator of the city's underground subway (Emporis, 2010c).

The tallest title was taken by the 41-storey Singer Building, constructed in 1908 as the headquarters of the sewing machine manufacturing company, but it was soon taken over by the Metropolitan Life Insurance Company Tower of 50 storeys in 1909. The mantle of tallest building passed to the Woolworth Building comprising 57 storeys and completed in 1913. It was the corporate headquarters of the retail company and, interestingly, paid for in cash. This building remained the tallest building in the world until 1930 (Skyscraper, 2009).

The late 1920s saw a race to take the Woolworth crown supported by improvements to the speed of lifts. First, the 71-storey headquarters of the Bank of Manhattan at 40 Wall Street was completed in 1930, but its reign was short lived as the Chrysler Building surpassed it within months, only for that to be overtaken by the 102-storey Empire State Building in 1931. It was built by a consortium that included the creator of General Motors (Empire State Building, 2009), and remained the world's tallest building until 1972.

The development of offices in other countries was to a lower number of storeys over this period, often because buildings were subject to height constraints. In the UK during the 19th century, the typical demand for headquarter office buildings was for street-frontage sites with the buildings imposing on their immediate surrounds. In the City of London, examples include offices of the London and Westminster Bank (1838), Sun Insurance

(1843), The Royal Exchange (1844) and Barclays, Bevan & Co (1864). Many substantial government offices were also completed during this period, including the Treasury building in 1846 and the Foreign and Commonwealth building in 1868.

Each provincial city centre in the UK followed in similar fashion, beginning in the 1860s. Over the remaining decades of the century, a series of buildings of up to six storeys were built in a range of distinctive ornate styles inspired by classical buildings in Italy and Greece. They were usually complete with grandiose marble-floored entrance hallways and staircases. In Manchester, for example, 1861 saw building begin on the new premises of the Manchester & Salford Branch of the Bank of England (a private company then) followed by a series of headquarter buildings culminating in buildings such as the Co-operative Wholesale Society Building in 1905 and the Refuge Assurance Building in 1910.

The Three Graces in Liverpool also date from the end of this era. The original of the Three Graces, the Mersey Docks and Harbour Board Building, is a five-storey building, with a dome built using reinforced concrete and faced with Portland stone, opened in 1907. The Royal Liver Building, a purpose-built home for the Royal Liver Friendly Society, was completed in 1911 with 13 floors and was unusually high, but built using the same construction technique. The final element of the Liverpool trinity is the Cunard Building built shortly afterwards in 1916 and which has six storeys (Cunard, 2009).

The story of these developments is not just about buildings but also about the changing economy and growth of modern commerce, stimulated by legislation permitting limited liability companies, and beginning with the establishment of regional banks and insurance companies. This is illustrated by the owners of some of the buildings highlighted above in Manchester and Liverpool. The Refuge Assurance Company was founded in Manchester in 1835 in particular to offer fire insurance to the then ubiquitous cotton mills and warehouses in the surrounding hinterland. The Royal Liver Friendly society was set up in the city in 1850 to provide local people with assistance in the event of losing a wage-earning relative. Their respective headquarter buildings constructed in the first years of the 20th century were demonstrations of their commercial prowess.

The link between the economy and property development is emphasised by New York in the 1920s. The property boom in the city occurred against a backdrop of increasing economic vitality. America recovered relatively quickly from a recession following the First World War, and in 1921 the economy entered a period of prosperity with rising growth, productivity and profits. For the first time, New York became the leading international banking centre in the world as Europe sought to cope with the debts from the war. Domestically too, supported by easy credit, consumers bought more and more household appliances and by the end of the decade most households

had a car. The boom came to a sudden end as the Wall Street Crash of late 1929 destroyed consumer confidence and the following year factories began to close and banks to fail (Rauchway, 2008). The Great Depression had begun to bring to an end the construction boom of skyscrapers. In the UK, the office property boom ended earlier with the war, the economic uncertainties of the 1920s and the parallel depression of the 1930s. Subsequent large-scale property development had to await the rebuilding of cities after the Second World War.

The post-war era and the rise of the service economy have seen a new generation of offices. The last four decades have seen the growth of tall, lightweight buildings with large areas of glass cladding that now dominate the central business districts of cities around the world. These buildings with no shading have only been made possible because of the advent of air-conditioning to avoid excessive overheating (Roaf et al, 2009).

The building of these iconic office buildings is not just about the need by companies to occupy space but also gives a physical statement of worth, intent and prestige. This symbolism applies not just to the individual company that owns the particular building or the prestige address for an occupier but is a wider reflection of a city's economic standing. This is reflected in the competition between New York and Chicago in the 1970s (and earlier in the 1920s). The World Trade Center in New York became the world's tallest building in 1972 with 110 storeys but it was superceded by the construction of the Sears Tower in Chicago opened in 1974. Nevertheless, the Twin Towers of the World Trade Center were arguably a more recognisable symbol of American commerce and hence chosen as the target for the terrorist attack on 11 September 2001.

This symbolism can be seen in the recent surge in the construction of office skyscrapers as shown in Table 1.1. With the exception of the Bank of America Tower in New York, the highest buildings have been built in cities in the Middle and Far East demonstrating the rising commercial activity and economic power in these countries. Mirroring the competition between developers in New York in the 1920s boom, cities in this region of the world are apparently vieing for the tallest building, if necessary adding superstructures to ensure the title. These developments have been funded in a period of easy bank finance and strong economic growth (as in 1920s New York) that has now come to an end with the credit crunch.

City office markets

The emergence of the office as a distinct property form does not necessarily imply the establishment of an active market for let or sale of these buildings. The substantial bespoke office headquarters built in the late 19th and early

Table 1.1 World's tallest office buildings in order of height, June 2012.*

Building	City	Country	Floors	Date completed
Burj Khalifa Tower	Dubai	United Arab Emirates	160	2010
Taipei 101	Taipei	Taiwan	101	2004
Shanghai World Financial Center	Shanghai	China	101	2008
Petronas Towers	Kuala Lumpur	Malaysia	88	1998
International Commerce Centre	Hong Kong	China	198	2010
Nanjing Greenland Financial Complex	Nanjing	China	89	2010
Willis (Sears) Tower	Chicago	USA	108	1974
Kingkey 100	Shenzhen	China	100	2012
Guangzhou International Finance Centre	Guangzhou	China	103	2010
Jin Mao Tower	Shanghai	China	93	1998
Al Hamra Tower	Kuwait City	Kuwait	77	2011
2 International Finance Centre	Hong Kong	China	90	2003
CITIC Plaza	Guangzhou	China	80	1997
Shun Hing Square	Shenzhen	China	69	1996
Empire State Building	New York	USA	102	1931
Central Plaza	Hong Kong	China	78	1992
Bank of China Tower	Hong Kong	China	72	1990
Bank of America Tower	New York	USA	54	2009
Almas Tower	Dubai	United Arab Emirates	74	2009
The Pinnacle	Guangzhou	China	60	2012
SEG Plaza	Shenzhen	China	72	2000
Emirates Office Tower	Dubai	United Arab Emirates	56	2000
Tuntex 85 Sky Tower	Kaohsiung	Taiwan	85	1997
Aon Center	Chicago	USA	83	1973
The Center	Hong Kong	China	73	1998
John Hancock Center	Chicago	USA	76	2011
Tianjin World Financial Centre	Tianjin	China	100	1969
Keangnam Hanoi Landmark Tower	Hanoi	Vietnam	70	2011
Shanghai Shimao International Plaza	Shanghai	China	60	2005

Source: Author's own, compiled from information available at http://www.skyscraperpage.com
* Only includes buildings encompassing offices.

20th centuries were normally custom-built for a company and it is unclear how much space in these buildings was sublet or designed to be sublet. Most of these buildings remained in their original ownership for many decades after completion. In addition, offices integrated within larger buildings with a different specialist function, such as a factory, are generally not marketable in their own right. For a market to be established there needs to be both competing demanders and suppliers, and this in turn implies a degree of scale and the coalescence of office users with similar space requirements. There are

also requirements for the supporting infrastructure, especially transport systems, to enable the office market to function.

To begin to understand how office markets have developed, and their commonalities and differences, there follows a series of profiles of selected major office centres across different continents, including new and established. These profiles examine the historical economic context of the cities and the development of the office stock. The analysis of additions to the office stock draws heavily on the Emporis website that provides details of tall buildings in individual cities including their characteristics, use and when built. The focus on tall buildings has limitations as it is not wholly representative, but a review of the construction dates of these buildings give a broad indication of the scale of office development over time.

City of London

The City of London was one of the first office markets to develop. Its historic core is traditionally very narrowly defined and represents only a square mile (usually referred to as 'the City'). Today, it is an international centre of the financial services industry but for centuries it was the business hub of the UK. Prior to the emergence of the office, commerce took place in merchants' houses and counting houses, rooms for commercial use often let out above shops or storerooms (Lawrence, 2010). Until the mid-19th century, the central area of the city still comprised shops, warehouses and housing although some of the larger housing had been converted to offices.

Almost from the emergence of offices as a built form they were erected on a speculative basis. Scott (1996) reports that the first speculative office block was built in 1823 but such development activity did not take off until the 1860s. This decade saw the establishment of two public companies in order to invest in and develop offices. The traditional land use patterns were replaced in the second half of the century by one in which new types of large-scale building, including exchanges and office blocks, were dominant. Land values were driven up mainly by the demands of financial institutions for headquarters buildings and speculative office blocks. At the same time 'secondary locations were characterised by dense, interdependent networks comprising the small-scale businesses of the brokers, agents, merchants and other specialists who composed the crucial financial and commercial service sector of the City' (Lawrence, 2010).

By 1871, the basis of the modern financial district had been established and London had cemented its role as the world centre for financial, insurance, and commodity markets. The scale of the growth of London as a commercial centre can be gleaned from the number of office workers given in different Censuses. In 1851, male 'commercial clerks' numbered only 16,420 but by 1891 the total had risen to 78,180 (Cowan et al, 1969). As noted above,

this protracted expansion wave came to a close with World War One which was then followed by the economic difficulties of the 1920s and the depression of the 1930s. Only a limited number of large private-sector offices were built during the inter-war period due to these weak economic conditions, but there were substantial exceptions primarily associated with the administration of the few expanding sectors of the economy such as chemicals.

It was not until the 1950s and early 1960s that there was a return to a development boom (Fraser, 1993). Following World War Two the demand for offices increased substantially as the UK economy was revived and there was a growth in the role of government. This period saw a trend toward industrial amalgamations and, hence, the desire to have a London headquarters as well as American firms establishing offices in the city. From the late 1950s on, London also developed as the financial centre specialisng in the secondary (selling on) market in international loans known as the Eurodollar and Eurobond market. This was the beginning of London's revival as an international finance centre (Marr, 2007).

This rising demand was set against the destruction of offices by the bombing blitz during the war and the legacy of many vacant bomb sites. The development boom was eventually and deliberately stifled in November 1964 when the government introduced constraints on new office development whereby a permit was required in the south-east of England (Fraser, 1993). The first tall buildings were started toward the end of this period, of which two 35-storey buildings were the largest – Britannic House in 1967 (now Citypoint) built as the headquarters of BP and Centre Point in 1964 (actually outside the City in the West End).

Not only did these office development permits stifle new building for the best part of a decade, they were followed by a major recession and inflation uncertainties during the 1970s. As a result, development was on the slow burner until the 1980s although the NatWest Tower (begun in 1971) was completed in 1980. This tower of 42 storeys (now called Tower 42) was the first skyscraper in the City. The height of the NatWest Tower was controversial; it was contrary to previous height restrictions and at the time was the highest building in the UK, and was the highest cantilever building in the world. While the subsequent 1980s development boom did not produce a building to rival the height of this building in the City itself, in the nearby London Docklands Canary Wharf, completed in 1991, at 50 storeys became the highest building in Britain.

This surge of office development in London during the 1980s, shown in Figure 1.1, was linked to the emergence of global capital markets. It was stimulated in part by the introduction of electronic trading on the Stock Exchange ('Big Bang') but was brought to the end with the recession at the end of the decade. It is estimated that new development made a net addition of nearly 30% to the office stock of central London (including the new

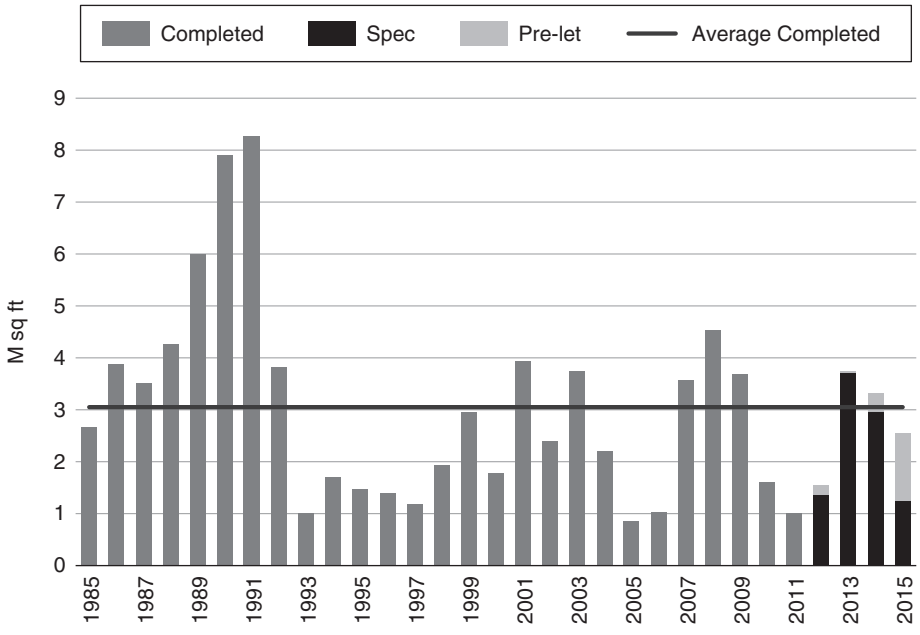


Figure 1.1 Office development in London, 1985–2011.
Source: Reproduced by permission of Savills PLC.

docklands office area) over the decade (Fainstein, 1994). The increase in stock in the City alone was of the order of 10%, with the new office suites much larger than the existing buildings reflecting the new shape of demand (City of London, 2001). Much of this new stock in the City involved the redevelopment of existing offices but also included the site of an adjacent obsolete transport station and associated facilities, leading to an expansion at the margins of the traditional square mile of the 'City'.

The gradual revival of the UK economy in the 1990s eventually led to a 16-year period of economic growth through to the credit crunch. Employment in financial and business services in London rose by around a third in the decade from the mid-1990s, fuelling an increase in demand for space (Lizieri, 2008). The late 1990s and early noughties hence saw another boom that peaked in 2003 following the collapse of the dot.com bubble. There followed another upturn in the cycle, as Figure 1.1 demonstrates. New skyscraper developments in the City in the latter half of the decade included the Heron Tower completed in 2011 which is the highest office block in the City. The even taller 'Shard' was completed in 2012 but this is just outside the City to the south of the Thames (see Chapter 3). However, these latest office development cycles, even at their peak, have not been as intense as in the 1980s.

Rents, too, have followed a cyclical pattern, peaking in 2001 and 2007 before falling by a third over the next two years. From 2010 until 2012 they

have remained relatively stable (City of London, 2012). The City office market of the 21st century is now bound up with the fortunes of financial services, as demonstrated by the aftermath of the credit crunch and particularly the collapse of Lehman Brothers Bank with the resultant drop in rental values from 2008 on, with consequences for the viability of development. However, the relationship is more complex. Prior to World War Two most offices were owner-occupied (Fraser, 1993). Investment in property by UK financial institutions was limited until the 1950s and then initially focused on high street shops (Scott, 1996). In the late 1970s, financial institutions collectively moved into offices as an asset class and they now represent over 30% of their property portfolio (see Chapter 5). Lizieri et al (2000) argue that the functional specialism of the City of London and the growing interlinkage between occupational and investment markets mean that its office market is vulnerable to exogenous cycles in financial services as well as the endogenous property market cycle.

This interrelationship has been a little diluted over the last decade as international investment has been attracted into central London, particularly through the purchase of high profile 'signature' office buildings. More than half of the office space in the square mile of the City is now owned by foreign investors compared with 8% in 1980 (Lizieri, 2011). The largest foreign investors are German accounting for 16%, US 10%, and the Middle East 6% of investment. Nevertheless 41% of the office stock is still owned and occupied by the finance, insurance and real estate sector (FIRE). The international funds flowing into London over the last decade have been greater than any other world city including New York (Lizieri, 2011). The trend appears to be because the City is seen as a safe haven during a period of international financial turbulence. Most recent developments, including the 'Shard', has been funded by international money.

Manhattan, New York

Manhattan is an area of about nine square miles. It is the largest commercial and financial centre of the United States and, with London, is one of the two leading financial centres in the world. The history of Manhattan as an office centre has continuing parallels with London. Both were already established as commerce centres at the beginning of the 19th century and evolved with the growth of commerce. Evidence on this early period is seen through preserved commercial buildings of the early 19th century, including counting houses along the water's edge linked to the trade passing through the port. They are four-storey structures that functioned as stores, storerooms and accounting offices for the merchants.

In 1889, the *Wall Street Journal* began publishing daily updates of stock price indices. The major expansion of the city as an office centre occurred

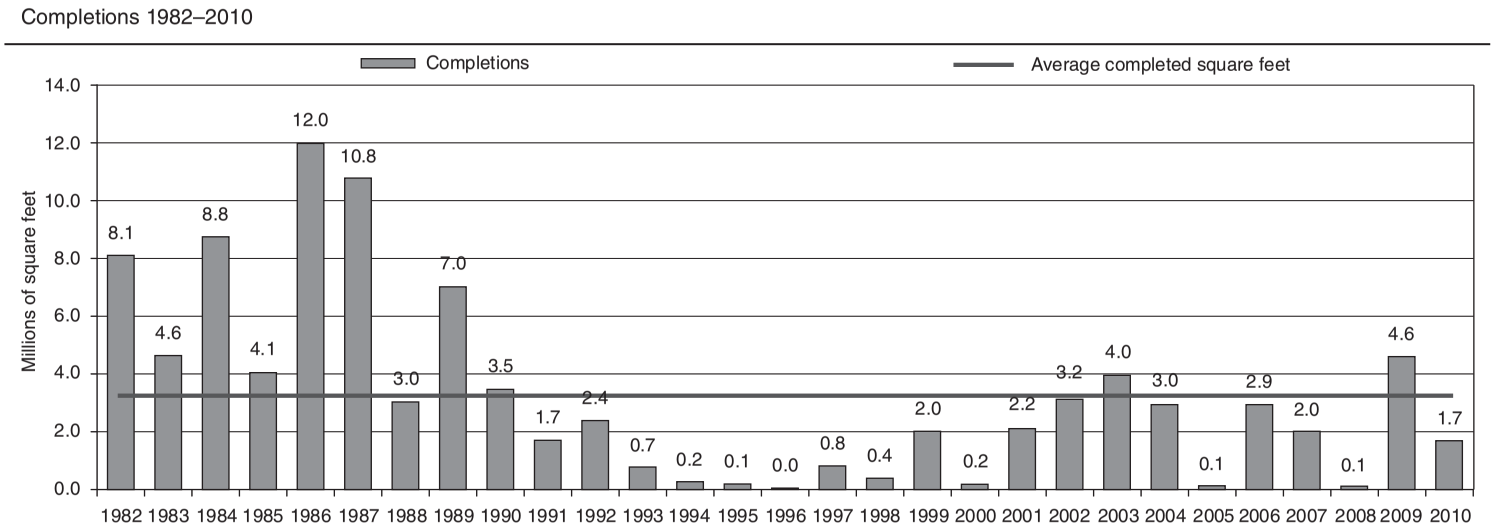


Figure 1.2 Office development in New York 1982–2010.
Source: Reproduced by permission of CoStar Realty Information, Inc.

from the turn of the 20th century as demonstrated by the growth of skyscrapers described earlier. Speculative office building began in this phase as illustrated by the Park Row Building in 1899 and the Empire State Building, but many financial institutions suffered substantial voids and loss of rental income following the Wall Street Crash in 1929; thus, it is said, deterring British financial institutions from following the same path (Fraser, 1993). The office development boom petered out in the early 1930s and relatively little office development occurred until the 1960s. The American International Building, opened in 1932 (the year after the Empire State Building) and comprising 66 storeys, was one of the last of the high skyscrapers built during this phase and another was not built in the financial district of Manhattan until 1961 (Emporis, 2010d).

There was in fact very little new development between the 1930s and the 1960s in Lower Manhattan. During the 1960s, there was a period of strong economic and employment growth in the city (Kelly, 2002). The twin towers of the World Trade Center were begun in the middle of this decade and completed in 1971. The period 1960–1975 saw the total office space in New York increase by 84%, from 124 to 227 million sq feet. Many of these offices were built during a development boom between 1967 and 1973 (Schwartz, 1979). The early 1970s were recessionary times in the US; Wall Street suffered severely from the fallout from the quadrupling of oil prices by OPEC in 1973, and the abolition of fixed commissions on bonds led to consolidation of firms specialising in these securities with the consequent loss of jobs.

The decade of the 1980s saw a strong recovery. In strong similarities with London the 1980s saw a significant rise in the net Manhattan office stock by 22%, almost all in redeveloped areas. Figure 1.2 emphasises the importance of scale of the development cycle in New York during the 1980s, especially during its peak in 1986–1987 (CoStar, 2010). Employment in financial securities and commodity brokerages almost doubled from 84,800 in 1980 to 157,800 in 1987 (Kelly, 2002). Both London and New York became akin to large financial supermarkets spurred by the growth of global capital markets and international trade, and the demands for financial intermediaries. Together, these cities captured much of the expansion of international financial services in the 1980s (Fainstein, 1994).

The 1990s was a quiet period for office development as Figure 1.2 shows, following consolidation in the financial services industry after the stock market collapse in 1987 that saw the loss of 27,000 jobs in the five years to 1992. Overall, between 1980 and 2001 the size of the Manhattan office market grew by 15%, from 340m to 390m sq feet (Kelly, 2002). Development levels in the noughties have been generally higher than the previous decade but modest compared with the 1980s (Figure 1.2).

The office market received a jolt with the 9/11 attacks in 2001, which not only caused severe loss of life but also eliminated around 20% of the modern

Grade A office stock in Lower Manhattan (3% of stock in Manhattan as a whole). Thirty-two other buildings suffered damage. The shock to the local market was not as severe as these statistics might imply, because at at the time the equivalent of three World Trade Centers' vacant space was on the market and with the negative impact on the economy further 'sub-let' space became available (Kelly, 2002). Vacancy rates of offices actually rose from 9% to 11% in 2003 before a gradual decline to 6% was brought to an end by the credit crunch in 2008. The post-credit crunch era has seen another shake out in financial services and the consequent loss of employment in offices, 3% in 2008 and 6% in 2009 in the city (CoStar, 2010). Strangely, the level of new development completed in 2009 was the highest for 20 years.

This commentary on the Manhattan office market has emphasised its role as a world financial hub and the impact of changes and events centring on financial services. However, the offices are not predominantly occupied by financial services companies, which accounted for 30% of the space in 2009. The other leading commercial sectors within the market are services (13%), law firms (12%), manufacturing (12%), business services (9%) and retailers (9%) (CoStar, 2010).

La Défense, Paris

Paris has had a history as a leading financial centre in Europe since the 18th century (Clark, 2009). The current internal central business district is known as the 'Golden Triangle' and is bounded by the Arc de Triumphe, Place de la Concorde and the Avenue de l'éna (Nappi-Choulet et al, 2007). The office buildings in this area are 6–8 storeys (Baron) Haussmannian built in the second half of the 19th century. The buildings relate to a major urban planning/comprehensive redevelopment initiative led by the Baron that transformed the centre of Paris, creating wide boulevards with buildings subject to height limits (still applicable) and regulations governing the façades of buildings (Samuel, 2008). These buildings were subject to extensive renovation in the late 1980s to adapt them to modern business requirements. The area is home to many administrative offices of large companies but the stock is highly constrained.

La Défense is now the financial centre of the city and the principal business district over an area of 1.6 sq kilometres on the western extremity of Paris, 10 km from the centre. It now comprises 3 m sq metres of office space, the same size as the Golden Triangle, and represents 9–10% of the city market. La Défense was initially conceived in the 1930s and plans were submitted by notable architects, including Le Corbusier, but the depression of the 1930s meant that they did not come to fruition. The site was designated in 1951 as a commercial and residential redevelopment area and in 1958 the public agency Public Establishment for Installation of La Défense (EPAD) was set up to plan it (Aviewoncities, 2009b). Today, it has 1500 businesses,

including the headquarters of leading French banks and its largest companies together with many international companies, and an employment population of over 140,000. In 1970, the district acquired a rail link to the city and the Metro was extended to the area in 1992. The Quatre Temps shopping centre was opened in the area in 1981 (Aviewoncities, 2009b).

The Nobel Tower was the first office building built in the area in 1966, and after renovation in 1988 it was renamed Tour Initiale (Initial Tower) but the first real phase of office development did not occur until the early 1970s, only for it to be curtailed by the world economic crisis. The next generation of offices appeared in the early 1980s. The Pacific Tower was completed in 1992 as a centre for Japanese business but the next surge in development occurred in the late 1990s and noughties.

Currently the tallest offices are 48 or 49 storeys and were built in the 1980s. However, in 2005 EPAD instigated an ambitious 9-year development plan called 'La Defense 2006–2015' that foresaw a refurbishment and expansion of the supply of offices. It launched international competitions for even taller sustainable development-style skyscrapers and a 50-storey office block is under construction. However, the credit crunch has put these expansive plans on hold (Emporis, 2010e). Take-up in La Défense was on an upward trend through the first half of the noughties, peaking in 2006 and staying relative high for the next two years before declining substantially from 2009. Despite the rising vacancy rate since 2008, rents have changed little for a decade (DTZ, 2012a).

Bankenviertel, Frankfurt

From the Middle Ages, Frankfurt has been a trade fair centre of international reknown involving the financing of trade but in the latter half of the 19th century it was overtaken by Berlin as the prime financial centre in Germany (and hindered for a while when it was part of Prussia) (Clark, 2009). After World War Two, with Berlin a divided city and Germany partitioned, Frankfurt emerged as the financial centre of West Germany after it was chosen by the Americans for the location of the country's central bank, the Bundesbank. Most of the domestic banks followed and by the mid-1950s 40 out of the world's 50 largest banks had an office in the city. Frankfurt became not just a banking centre but also a leading location for money and capital market transactions, and its stock exchange also gained hegemony in Germany. It was helped by the rise of the Deutschmark as a reserve currency to ultimately overtake £ sterling. However, unlike London, New York and Paris, Frankfurt does not have concentration of insurance companies. With the unification of Germany in 1990, Frankfurt continued as the country's financial centre and enhanced its position within Europe when the Euro was established and the European Central Bank was located in the city (Holtfrerich, 1999).

Given its relatively new role, the financial district built after the ravages of World War Two is dominated by very tall modern buildings that began to be constructed in the early 1970s. These buildings, constructed for major banks, include the 39-storey Eurotower that until recently housed the European Central Bank. Deutsche Bank built two large towers at the beginning of the 1980s. There were a few other major developments during this period but the cityscape is dominated by buildings built in a construction boom of the 1990s and noughties. The tallest building, Commerzbank Tower, was completed in 1997 and with 58 floors was the tallest building in Europe at the time, overtaking Messe Term (Trade Fair Tower) built in 1991 and also located in the city. Buildings include the Japan Center, the equivalent of the Pacific Tower in Paris (Emporis, 2009f).

The office market has been relatively stable over the last decade with rents broadly unchanged despite the international financial crisis and clear cyclical development. Development activity peaked at the beginning of the decade before falling dramatically to extremely low levels in 2007 and 2008 before a limited recovery that peaked in 2010 (CBRE, 2012a). Recent take-up of space dipped in 2004 and 2009 but its trend is just above new development. The vacancy rate has been consistently around 14% over this period (DTZ, 2012b).

Lujiazui, Shanghai

Shanghai is the most important business centre in China. It also has the nation's largest modern office market in terms of floorspace and investment values. Modern development began with the national economic reforms in the early 1990s and Lujiazui was chosen as a new financial district in the city. It is an area of almost 32 sq kilometres designated a 'Finance and Trade Zone', the only one in China. Lujiazui is located on the eastern bank of the Huangpu River directly across the river from the Bund, which was the traditional financial and business district of the city. Before its designation, it was a mixed-use area of housing, warehouses and factories (Business Weekly, 2009).

A deliberate policy was progressed of tall landmark buildings to generate image and create the stimulus for other development to cluster nearby. The first such building, the Oriental Pearl Tower, was completed in 1995 at a total height of 1535 feet although this was not an office block but a TV tower. The Jinmao Tower was opened in 1998; it has 88 storeys and was the tallest building until 2008, when it was replaced by the Shanghai World Financial Center with 101 floors. Between the completion of these two buildings came a series of more than ten buildings over 40 storeys, including the World Finance Tower (2000) and Bank of China Tower (2000). The Shanghai Tower of 128 storeys is under construction and, ultimately, will be the second tallest building in the world (Emporis, 2010g).

Starting from zero, by 2009 more than 530 domestic and overseas financial institutions, including HSBC, Citibank, and Standard Chartered Bank, and over 1900 professional service agencies including lawyers, accountants, consultants and business information service companies located in the area. In addition, more than 50 multinational companies have their regional headquarters in Lujiazui. The Shanghai Stock Exchange is also in the district. It has been supported by financial liberalisation in China. The Shanghai World Financial Center, for example, was financed by an international consortium of investors led by Morgan Stanley, which included Japanese, Chinese and Hong Kong banks, a Japanese developer together with American and European investors (Business Weekly, 2009).

Charlotte, North Carolina

The city of Charlotte is a medium-sized city in the USA with a population of almost 700,000 but it is the second largest financial centre in the country with the headquarters of Bank of America located in the city. It was first established in the 18th century at a crossroads of trading trails. Charlotte was then the centre of a gold rush in the early 19th century and became a major cotton processing centre and railway hub in the latter half of the century. Its rise to an important financial centre began in the 1970s; the catalyst was the expansion of the regional bank, North Carolina National Bank, through a series of mergers that culminated in it becoming Bank of America. Wachovia, another major independent US bank until its takeover by Wells Fargo in 2008, has its headquarters in Charlotte. Charlotte has achieved this position by a combination of lower operating costs and the concentration of specialist labour and it continues to attract new banks (Colliers Pinkard, 2009).

From the late 19th century into the early 20th century, as the city prospered, two-, three-, and four-storey brick offices were built in its centre at increasing density. This trend changed drastically in 1908 with the opening of the 12-storey Realty Building. Higher office blocks were built in the 1920s on a speculative basis. The tallest of these, at 22 storeys, was opened in 1927 by the First National Bank of Charlotte. Unfortunately, there was insufficient demand; three years after opening it was only 30% let and this partly led to the bank's closure in 1930 (Charlotte-Mecklenburg Historic Landmarks Commission, 2010).

In the late 1950s/early 1960s two banks built new tall office blocks in the city. Wachovia built a 15-storey office block in 1958 (now 129 West Trade) and in 1961 North Carolina National Bank built a building of 16 floors. Banks instigated a further mini-boom in the late 1960s/early 1970s, including Two First Union tower (32 storeys) and One NCNB Plaza (44 storeys) (both renamed after mergers). The 1980s saw a further wave of development gathering pace with the tallest building in the city, the 60-storey Bank

of America (formerly NCNB) Plaza, opening in 1992. The late 1990s and noughties saw a further long cycle of office development (Emporis, 2010h). The downturn in demand following the credit crunch has left a large supply overhang and rents have been falling since 2008 leaving the market at the time of writing at the bottom of the property cycle (JLL, 2012a).

Dubai

A century ago, Dubai was a town in which the economic activity centred on Bedouin traders and pearl divers. However, Dubai has a prime location on the trade routes between the Mediterranean and the Indian Ocean and in 1901 it capitalised on this by declaring itself a freeport with no tariffs. Nevertheless, in 1940 Dubai was still a small town with a population of around 20,000, and electricity, telephone services and an airport were only established in the 1950s. At the same time, the dredging of the creek led to the development of a container port, and with the discovery of oil reserves its population grew to around 120,000 by the end of the 1960s. In the 1970s, the port was expanded with a free trade zone and the 33-storey Dubai International Trade Centre was built, promoting the commercial development of the city. Development slowed in the 1980s with relatively low oil prices but in the 1990s, following the first Gulf War, there was a business upturn linked to the reconstruction of Kuwait and higher oil prices (AMEinfo, 2010).

In the late 1990s, under new state leadership, there was an accelerated vision of economic transformation based on the model of a cluster of free zone cities. Development was undertaken by state-backed development companies borrowing the finance on international capital markets. The Dubai Internet City, opened in 2000, has been joined by the Dubai Media City, Dubai Maritime City and other specialist zones. This period saw some notable new buildings, including the Emirates Office Tower, the tallest commercial building in Europe and the Middle East at the time (see Table 1.1) (AMEinfo, 2010).

The noughties saw a property boom in Dubai supported by high oil prices and the decision in 2002 to permit foreign investment in the Emirate. The Dubai International Financial Centre, Dubai Festival City and Dubai Metals and Commodities Centre were on the drawing board. In a relatively short timescale the city has established itself as an international business centre for the Middle East, supported by substantial tourism and residential development.

Dubai has been badly hurt by the downturn in the world economy following the credit crunch with many buildings lying only partly occupied and the well publicised debt problems noted earlier. But in January 2010 it officially unveiled the Burj Khalifa Tower, at 160 storeys high the tallest building in the world. The building was begun in 2004 and houses offices, apartments, a hotel and ancillary uses.

Commentary

These cities have been drawn from different continents and have developed in different eras. Some have been shaped more clearly by public policy and planning than others. Yet in many ways their built form is converging even if the scale of the selected office markets is quite different. At one extreme, the state has determined the (embryonic) nature of office development in Dubai and Shanghai but in both cases the private sector role is gradually increasing and the financing of development is drawing on international banking capital. In the next section we reflect more widely on the detail provided in this section.

Overview of office market trends

Major cities have a long history as financial centres before the emergence of the office. Clark (2009) chronicles the changing landscape of hegemony within Europe over the last four centuries. Antwerp took over from the Italian cities in the 16th century as Europe's leading financial centre only to be eclipsed by Amsterdam and then London in the 18th century. Paris and Frankfurt, too, became prominent at that time. In the late 19th century, Brussels emerged as an important centre and Berlin replaced Frankfurt as the leading German centre. The pecking order has continued to change, with New York becoming the leading financial centre in the 1920s only for London arguably to overtake it (Z/Yen, 2009). In recent decades, new international financial centres in different continents have emerged and cities have become major services hubs with implications for the demand for offices.

Office markets began in the early 19th century when space above shops was let out as counting houses. Offices were initially built on a bespoke basis as the headquarters of commercial companies and financial institutions. It is unclear to what extent these properties were sublet to other occupiers but certainly by the 1920s in the USA offices were being built on a speculative basis with suites to be let on a commercial basis. In the UK, this phenomenon appears to have occurred somewhat later and not until the 1950s on any substantive scale.

While the paths of the selected office centres profiled above are very different, some with very long histories, there are a number of similarities about the shape of their office markets. Large tall buildings are increasingly becoming common for new city centre offices in all cities, shaking off planning and conservation constraints in some instances. In some cases, cities have deliberately planned to establish symbolic office districts with skyscraper skylines whereas in others they have happened organically. The

growth of tall buildings at least in part is a reflection of a long-term rise in demand for buildings linked to employment growth in services and supply constraints in city centres. Much of the central business districts of established city centres have been redeveloped over recent decades at a much higher density.

Office development does not just include tall buildings but the clustering of these developments in time is a useful market signal of property booms. The evidence from the different cities is that development has occurred in waves through the decades reflecting economic circumstances. Indeed, some city office markets have grown dramatically over a relatively short period in one of these extended booms, notably the new centres that have exploded in the last two decades. To these examples of new centres in the text above there can undoubtedly be added instances in every continent.

The history of these city office markets demonstrates the increasing commonalities following the liberalisation of financial transactions stimulated by the removal of constraints on international capital flows in the 1980s, and a quantum leap in global trading. This was also stimulated during the 1990s by universal computing operating systems, new satellite developments, fibre optic cables and the use of the internet. The instantaneous translation of information exchange and trade orders around the world has meant that the era of global electronic investment and exchange is upon us (Steger, 2009).

Office markets are increasingly linked into and affected by global economic trends as illustrated by the fallout from the credit crunch. CBRE's annual review of office rents in cities around the world finds that demand generally weakened at the end of 2008 and, as a result, rents fell, with financial centres particularly badly depressed – the most significant falls in our case studies are New York which fell by 30% , followed by Dubai, 27%, and Shanghai, 21% (CBRE, 2009). There has also been increasing internationalisation of corporate property portfolios from the 1990s (Lizieri, 2008). This is illustrated by Tishman Speyer Properies LP, a global real estate company, whose wide portfolio of trophy offices includes Manhattan's Rockefeller Center and the MetLife Building, Tower Place in London, the CBX Tower in Paris, Opern Turm in Frankfurt as well as many properties in Rio de Janeiro and São Paulo in Brazil, Belgium, and India (Tishman Speyer, 2010). Similarly, the financing of development has been internationalised with debt capital available to be drawn from banks based around the world.

Book structure

This introduction has followed a narrative style as a starting point to the concepts and issues to be addressed in the book. So far, this chapter has noted the relationship between the service economy and offices. Chapter 2

focuses on the fundamentals of city office markets and provides the basis for the remainder of the book. It begins by examining the nature and growth of business and financial services over the last century and the implications for the aggregate demand for offices. It assesses the consequences for the changing demand for offices as the nature of work alters with the development of information communication technologies, notably with most office staff now effectively at a computer work station. On the supply side, the chapter discusses the underlying constraints on adjustment in the office market, notably leases and planning. It then critically assesses explanations/dynamics of why there are the waves of activity identified earlier by reference to the concept of the property cycle.

Chapter 3 reviews the changing nature of the central business district over the last 30 years. It starts by examining the role of agglomeration economies – localisation/urbanisation economies and complex activity, in underpinning the demand for office in city centres and the determination of an intra-urban rent structure. Almost from the beginning of the establishment of office buildings there were clusters of offices in city centres; for example, such a 'quarter' began to emerge in New York in the late 1880s. In London, great 'office streets', such as Victoria Street, were built in the 1870s (Cowan et al, 1969). These concentrations demonstrate the importance of agglomeration economies to office activities from the outset and hence the formation of office centres in the 19th century.

The chapter notes that a more diffuse city centre or polycentric office market is emerging that is considered via the concept of submarkets. In all major cities there are distinct office areas – even within financial districts. Some of these submarkets are of long standing; for example, Manhattan is readily distinguished into Downtown, Midtown, and Lower Districts. Such a differentiation within office markets exists in all cities, reflecting usually both the specialist nature of firms and specialist types of offices in the various subareas. Distinctions are also made between prime and secondary locations. The chapter assesses the theoretical base to the existence and formal identification of these submarkets and why submarkets are evolving and new ones being created.

Decentralisation of offices has also become an established phenomenon and the terms 'edge city', 'business space' and 'office park' have been accepted in the lexicon. The Refuge Insurance is a good example of the changes that have and are occurring. It built an iconic headquarters in the centre of Manchester at the beginning of the 20th century as outlined earlier, but at the end of the century it moved to a purpose-built office on the edge of the city. Chapter 4 dissects the reasons for the emergence of these new property forms in 'out of town' locations, including the types of users attracted to such offices. The chapter considers the degree of prevalence of decentralised office locations across the world. By reference to the empirical evidence in a

range of cities, it also reviews to what extent there is a convergence in office rent levels between these locations and the city centre over time, as these submarkets have become established.

In Chapter 5, the spotlight changes to offices as investments and their changing significance to the property portfolios held by financial institutions. It discusses the scale of obsolescence of offices over time emanating primarily from developments in ICT and the implications for institutional investment. The backdrop to the first part of the chapter is the substantial urban change over the last 30 years that has seen the spatial restructuring of cities. This new wave of urbanisation has, in historical terms, been rapid and seen reconfigurations of CBDs, the built form of offices and new office locations. There are inevitable questions for investing in property that was traditionally seen as a long-term investment. It considers the implications for investment by financial institutions of the evolving shape of office forms, and business space in particular as an investment class. The analysis examines investment flows and the changing spectrum of yields as investment markets develop in new property forms and locations. With the increasing promotion of mixed-use development as part of urban redevelopment strategies the practicalities of its financing is also considered. In the second half, the chapter assesses the influence of global investment strategies by financial institutions, and how their decisions distort/impinge on local office booms and busts.

Earlier in this chapter it was noted that Dubai undertook a deliberate strategy of constructing striking, world-status buildings as the basis for establishing the city as an international commercial centre. Shanghai followed broadly the same approach in Pudong. Dublin and London have similarly applied property-led urban regeneration strategies to revitalise dockland areas. Chapter 6 assesses the role and mechanics of such public policies that promote office development as a means of increasing the competitiveness of cities at both international and national levels. It considers how the property market can act as a constraint on the local economy but also be harnessed to provide opportunities for economic restructuring. The chapter also identifies the complementary policies required and the limitations imposed by wider economic forces.

Chapter 7 assesses the implications of the green agenda for office markets at a range of levels. It reviews the evidence on office energy requirements, particularly stemming from air conditioning, and the viability of adaptations. At the city level, the potential green benefits of tall buildings in terms of their contribution to compact urban forms is discussed against the issues raised by decentralised business space. The chapter also considers the private sector responses to sustainability from investors, developers and occupiers and the impact in terms of differential yields and rents for green buildings, and more widely on (sub) markets. Drawing primarily on evidence from the US and

the UK, it asks questions about barriers to the greening of the office stock, including the cost of green offices, the financial arguments for tenants paying a rental premium to occupy such premises and how the attitudes of occupiers are changing. Finally it assesses green office investment trends.

The final chapter provides a summary of the book as a basis for looking forward to the future shape of office markets with changing, more flexible work practices and the continuing impact of the green agenda. It also takes stock of the ability of public policy to influence and constrain office markets. In particular the chapter highlights key themes of the book in terms of defining office market change. It concludes by looking at the challenges for the property profession, occupiers, developers and investors.