

Unpriced Regulatory Risk and the Competition of Rules: unconsidered implications of land use planning

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Abstract

The argument of this paper is that- over the past 40 years land use regulation has created much of the financial value and, therefore, returns, in real estate in many countries although most clearly in the UK. The evidence for this claim is best documented in the context of residential property but the circumstantial evidence that, in the UK at least, land use planning has similarly inflated commercial real estate values is powerful. Moreover, because of the wider economic impacts this regulation is increasingly having, there is a significant possibility of future deregulation. This would have a substantial impact on both capital values and rents of all classes of real estate but most especially residential and retail. This constitutes a significant risk for real estate as an asset class and, moreover, it is a risk of which real estate professionals appear unaware and is, therefore, unpriced.

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1. Introduction

As an applied urban economist it is with some trepidation that I intrude into the realms of real estate investment or finance. This paper seems worth writing, however, because there are wider issues with important potential implications for real estate as an investment asset which a specialist may not consider. My argument here is that land use regulation has created much of the financial value and, therefore, returns, in real estate in many countries - but most clearly in the UK - over the past 40 years. And that, because of the wider economic impacts this regulation is increasingly having, there is a significant possibility of future deregulation which would have a substantial impact on both capital values and rents. This constitutes a significant risk for real estate as an asset class and, moreover, it is a risk of which real estate professionals appear unaware and is, therefore, unpriced.

In making this argument I am drawing on the results of long term research on the economic impact of land use regulation. My personal interest in this topic goes back to 1981 but in recent years the literature has been growing rapidly. Contributions include Cheshire and Sheppard (2002; 2004a; 2005); Glaeser and Gyourko (2003); Glaeser *et al.*, (2004a & b; 2005); Nechyba and Walsh (2004); Henneberry *et al.* (2005); Brueckner (2000) and Bertaud and Brueckner (2005). None of this research was published in real estate or property journals so may not have come obviously to the attention of real estate professionals.

In the sense of restricting supply – the sense relevant here - there can be no serious argument that the real estate market is the most highly regulated market in the UK. It is true that regulation of land markets has been the norm in all OECD countries for the past 50 years or so and that there are good reasons why regulation is economically and socially justified. The objective case for some form of land use regulation is a separate issue, however, from regulation as a constraint on the supply of urban land and real estate. It is this supply constraining form of regulation that is so particularly important in the UK.

In Britain we regulate the real estate market by means of the land use planning system. Labour and capital markets have been significantly deregulated over the past 20 years but the land use planning system has become more restrictive. As Muellbaur recently remarked, it now produces ‘price distortions which can only be described as grotesque’ (Muellbaur, 2005). British patterns of regulation – in the sense of regulation constraining supply - have been spreading to the US and to some continental European Markets (for example the Netherlands) over the past 10 years or so. But the economic signs are that regulatory restrictions on real estate will have to be relaxed and price distortions taken into account in the land use planning decision process (Barker, 2003 and 2004).

As noted above we must distinguish between regulation as such and regulation which has the effect of restricting the supply of either urban land or of space in buildings, or – more commonly – both. There are many good reasons why land markets require regulation and economic analysis is one source of such reasons. Interdependencies in the use of land create serious externality problems and there are important classes of public goods associated with land; both with its development and its preservation from development. Unregulated markets would not respond to such classical issues of market failure. This provides a good basis for land use regulation but does

not necessarily imply the restriction of supply¹. The question, however, is the move from regulation designed to internalise externalities or provide desirable quantities of public goods (such as parks or wildlife habitats) to regulation which has the effect of restricting the supply of space in buildings or for private consumption in the form of gardens. When regulation constrains its supply, the price of space is increased. It is only this aspect of regulation which is relevant to the present discussion.

The degree of constraint varies with the particular form of land use regulation, how regulations are locally implemented and by type of space and location. There is evidence, for example, that the US zoning system is having an increasingly strong constraining effect on the supply of houses in the New York and New England regions (Glaeser *et al.*, 2005) but with minor exceptions, there does not seem to be a significant constraint on the supply of retail, industrial or office space in the US. As Hall *et al.* pointed out in 1973, in the UK the object of ‘urban containment’ implies the restriction of the supply of space for all urban uses but the extent to which such constraints bite and affect prices, varies with the local pressure of demand.

The research that has been carried out over the past 25 years or so has produced both a theoretically consistent way of analysing the impacts of land use regulation and increasingly well founded estimates of the quantitative impacts on prices and economic welfare. The quality of these estimates in scientific terms varies, however. It is much easier to provide clear, consistent and theoretically based estimates of the impact on prices in residential markets than it is for commercial, retail and office markets. Readers should take this into account in what follows.

Nevertheless conceptually the issues are clear and there can be no real argument that in the UK our planning system raises the price of all categories of real estate very substantially. However empirical estimates necessarily relate to particular times and places (as well as types of use) and, in the case of commercial property, we can only be confident about orders of magnitude. Estimates are time, location and use specific because the pressure of demand and the degree of supply constraint exercised by the local operation of the planning system varies. It is the author’s judgement, however, that the evidence supports the conclusion that UK planning controls have incrementally over time approximately doubled total occupation costs for non-residential property and that if, therefore, land use planning should become more flexible and less restrictive in its impact on supply, from the investor’s point of view this represents a risk: and that this risk is presently unpriced.

While readers may be sceptical that planning has doubled occupation costs of non-residential UK real estate (such sceptical readers might like to skip forward and glance at Figures 2 and 3), that scepticism – if I am right – is itself evidence that the risk of deregulation is unpriced. The probability that the degree of constraint imposed on supply by regulation will in the future be relaxed is itself another unknown. If there is no probability this could happen then the risk is properly unpriced because it does not exist. However, again it is the author’s judgement that a combination of macroeconomic and monetary policy considerations and the increasing power of the ‘competition of rules’ as national economies become more open, means that there are already pressures to relax constraints on supply imposed by regulation and these pressures will inexorably grow over time. In the national economy the property world is only a relatively small sector, it

¹ Although the Dutch have been moving towards a more restrictive stance over recent years, historically their system was strongly regulatory but non-restrictive and space costs were low relative to incomes. Needham (1992) explained this in terms of the historic obligation on local authorities, as responsible for drainage, to supply land. As a consequence planning in Holland had developed with a strong function of facilitating the supply of land for all uses - including development - but at the same time the system was firmly regulatory.

has correspondingly limited political leverage, and if the – to economic policy makers – arcane and specialised rules which govern it are seen as causing significant problems for the wider economy, pressure to deregulate may be irresistible.

The probability of a relaxation in the constraint on supply of space imposed by the British planning system is in the end a matter of judgement. It is not a matter which can be resolved by either economic theory or data analysis. Whether that risk is presently priced is again to an extent a matter of judgement although there is no evidence that it is priced; indeed there is remarkably little evidence that anyone, apart from a handful of specialists, is aware that the planning system imposes a supply constraint and increases prices. So although in section 3 I explain some of the reasons why I judge relaxation to be a real prospect - at least in the medium term - most of the content of this paper is taken up with making the case that capital values and occupation costs of property have been substantially increased by regulation.

2. Regulatory risk or the potential loss of value

If an analyst had reasonable grounds to believe there was a significant chance that the government of a country in which they were considering purchasing an investment property would within less than ten years introduce an additional fifty percent tax on the revenues derived from property assets this would rightly be thought of as a significant risk. As explained in any standard text on the subject, such as Brueggeman and Fisher (2005), it would need to be appropriately discounted for. Yet there is no evidence that investors in real estate investigate the risks inherent from the most draconian form of government regulation there is in most rich countries: land use planning, zoning, growth boundaries or whatever the system is called in a particular country. In this section I attempt to demonstrate that real estate prices and rents are substantially increased by the constraint on supply exercised by land use regulation. Most of the rigorous evidence relates to the housing market but at least in the UK the supply of other types of property is subject to similar restrictions. The risk inherent in this situation relates to the probability that the regulatory stance will change in the future.

The British land use planning system is the last vestige of the post WWII vision of state planning and control still left intact. Indeed, in many ways it is not just intact but enhanced in its powers of control. Some of the more utopian aspects envisaged by those who instigated the Town and Country Planning Act of 1947 have been abandoned – such as the proposals for development to become a state operated process² or for land nationalisation. The effective constraint imposed by the planning system on development has become ever tighter, however. This results from two factors. The first is the durability of the physical stock of buildings. In any year most of the supply of property in a developed country such as the UK is re-sale of existing stock. The flow of new buildings is only a small proportion of the supply available for sale or rent at any time³. In the short term, therefore, constraints on new building or land supply have a very modest impact. It is only cumulatively over time that the constraint emerges in economic terms: that is emerges as a sufficient tightening of supply to push up real prices. As the evidence of Figure 1 shows, however, over two generations the constraint has become binding indeed.

² A feature of the British system the South Koreans when they were shopping around for a land use planning system after the Korean War adopted in a literal minded way despite the idea falling out of favour in the UK. This is one of the reasons why the South Korean system may challenge for the title of the world's most restrictive. The Korean Land Corporation (www.iklc.com) acts as a monopsonist buyer and monopoly seller of land for development purposes as well as a state planning agency. *De facto* by restricting development land supply it increases surpluses and net revenue for government. For an analysis of the impacts see Son and Kim, 1998.

³ For housing supply Barker (2003) reports a figure of less than 10%.

The second reason is the nature of the constraint that the regulatory system imposes. The British system operates by means of ‘development control’ – not by zoning as in the US or a Master Plan system as in most of continental Europe. Permission must be sought for any change in land use constituting ‘development’, as defined in the planning legislation. This involves not only any significant new construction (including extension of existing buildings) but also changing the use of any building or land between the classes of use defined in the legislation. Agricultural land and its use is the exception because its supply is largely unregulated, so for practical purposes is more or less perfectly elastic. No individual’s demand can affect price nor does demand vary sufficiently from year to year greatly to affect the average price of agricultural land⁴.

The supply of land for residential or any kind of economic use other than agriculture, however, is strictly regulated. Since a main purpose of the planning system is ‘urban containment’ (now re-enforced to explicitly include ‘densification’) what, in effect, the system does is determine by fiat the supply of space available in any location for any urban purpose. This supply is then allocated to the highest bidder by the normal operation of the market.

The original visionaries who designed the system were schooled in the socialist ideas of the first half of the 20th Century. They were highly suspicious of markets and discounted financial incentives as essentially immoral. Reflecting this suspicion of financial incentives, ‘speculation’ and the profit motive, the system was designed to deal in ‘need’ (as defined by planners) and physical units. It does not consider economic concepts such as demand or supply. It allocates land for housing on designated densities, for example, and projected household numbers. Economic use of land for industrial or commercial development is determined on employment projections. The ‘supply of land’ is the amount of land released by the planning process: not the quantity of land available for sale at a given price as supply is defined for economic purposes. Perfectly rational owners of land designated by planners as part of ‘supply’ for, say, housing or offices, might choose not to sell thus preserving their options on future development (Titman, 1985). The extent to which this happens in practice is an empirical question and is likely to vary over time and space as expectations about future price levels vary. The point is that supply as defined by planners is conceptually different from market supply and this difference could be important.

For better or worse, however, the actual economic world does not operate according to the principles of Fabian Socialism as envisaged by Beatrice and Sydney Webb. As economists are apt to say: ‘markets get their revenge’. Space is an attribute of housing from which people directly derive utility and the evidence shows overwhelmingly that demand for housing space is strongly ‘income elastic’. As people get richer they strive to buy more housing space and spend a rising proportion of their incomes to that end. Space is also a direct input into the production process. Modern industry is orders of magnitude more space consuming per worker employed than was industry in the first half of the 20th Century; offices similarly consume more space per employee than their equivalents of the 1950s. As a result, as incomes have risen, the demand for housing space has increased far more rapidly than have household numbers and the demand for other types of space has risen far faster than employment⁵.

⁴ Particular parcels of farmland or agricultural land in particular locations or with specific properties are, of course, not perfectly elastic in supply.

⁵ That consumers of space should pay the full economic and social costs of doing so is not in question. Lower density development may impose higher environmental costs although the evidence is not at all clear on that. In as far as it does however, this would justify taxing space consumption.

Planners and the political debate concentrate on the impact that growth in household numbers has on the demand for housing and land. But, although a factor, it is not this increase in numbers of households which drives demand. As can be seen from Figure 1, from 1892 to 1931 – the period covered by the data with the highest ratio of increase in household numbers to incomes – the real price of housing land actually fell. Transport improvements, such as suburban railways and, later, cars, increased the effective supply of urban land to keep pace with increasing demand. This is what would be expected in a competitive market. And pre-1947, even when real incomes were rising fast, that is just what the market for land for new housing was. The premium necessary for servicing and converting agricultural land to urban purposes would remain more or less constant over time in real terms.

Evidence of a more technical type was provided in Cheshire *et al* (1999). This set out a methodology and reported the results for a model to simulate the effects of land supply policies on house prices. The assumptions underlying the simulations are set out in the Appendix but the estimate - made in 1998 - suggested that if land release followed the pattern then set out in planning policy but household numbers rose as forecast by 4.4 million and incomes rose in real terms at their historic rate, then by 2016 house prices would have risen in real terms by 131.9 percent. If, however, the other factors stayed the same but real incomes remained at 1998 levels, then house prices were estimated to rise by only 4.4 percent. In other words if land supply and so housing space are constrained, the effective driver of house prices is rising real incomes and the effect that has on the price of housing space.

A wholly independent piece of evidence is provided by Table 1 which reports the estimated price of a range of housing attributes in the same housing market for two different periods. As an empirical technique ‘hedonic’ analysis of the individual attribute prices of composite goods goes back a surprisingly long way to agricultural economists analysing vegetable prices back in the 1920s but its popularity dates from Rosen’s 1974 contribution which provided it with a rigorous theoretical framework. Apart from giving hedonic analysis intellectual respectability this allowed the results to be incorporated within the existing theoretical framework of consumer behaviour (for a recent survey see Sheppard, 1999). All real estate has the characteristics of a composite good and the most important categories of attributes are those that relate to i) the physical structure (such as space, number of rooms, condition, specification or design) and ii) the location (such as the character of the neighbourhood, the access it provides to customers, the workforce or, in the case of housing, the centre of employment and locationally fixed local public goods and environmental amenities).

There have now been hundreds, perhaps thousands, of hedonic studies of housing markets undertaken around the world and no credible study has been done which has not found a large and significant attribute price for internal space within the house. Far fewer studies have included garden space⁶ but those which have similarly find that garden space itself is an attribute which

⁶ Since economic theory tells one that the price of housing land will vary systematically with distance from employment centres it is not possible to estimate the price of garden space without also including the exact location of the house with respect to the centre(s) of employment. This also means that in any urban area there is not one price of land but a price function with respect to distance/location. To make life more difficult for the researcher it appears that there is a highly non-linear relationship between garden size and price per square metre and this price interacts with the size of the house itself. It is consequently far more demanding to estimate the price of garden space in terms of both data requirements and estimation techniques. The form of this non-linearity varies over time and between markets apparently reflecting the elasticity of supply of large gardens. In the Reading market in 1999 (see Cheshire and Sheppard, 2004b) only gardens in the top ten percent of the size distribution commanded a real premium but that premium was very substantial. But planning restrictions on residential land supply had eliminated most large gardens

commands a price. Findings of studies such as that by Song and Knaap (2003) that there is, other things equal, a price discount for houses in higher density neighbourhoods, are essentially the flip side of the same coin.

Table 1 : Changes in prices of selected attributes: Reading housing market, 1984-93: prices evaluated at sample mean quantities

	1984	1993	% Change
<i>Income (pre-tax)</i>			
from sample	£13,694	£28,969	111.5
South East (<i>Regional Trends</i>)	£12,896	£22,027	70.8
<i>Price Level (1987=100)</i>	91.0	141.9	55.9
Sample mean house price	£51,066	£94,990	86.0
<i>Reproducible attributes</i>			
Central heating	£4,954	£5,997	21.1
Bedrooms	£2,599	£2,801	7.8
Bathrooms + WC	£4,687	£6,229	32.9
Planning amenities			
Less industrial land	£74	£224	202.7
More open accessible land	£51	£227	345.1
More closed unbuilt land ¹	£102	£60	- 41.2
<i>Space (price per m²)</i>			
Garden Space :			
at centre	£49.5	£152.3	207.9
at periphery	£4.5	£22.9	404.9
median distance	£12.8	£32.1	151.5
Internal floorspace	£171	£425	148.5
<i>Local Public Goods</i>			
Best secondary school	£7,090	£13,414	89.2

¹Mainly agricultural land to which there are no significant rights of public access.

Source: Reproduced from Cheshire and Sheppard 2004a

First principles tell us that some characteristics of houses will be in elastic supply: for example all those provided through more or less industrial processes, such as central heating or the number or rooms. 1993 was a low point in the housing market cycle – when concern was focused on negative equity and falling asset prices (memories are short!) - and it is immediately apparent that the prices for the characteristics in elastic supply fell in real terms over the period. For example while the retail price index increased by 56 percent between 1984 and 1993, the price of bathrooms and W.C.s increased only 33 percent and that of central heating by only 8 percent. In contrast, the price of various types of space, attributes not provided through markets but via fiat through the planning system, rose substantially in real terms. Not only that, but the price of

so houses with large gardens were in extremely inelastic supply and, indeed, part of the demand for them may have been their potential as building land.

garden space rose proportionately most where the supply was most constrained by the planning system: that is at the edge of the urban area where containment policy was felt most strongly. Garden space nearer to the centre, although it cost more per square metre in absolute terms, increased in price proportionately less. Mark Twain may have been premature in his advice to buy land – they aren't making any more of it (except in Holland, Singapore or Hong Kong, of course, where it is in naturally particularly short supply) but UK planners were not making much of it available.

There seems, therefore, to be evidence supporting the conclusion that by restricting the supply of urban space in the face of rising real incomes and a normal income elasticity of demand for space, the operation of the planning system has caused the price of space to rise significantly. If this is correct then a further implication is that over time the price of housing land should have risen in real terms more rapidly than the price of houses. This is because – as noted above - houses are composite goods and there is substitutability between attributes. If land becomes more expensive then more floors can be substituted for a larger floor plan, terraced or semi-detached houses can be substituted for detached houses or perhaps public open space can be substituted for garden space. Equally, more but smaller rooms with design features such as built-in storage, can be substituted for larger rooms. So over time, if land prices rise as a result of a constraint on supply, design, densities and construction techniques are likely to adapt to substitute cheaper for more expensive attributes with the result that house prices rise less than land prices.

The focus of the political debate about housing affordability may be on the price of houses but as was shown in Cheshire and Sheppard (2004a) – see Figure 1 – over the long period the increase in land prices (times a factor of 11 in real terms since 1955) has greatly exceeded that of houses (times a factor of 3.5 over the same period). Moreover, if there were an increasingly tight constraint on the supply of space one would expect an increasing degree of price volatility in the market. Adjustment to short run changes in demand has to be increasingly through changes in price rather than quantity. As can be seen from Figure 1, this, too, is observed with the amplitude of the cycle increasing over time since the mid 1950s and being very much greater for land, which is directly constrained in supply, than it is for houses, the supply of which is only indirectly constrained via controls on land availability. The evidence thus supports the view that the planning system constrains the supply of space (rather than the supply of houses) but space is an attribute not only demanded but one which is highly income elastic in demand.

The argument and evidence above mainly relates to the housing sector of the real estate market. This does account for most of the value of investment in property but not, of course, for much of institutional investment. Given the specific aims and instruments of the British planning system, the conclusions we can draw about the system's impact on the price of houses are likely to apply equally to commercial property of all types. This is because the system has as its main aim the restriction of urban land supply. This is just the necessary concomitant of the aim to impose containment and densification. Moreover, given its ability to control the supply of land for each major type of use, it restricts the space available for retail, office or industrial use individually but equally effectively (although as a rough rule of thumb the restriction is tightest for retail and least for industrial).

The political process reinforces this planning aim. Decision making is initially at the lowest government tier and since benefits, such as better employment opportunities, tend to be spread over a wider area than costs (in the form of disruption, noise or congestion) they are not fully internalised within the political process. Moreover the British fiscal system provides no incentive to local government to encourage development. Development just imposes more costs for no extra revenues. The only exception is when the land in question is owned by the local authority

(which accounts for the rapid disappearance of school recreation grounds) or very imperfectly through Section 106 agreements with would-be developers offering some benefit in kind to the local community. The situation was nicely encapsulated in the words of the retiring chair of the Reading planning committee in 1989 when asked what his major achievement had been. His reply was that during his period of office

“Not a single new major office development has been approved. We managed to keep development down.” (*Reading Chronicle, 1989*)

The British situation is specific to our system of regulation. Recent work (see Glaeser and Gyourko, 2003; Glaeser *et al.*, 2005) concludes that zoning is having an increasing impact on house prices in much of the US – especially in the North East and West Coast. They conclude that the regulatory restriction imposed on supply approximately doubles the price of housing in the greater New York region. But in the US there is a strong financial incentive for local government to encourage commercial development while restricting housing. Commercial development increases revenues while reducing expenditures and so lowers taxes for local voters (residents). This is one of the major reasons why minimum lot size regulations are so popular and it is mainly the application of these which restricts housing supply. Minimum lot size regulations do not restrict the supply of housing land, however, and one of the more curious findings of Glaeser and Gyourko 2003 was that – in contrast to Reading in 1999 – the price of additional garden space is on average negative. Zoning was forcing people on average to consume more housing land than they would choose in the absence of minimum lot size restrictions. Since the system is restricting the number of housing/land units, however, it still increases the price of houses considerably. But it is unlikely to have much impact on the price or rents of commercial property although other regulatory actions, such as off street parking requirements, seem to (see Shoup, 2004).

The evidence showing that land use planning increases the price of commercial real estate is less rigorous than that available for the housing market. Although real estate investors are obviously more interested in the regulatory risk associated with commercial property, data availability and methodological problems make a rigorous analysis of the impact of regulation on price much more difficult. One recent attempt has been made by Henneberry *et al* (2005) who conclude that the impact is substantial.

Another form of evidence is available from land prices. Residual valuations tell us to expect an amplified impact on the price of land as compared to the property/land bundle if there is a restriction operating on the supply of land for a particular purpose because the restriction does not significantly affect the cost of construction. Cheshire and Sheppard (2005) traced the price discontinuities between use classes in the Reading market in detail for 1984 and updated with some data for 2003. Although other factors could play a role in explaining observed price discontinuities at the boundary of use class zones, by far the most important source of such discontinuities is the differential degree of long term restriction on supply exercised by the planning system. If, compared to market demand, planners are not releasing enough land for office development relative to industrial development then, at the boundary between the two use class zones, we would expect to find a premium for land zoned for offices causing a jump in land prices. The extent of such discontinuities in land prices at the boundaries between ‘use classes’ signals a relative restriction on supply of land for one use compared to another.

Consistent with this expectation and with our knowledge of the restriction on housing land in the Reading market (relative to farm land - the supply of which was not constrained) there was a large price discontinuity at the agricultural/residential boundary. In 2003 land prices increased from some £6,000 to £3,000,000 per ha at that point - substantially larger than the discontinuity

observed in 1984 even allowing for inflation. While in 1984, however, there had been a further substantial step increase in land prices at the residential/industrial boundary, in 2003 the prices had moved the other way. Housing land within the built-up area of the Reading region had become more expensive than industrial; at this interior boundary in 1984, land zoned for industry had commanded a substantial premium over housing land. Land for offices and retail showed substantial step increases over the adjoining zones for industrial and residential at both periods, however. In 1984 land prices doubled at each use class boundary.

Another contrast is with prices in comparable market areas in less or more constrained circumstances. Urban economics tells us that the most important determinants of land prices in a city, in the absence of regulatory restrictions, will be the size of the city and its income level. Other factors, such as differences in expected rates of urban growth, topography and transport systems, will also play a part as will environmental qualities or the quality of local public goods such as schools and security (see, for example, Gyourko and Tracey, 1991). So if we want to find a reliable indicator of the role of regulatory restrictions one should try to standardise for such differences. Cheshire and Sheppard (1986) provided evidence on land prices in US comparator cities, matched as closely as possible with UK cities for all except environmental and local public goods. Land prices for all use classes were orders of magnitude higher in the UK cities (Reading and Darlington). As can be seen from Table 2 the most extreme case was the most expensive retail land in the prosperous UK city (Reading) compared to its US counterpart (Stockton, CA). In Reading the most sought after land available for retail use was estimated to cost almost 250 times as much per acre as its equivalent in Stockton. The hierarchy of price relativities reflects expectations formed on the basis of anecdotal evidence about the priorities of planners. In low demand cities the constraint was less and the mark up on land prices compared to the comparator US city correspondingly less. Restrictions – notably the restrictions on out of town sites – were tightest for retail development, then offices, and least severe for industrial use. Indeed as we have seen by 2003 the price of residential land in Reading apparently exceeded that of industrial land.

Table 2: UK and US land price comparisons
Estimated Commercial Land Values: £ '000s per acre 1984: \$US converted at £1=\$1.25

	Erie - mean	Darlington - range	UK/US	Stockton - mean	Reading - range	UK/US
Retail	83	1,159 to 13,539	14 - 163	139	2,539 – 34,151	18 – 246
Office	172	*	...	83	603 – 13,241	7 – 160
Industrial	32	17-20	0.5 – 0.6	86	400 – 500	5 - 6

*No market but effectively negative

More recent evidence is available from comparisons of occupation costs⁷ of space reported by international real estate intermediaries. KingSturge provide some of the most complete of these and their comparisons for 2004 are shown in Figures 2 and 3.

Both sets of comparisons tell essentially the same story. Once one has standardised for city size and prosperity, total occupation costs of both industrial and office property are at least twice as high in British cities as they are in those of continental Europe; and more than twice those of cities in the US or Asia. London has the highest costs for both office space and industrial space of

⁷ If we accept that capitalisation of property taxes and other similar charges, including conditions of leases, occurs (as seems increasingly plausible given findings of, for example, Ihlanfeldt and Shaughnessy, 2004 or Mehdi, 2004) then total occupation costs provides the most appropriate measure of ‘price’ or ‘rent’ for present purposes.

any city for which there are data: much higher than equally prosperous and large cities such as New York or Paris. Industrial space costs are higher in London – despite only some 9 percent of London’s employment now being in the industrial sector (although of course the cost of industrial space may be a contributory factor in the low level of industrial employment) – than in any other city: 1.7 times those of New York, twice the cost of space in Frankfurt or Munich and 2.75 times those of Chicago. Industrial space costs are highest (but perhaps unrepresentative) around Heathrow but manufacturing is not only much more strongly represented in Frankfurt’s economy but Frankfurt has the most important air freight airport in Europe and industrial space in the area of its airport is included in the comparison⁸. The standard argument is that Britain is short of space but of course effective population densities are comparable to those of Germany and space costs in London are three times those in really space constrained cities such as Singapore or Hong Kong.

It is less unexpected to find that the costs of office space in London should be high by international standards since it is one of the great commercial centres of the world. But they are almost three times the unit costs of the next most expensive European city – Paris - and more than three times those of New York, a city which one might think did have physical constraints on downtown land availability. More telling, perhaps, is the cost of office space in British provincial centres. Birmingham is the next most expensive European city after Paris, and Glasgow, Edinburgh and Manchester are all more expensive than Manhattan; office space costs almost twice as much in any of these small and not so very prosperous British cities as it does in San Francisco – a city which not only is highly prosperous and reputed to have some regulatory constraints but which also has topographical constraints on land supply. Although relative costs change from year to year partly reflecting exchange rate variation, nevertheless, these comparisons are in line with others: for example those of JLL (2001). Moreover KingSturge have provided these international comparisons since 2001 and the story is consistent over time.

Another reasonable comparison is with space costs in cities where there is qualitative evidence that land use regulation is flexible and does not impose constraints on land supply. In Europe, Belgium has a non-constraining land use planning system and, in the US, Houston is famously without strong zoning powers. Antwerp not only has the cheapest industrial space costs in Europe but also of cities listed, industrial space only costs less in Shanghai⁹. Houston – a large and prosperous city – is in the middle of the distribution, substantially cheaper than any British city. Houston and Antwerp are amongst the cheapest cities in the list for office space and costs in Brussels are amongst the lowest for European capital cities despite the rapid growth in demand for office space in Brussels over the past 20 years with the growth of the European institutions. It might be thought that Dublin is an anomaly. Space costs there are amongst the highest. However it is reasonable to set this aside given its extraordinarily rapid economic growth over the past 15 years. Whatever the regulatory regime, it is likely that there is a degree of disequilibrium in the Dublin real estate market with short run supply adjustment problems.

Regulatory restrictions on space include of course restrictions on building height. It is intuitively plausible that height restrictions (in essence density restrictions) are equivalent to restrictions on the supply of space and Bertaud and Brueckner (2005) have shown this rigorously to be the case

⁸ With the dominance of London population is less evenly distributed in the UK than in Germany so one could argue that we should only compare London with similar sized cities such as Paris rather than Frankfurt. But the answer is the same and manufacturing is far more important in Frankfurt so perhaps one would expect stronger demand for industrial land there.

⁹ The particular cheapness of Shanghai perhaps telling us something about the undervaluation of China’s currency, the Renminbi.

except that height restrictions in the absence of land availability restrictions expand the total footprint of a city and increase travel to work distances (as, one might note, do containment boundaries or Greenbelts). They provide estimates in terms of incomes of the height restrictions operating in Bangalore and conclude that they are equivalent to imposing a tax of from 1.5 to 4 percent. In London of course there are not just height restriction in the City and West End but land restrictions in many boroughs (there is substitutability between office space in any central location moderated by accessibility to the labour force or customers) surrounding the City and stronger restrictions still in the West End. A developer cannot just throw up a 50 story office block in Islington or Camden, even on the railway lands behind Kings Cross; the idea is even more implausible in Mayfair.

In the end this evidence is not proof of a scientific type and all sorts of caveats and qualifications can, and perhaps should, be entered but the weight of the various independent types evidence and the circumstantial evidence seems overwhelming. British planning restrictions substantially raise the total costs of space to all categories of users except farmers. The degree to which space costs are increased, varies over time and between cities, but once reasonable allowances have been made for transport systems, city size, function and prosperity, the order of magnitude seems to be that space costs for offices and industry are doubled and costs of retail space and housing significantly more than doubled.

3. Prospects of change in regulatory stance

The focus has been on the UK market because both theory and the evidence suggest that, with the possible exception of South Korea, real estate prices in the UK are the most affected by supply restrictions imposed by regulation. As has been emphasised, estimates are not precise nor, for commercial property, are they rigorously theory-based. Given the weight of the evidence, however, that real estate prices are substantially increased by regulation, it is critical from an investor's perspective to make some assessment of the risk that the regulatory constraints will be relaxed in the future. Why the risk is seldom taken into account seems likely to be more the result of the fact that it is not appreciated than that it is so remote or unreal as to be fully discountable. Until very recently the economic effects of land use regulation have been the preserve of a handful of specialist academic economists. Understanding and estimating the economic impact of such regulations is challenging from both an intellectual and a data availability standpoint. Investors are, or at least have been until recently, the product of national cultures and the regulatory framework governing real estate tends to be taken as fixed and given. Few even informed British observers are aware of how much of an outlier Britain's land use planning system is in terms of its impact on prices. Indeed few even informed observers are aware that there is an impact on prices. Although investment in financial assets has been internationalising for 50 years or more, real estate markets tend to be national. Only in the past ten to fifteen years have real estate portfolios started to become international. Even within their national framework, real estate specialists tend to be insulated from other sectors. A developer or British property academic expects local planners to have very firm views on whether particular types of development are 'needed' in an area. The idea that a local government official would instruct a local industrialist not to produce a new model of vacuum cleaner because 'the local community does not need it', is absurd. We should realise that when a government economist hears a senior local planner announce that 'Hammersmith does not need another office block' that strikes them as equally absurd¹⁰.

¹⁰ Not a real example but based on one.

As Fischel (2001) has argued, the forces for inertia in planning regimes are powerful since house owners are also voters who control planning or zoning decisions. As the value of housing assets increases relative to other assets, home owners' interests in defending those values become stronger. As Hilber and Mayer (2004) have shown this even leads childless households to be more likely to vote higher taxes for better schools the more local zoning policy constrains housing supply so the value of better schools is more completely capitalised in house values. So 'homevoters' tend to oppose development of both houses and usually commercial property because such development increases supply and reduces amenity values and hence house prices. In the UK, where local government receives no revenue benefits from commercial development, the balance of incentives for homevoters to oppose all development is strengthened.

There are two countervailing forces to this inertia, however, and in my judgement in combination these make a relaxation of regulatory constraints on supply increasingly likely. The first is the increasing difficulties supply constraints cause monetary authorities and macroeconomic policy makers. The second is the logic of globalisation, the increasing international mobility of economic activity, and hence the increasing competition between territories and their rules.

For monetary authorities and economic policy makers land use regulation – at least as constraining as it is in Britain – imposes three new difficulties. As was explained above, containment policies and restrictions on land supply for housing are cumulative in their effect because of the small contribution of new build to supply in the short term. But as can be seen from Figure 1 the impact has been cumulative and substantial over the long run in terms of the real price of housing. Also, because short run changes in demand have to be increasingly accommodated by price changes as supply becomes more inelastic, the restriction of land supply amplifies the price cycle in the housing market. The effects for economic policy makers of this are threefold. As the real value of housing assets increases over time, the wealth effect this creates has an increasing impact on consumption behaviour¹¹. In addition, the increasing amplitude of the price cycle causes increasing instability in the real economy. Finally, in order to try to stabilise house price inflation and consumption behaviour, interest rates have increasingly to be set with an eye to the housing market rather than to – or as well as – the real economy.

Figure 1 also suggests 2005 is close to the peak of one of these residential price cycles. In the short term, if house and housing land prices fall in real terms, this will no doubt reduce the pressures for relaxation. But that does not alter the point that in the long term the financial problems and instability created by an ever more volatile housing market in which an increasing proportion of real assets are held become more threatening and more unmanageable. The only long term solution is to make supply more elastic and that can only be done by relaxing planning constraints on housing land availability: or, of course, foregoing all economic growth.

It was against this background that the Barker Review was set up in 2003. In the short term this is unlikely to lead to action but it marked a highly significant turning point for public policy. Public policy concern with land use planning, which had been entirely confined to the sandpit of the planning professionals, entered the mainstream economic policy agenda. Unless there is a significant relaxation of planning constraints on land supply, the difficulties for economic policy outlined above will only get worse and the Bank of England and Treasury are now alerted to this. The issue will not go away on its own and the more mainstream economists and policy makers focus on planning, the more likely substantial reform becomes. It is also noteworthy that the Federal Reserve Bank of New York has been taking an interest in the economic effects of land

¹¹ Disney *et al.* (2003) estimate the marginal propensity to consume out of an increase in house prices of between 0.09 and 0.14 with a higher value for increases than for decreases.

use zoning, devoting the whole of their *Economic Policy Review* to it in June 2003. Equally relevant are Alan Greenspan's strictures at his retirement symposium in 2005 on the dangers posed by the real estate market and the asset price boom (Greenspan, 2005). Martin Wolf, the influential economics editor of the *Financial Times* (see, for example, Wolf, 2005), has also become a strong champion of non-restrictive and more flexible planning.

The second point relates to international competition and the pressure this imposes on national and local policy makers to ensure regulation does not impose unnecessary costs on economic activity. Britain has an explicitly pro-flexibility and deregulatory stance and since the early 1980s has done more than most other European countries to deregulate both capital and labour markets. Germany, France and Italy seem to be paying an economic price for making such slow progress with de-regulation. The pressure for a more flexible regulatory regime at the European level seems to be increasing and to have been reinforced by EU enlargement. But regardless of the EU, globalisation is a fact and means that economic activity is ever more mobile. Space costs are only a small proportion of a firm's operating costs but space is nevertheless an input into production processes. Less obviously, housing costs are closely related to the real price of labour. Work in the US (see Roback, 1982; Blomquist *et al*, 1988, Gyourko and Tracey, 1991 or Gyourko *et al*, 1999) has shown that other things equal the real price of 'quality constant housing' is reflected in wages across US cities. As labour – especially key, highly skilled labour - becomes more mobile, so this is likely to be increasingly true at the international level. To be competitive London's economy needs to attract highly skilled specialists from a thin world market for such skills and housing costs have to be reflected in the wages offered. In a world in which policy makers are increasingly conscious of the costs of regulation, their attention will turn increasingly to markets other than capital and labour. While to real estate professionals and planners the degree of regulation of Britain's real estate market may seem normal, to non-specialists it seems simply bizarre. That the costs of office space in Birmingham are twice those of similar space in Berlin or Chicago may seem irrelevant to a planner but that is unlikely to be the case for an official responsible for local economic development. Similarly planners may not be interested in the fact that office space in London's West End is getting on for three times as expensive as similar space in Paris, and more than three times the price of space in Manhattan, but the Department of Trade and Industry or the Treasury is likely to find it increasingly significant.

4. Conclusions

Regulatory restrictions on urban land supply increase real estate prices in Britain but also in the US and some other countries (South Korea, for example). Certainly, in the US, the zoning system in interaction with the system of local government finance, means that to date it has essentially only been house prices that are affected although, as was argued above, even this has implications for the long run competitiveness of the US economy in general and for those cities which impose the tightest zoning constraints in particular. In Britain, however, it is not just the housing sector where prices are substantially increased but containment policies and the way they are applied to individual land use classes, increase the occupation costs (and the price of land) for all categories of real estate. On current evidence, a reasonable estimate is that the price of real estate, other than housing, is, in Britain, roughly doubled by our land use planning system.

Any economically literate observer informed of the situation in the Soviet block economies in the 1980s could have predicted that the system would not endure. When price distortions get to the point at which it is cheaper for farmers to feed their pigs on bread than pig food, something has to give. Few observers, however – economically literate or otherwise – would have predicted how quickly the Soviet political and economic system would collapse. Equally, an economically literate observer of the Common Agricultural Policy has been able to see that the system would have to be fundamentally reformed since about 1970. When such reform will come is still,

however, in doubt. Although the benefits of the CAP are vanishingly small relative to its costs (and its costs – especially when viewed from a wider perspective of international trade and environmental impact – are considerable) the aggregate cost it imposes on European consumers and taxpayers is still relatively small; certainly when compared to the costs imposed by Soviet economic planning.

So it is with reform of land use regulation. It seems inevitable that the restrictions imposed on supply, and hence the effects on real estate prices, will be reduced. But there is substantial inertia and reform would require significant political courage. Reform will almost certainly come. The question is when not if. For the investor in real estate – including the homeowner – that means assessing the risk of reform and its timing. Is it close enough yet to be a factor which should be taken into account in long term investment strategies? The answer to this question is especially significant in the comparative returns demanded of real estate investments in countries or cities with significantly different regulatory systems which impose different degrees of restriction and so produce different magnitudes of price distortion. On the basis of the evidence already available it seems reasonable to argue that real estate analysts certainly need to be asking these questions now and probably should be starting to discount the risk of regulatory reform.

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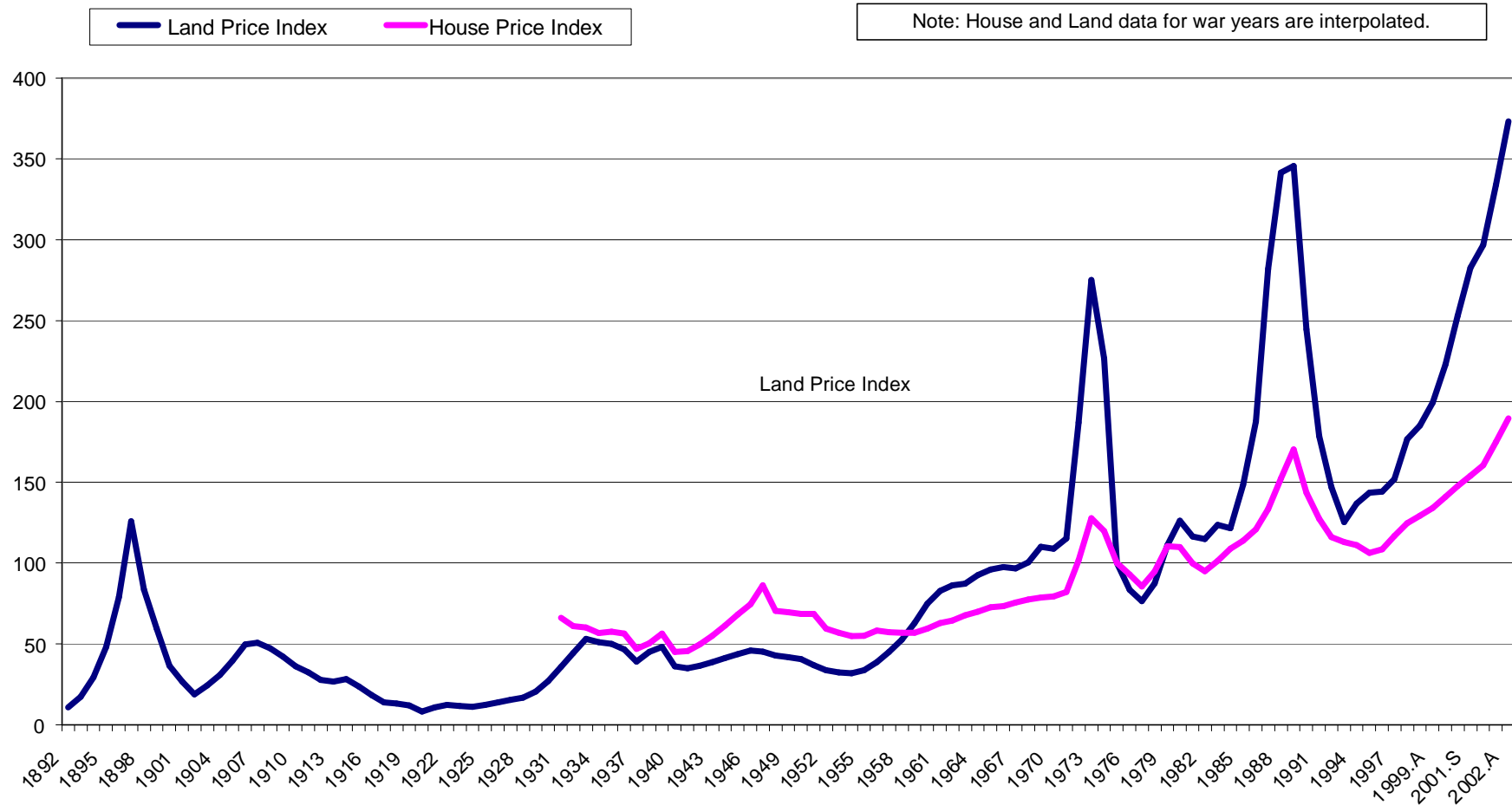
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Appendix

Assumptions underlying simulation scenarios

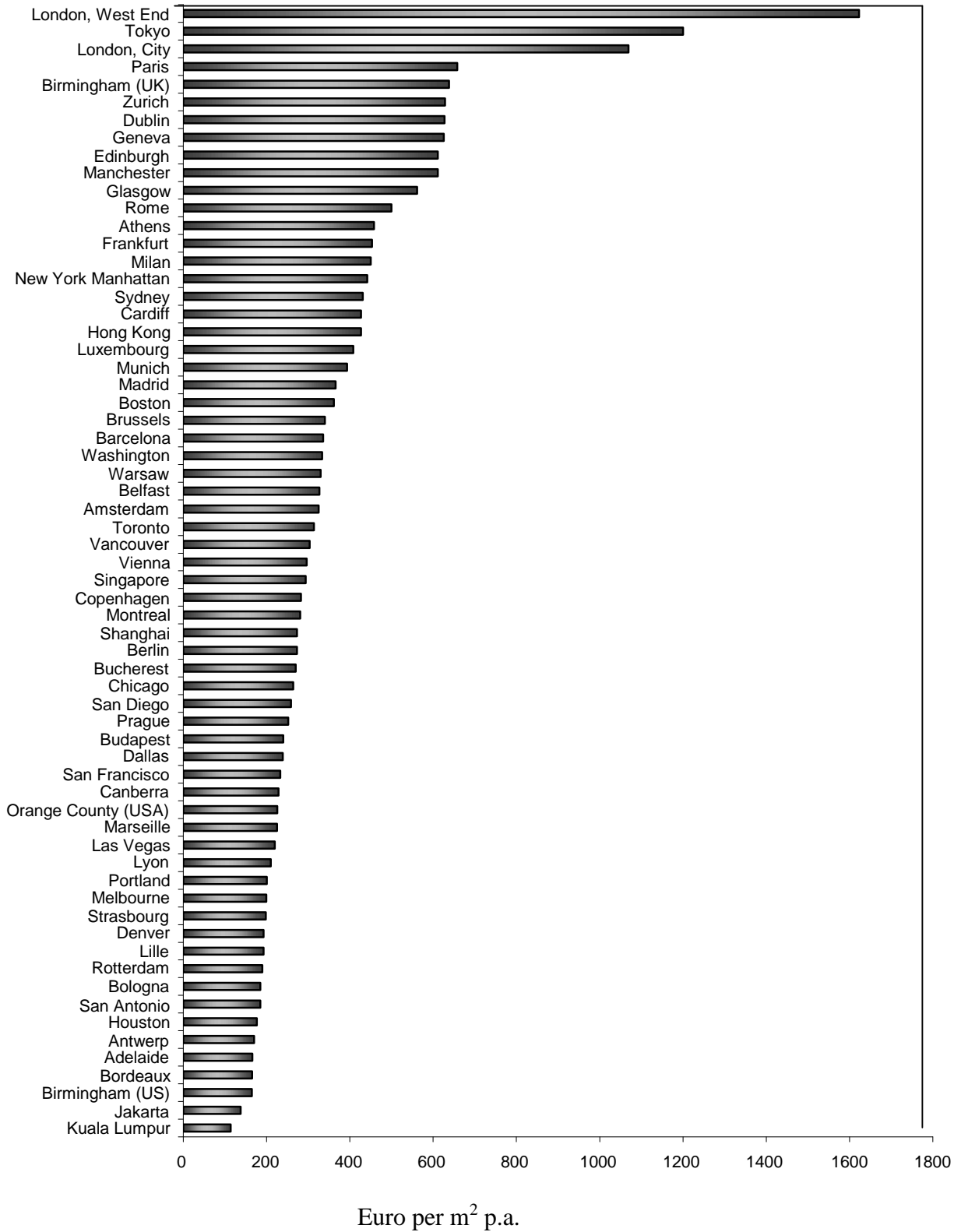
- 1) an increase in household numbers of 23% in each city (representing household growth of 4.4 millions for the country as a whole);
- 2) 60% of this increase accommodated in city cores and 40% accommodated in ex-urban commuter rings;
- 3) the proportion of available space actually made available through the planning system for residential use in each city is unchanged;
- 4) the outer limit of each city-region increases just sufficiently to accommodate the additional 40% of households in the ex-urban commuter rings at densities currently ruling in the built-up parts of the commuter rings;
- 5a) total personal income increases by 2016 at the trend rate observed between 1986 and 1993. This, allowing for projected household growth, suggests an increase in household incomes from 1998 of 25%. or
- 5b) total personal incomes remain at 1998 levels.

Figure 1: Long Run Real Land & House Price Indices (1975 = 100): England/England & Wales



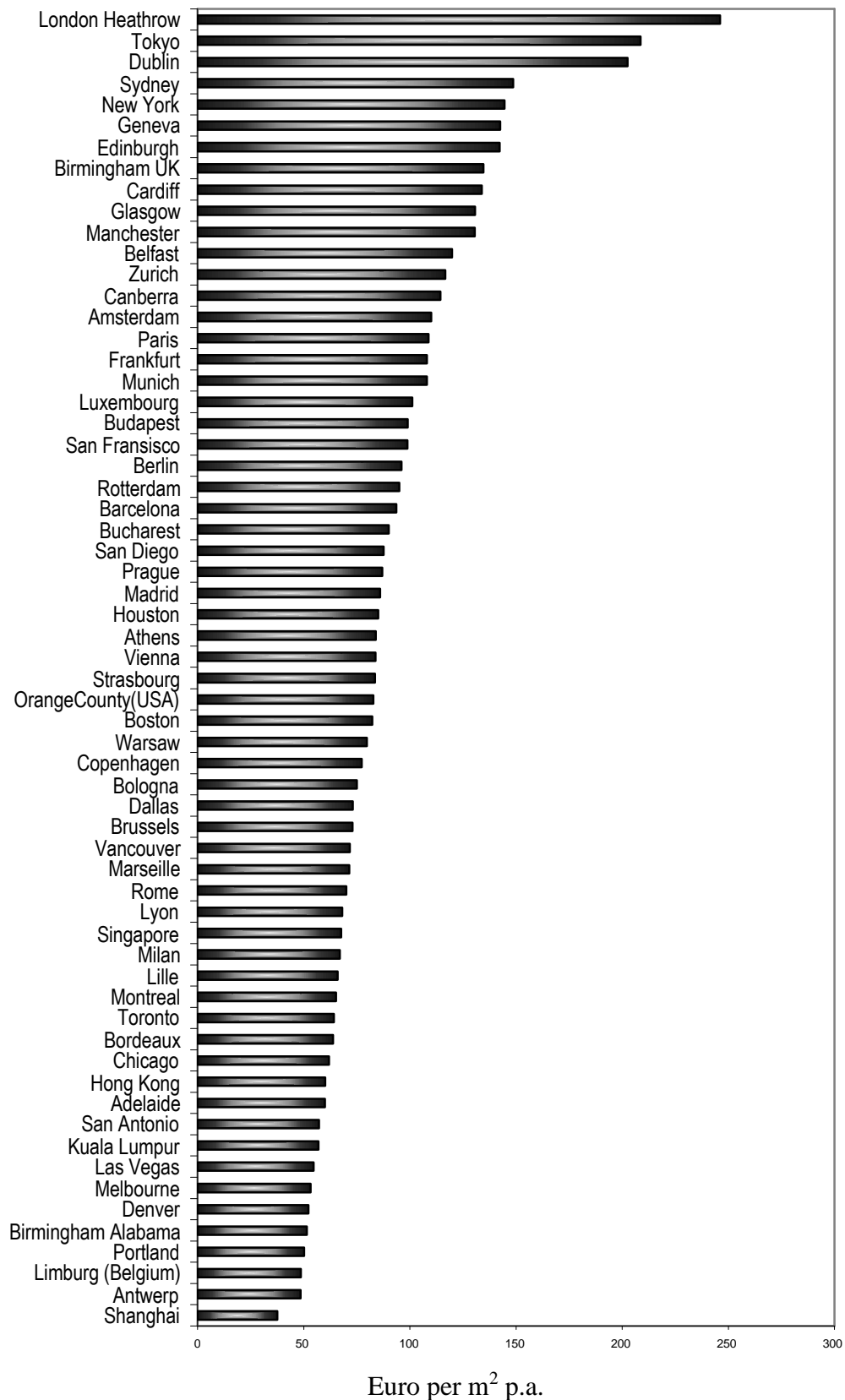
Housing land prices are from 3 sources: Vallis (1972) *Estates Gazette* – 1892 to 1969 England; *Housing & Construction Statistics* – 1963 to 1987 England & Wales; and *Property Market Report*, Valuation Office – 1983 to 2002
 House Prices: ODPM: Table 502 Housing Market: House Prices from 1930.
 Source: Cheshire and Sheppard 2004a

Figure 2: Total Occupation Cost of Prime In-Town Office Space
(Euro per m² p.a.)



Source: KingSturge (2004)

Figure 3: Total Occupation Cost of Prime Industrial Space
(Euro per m² p.a.)



Source: KingSturge (2004)