



## Links Between Planning and Economic Performance: Evidence Note For LSE Growth Commission

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### Abstract

This note considers some of the economic and social costs of the current English planning system, some of which have been underplayed in public debate. Specifically, there is evidence that the UK planning system:

- Increases house prices and reduces housing quality (with a regressive impact on low to middle income families)
- Increases housing market volatility
- Increases office rents
- Lowers retail productivity
- Lowers employment in small independent retailers
- May not properly assess the true social costs of brownfield versus greenfield development.

It is perfectly possible to argue that these costs are worth paying to achieve other policy objectives. However, it is not helpful to pretend these costs do not exist. There are multiple links from planning to the economy, and any sensible debate on planning reform must recognise this. The Government's current reforms to the planning system attempt to address some of these costs, although it is unclear whether they will be successful.

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## 1 Introduction

This note is about the impact of the English land use planning system on economic performance. It was written to help inform the deliberations of the LSE growth commission.

Planning systems set rules and guidelines that control the supply and location of land usable for a full set of legally defined purposes independently of price and so influence the level, location and pattern of activity. The ultimate role of planning is to promote a balance of environmental, social and economic welfare that meets the needs of current and future generations. Doing so inevitably involves trade-offs, so any planning system has both benefits and costs. The benefits claimed for our current system have been well-discussed in popular debate.<sup>1</sup> We do not rehearse these arguments in detail, although we return to them briefly in our conclusions. Rather, we focus on whether the current system imposes costs that future reforms could mitigate or avoid.

The costs fall into two categories. There are those that arise directly and then there are indirect costs. The direct costs arise from the application of a complex system but more importantly from the costs falling on the private sector in order to comply with the system. The indirect costs arise from the higher costs of space brought about by the constraint on its supply, and the controls imposed on the choice of location. These force activity to locate on sites that are often non-optimal from the point of view of operating costs or revenue generation. Household choices are similarly constrained. The available evidence suggests that both these costs are substantial, although the indirect costs are greater than the direct ones.

## 2 Context

The Government has been seeking to reform England's planning rules. The current system involves:

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<sup>1</sup> See for example CPRE (2011), Monbiot (2011), National Trust (2011), Strong (2011) .

- A hierarchy of planning policies – national planning policy (now unified as the National Planning Policy Framework); until recently regional strategies; and local development frameworks.
- Development control as the main mechanism for regulating local development.
- Section 106 (S106) as the main means of local value capture, complemented in 2010 by the Community Infrastructure Levy.
- Some national policies or restrictions (e.g. Town Centre First, Green Belts, Sites of Special Scientific Interest (SSSIs) and Areas of Outstanding Natural Beauty (AONBs)).

The Government's National Planning Policy Framework (NPPF) was published in March 2012.<sup>2</sup> The main elements of the NPPF and associated reforms are:

- Significantly simplified national planning guidance.
- Devolved decision-making, with local authorities drawing up local plans via community consultation, subject to consistency with NPPF and fiscal incentives to encourage development.
- A presumption in favour of sustainable development, where this accords with local plans. If no up-to-date plan exists, the default answer to sustainable development should be 'yes'.
- Maintain – even slightly extend - all existing protected status (Green Belt, SSSIs and AONBs) and retain town centre first restrictions for retail development.

In parallel with the NPPF, the Government has also introduced:

- A reformed Community Infrastructure Levy as the main means of value capture, while limiting use of S106.<sup>3</sup>
- Financial incentives for new housing through the New Homes Bonus, and for commercial development via the Business Increase Bonus.
- A Localism Bill and wider proposals for reforming local government finance.<sup>4</sup>

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<sup>2</sup> DCLG (2012). A draft document (DCLG 2011) was published in July 2011, with a public consultation from July – October 2011.

<sup>3</sup> S106 Agreements were introduced in 1992 and allow Local Planning Authorities (LPAs) to give permission to develop in return for some specified 'community gain'. They thus involve a process of negotiation between developers and LPAs. The evidence suggests that they entail high transactions costs and so are only employed for major developments. Indeed only a minority of LPAs have ever negotiated a S106 Agreement.

<sup>4</sup> See DCLG (2011, various).

Together, these reforms aim to localise the planning system at the same time as increasing rates of commercial and residential development.

As we discuss below there are tensions between these two objectives. In addition, in our judgement (see Nathan and Overman (2011)) the combined effect of these reforms will not effectively increase – and may even decrease – the supply of the most productive developable land. This is because while incentives are a move in the right direction, they are too small and not sharply enough targeted to significantly reduce NIMBYism. The blanket protection for all existing categories of protected land continues as does the emphasis on developing brownfield land.<sup>5</sup> To give an example: greenbelts, circling most major cities, account for nearly one and a half times as much land as all the developed land in England (Barker Review of Land Use Planning 2006; Government Office for Science 2010). Moreover, Town Centre First policies have been retained.

Taken together, these continuing restrictive policies mean that most of the more productive land for both housing and commercial development is simply off-limits. To this has been added the maybe justified abolition of the top-down system designed to increase land supply. Since shortage of land is the key constraint identified by all serious economic research (Barker Review of Housing Supply 2004; Barker Review of Land Use Planning 2006) it seems unlikely that whatever its aims the new NPPF and other reforms will either increase development or reduce the costs of space.

### **3 Evidence On Economic And Social Costs Of The Current Planning System**

As in Section 1, we divide our discussion into direct costs (transactions and administrative costs of the present system) and indirect costs (impacts on housing markets and house prices, city size, development costs, and sustainability, as well as some specific sectoral effects). We then briefly consider dynamic effects of the current planning system.

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<sup>5</sup> Actually extended with the steer given in the NPPF to avoid development in back gardens or infill. This may be environmentally justified but further reduces the supply of developable land. As noted below land previously part of residential development made up 23 percent of all land for housing in 2008.

## Transaction and administrative costs

There is surprisingly little systematic evidence on direct costs of the current planning system on its users, although plenty of ‘anecdotal’ exists. Mayo and Sheppard (2001) provide some evidence that the process of development control – because it makes all decisions probabilistic rather than certain, as with a Master Plan or Zoning system – necessarily makes the supply of new development more inelastic.

Ball and colleagues (Ball, Allmendinger et al. 2008; Ball 2011) have shown that if delays are measured at the site level from when the first planning application is made to when permission is finally given then the mean delay is not 13 weeks but 43 weeks because what happens is that there are refusals followed by negotiations followed by new applications. Ball (2011) also showed that more urban smaller and brownfield sites systematically had longer delays associated with them – another way that brownfield development is more expensive.

## Housing markets and house prices

The UK suffers from a problem of housing affordability. This problem is particularly acute for families with low to modest incomes, although in many parts of the UK high house prices are a problem more generally (Barker Review of Housing Supply 2004).

SERC research suggests that planning restrictions *substantially raise house prices*, especially in popular areas. House prices react much more strongly to increased demand in communities where supply is more restricted by planning policy. Specifically, SERC’s analysis suggests that an area moving from an average level of restrictiveness to having the lowest level of housing restrictiveness would see house prices fall by around 30% (Hilber and Vermoulen 2011). This is a considerable underestimate of the true costs because it assumes planning restrictiveness had had no impact on house prices prior to 1980. Cheshire and Sheppard (2002), however, had found that even by 1983, in the more restrictive areas of south eastern England, there was already a very substantial net welfare cost of planning restrictiveness. They estimated that for the average home-owning household in Reading, the **net** costs of constraint (via more expensive and smaller housing), were equivalent to a tax of nearly 4p in the £ on incomes. This net cost partly arises from the

effects on the composition of housing (e.g. restricting the supply of land means that new houses are smaller, see Cheshire (2009)).

Of course, physical constraints on land availability – scarcity of land, the presence of steep slopes or flood plains – have an effect on house prices, but in England the effect is generally very small. Land scarcity does raise prices in the most urbanised places, particularly Greater London. Even in London’s case, however, the evidence suggests that planning plays a much larger role (e.g. through height restrictions). Outside London, very few English communities actually face physical constraints on land supply (Hilber and Vermoulen 2011).

SERC research also shows that planning restrictions *increase housing market volatility*. At least until the recession, average house price volatility in the UK was higher than the most volatile single market in the US (Los Angeles). When house prices fall, supply is fixed in both the UK and US (unless you destroy houses). However when, as in the UK, housing supply is very unresponsive to increased demand, booms drive up prices rather than leading to more building. That means the UK sees more volatility on the up-side of the market and this leads to more volatility overall (Cheshire 2009; Hilber and Vermoulen 2011).

### **Productivity benefits of larger cities**

Planning policies explicitly try to restrict the growth of cities by ‘containment’ policy. This bites hardest in the most productive cities where pressure for growth is greatest: most obviously in cities like London, Cambridge or Oxford. City size and diversity, however, provide an economic payoff: a critical mass of people, resources and ideas help produce agglomeration economies (Glaeser 2011). Increasing that critical mass helps raise productivity, therefore: the consensus from recent studies is that doubling employment in a city raises average labour productivity by around six percent, although these effects are much more important for some types of economic activity (Melo, Graham et al. 2009). They are much more important in precisely those sectors of economic activity in which the British economy is specialised and our most prosperous cities – the Londons, Cambridges and Oxfords – are particularly specialised: skill intensive traded services. Although urban density is strongly correlated with the *effective or functional* size of a city there is

no evidence that density itself is a cause of these observed agglomeration economies.<sup>6</sup> It seems more likely that density is the outcome of agglomeration economies as both households and firms bid up the price of land to benefit from them thus causing development to be at higher density. Indeed Cheshire and Magrini (2009) find that once all other factors including city size are controlled for, higher density is associated with *slower* urban economic growth.

### **Economic costs of using planning to restrict size of more successful cities**

Given that current planning rules constrain the size of our more prosperous cities it is crucial to understand the economic costs of those constraints.

On the basis of current evidence a complete assessment is not possible. But we can get first pass estimates of the effects by looking at the nominal gains on wages. Gibbons, Overman and Pelkonen (2012) use Mincerian wage regressions applied to ASHE data to estimate the ‘area effects’ on wages, holding worker characteristics constant. These regressions control for individual effects plus age and occupation (measured at one-digit class). (That is, we identify area effects from movers – which raises some identification problems, but provides the best available evidence in the absence of random household assignment.) If we use the results to compare a place ranked at the 75th percentile to one ranked at the 25th percentile (i.e. say Bristol compared to Huddersfield) we see an ‘area wage effect’ of 3.8%. That is, an ‘identical’ worker gets paid a wage that is 3.8% higher in the higher ranked location. To a first approximation, this provides an estimate of the costs of constraining the supply of housing in the higher ranked location.

From initial work on LFS there does not appear to be much effect on unemployment (although one of us, Tim Leunig, disagrees on this point and thinks there could be effects there as well). Other area comparisons are possible (c.f. Table 1 of Gibbons, Overman and Pelkonen (2012)).

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<sup>6</sup> Two examples illustrate the difficulty of separating out density effects. 1) Building CrossRail, for example, will likely *reduce the density* of the London region as a whole as people take advantage of quicker travel to move out to cheaper land. But it will still *increase the effective size* of London since with easier travel the costs of productive interactions between economic agents will fall and their potential number will increase. 2) Take two cities with identical populations and borders: building more houses will *increase density*. But it is then hard to attribute any subsequent economic changes to higher density, since *population size has also gone up*.

Controlling for less individual characteristics, or taking bigger extremes in the area affects distribution, and this suggests a larger impact on wages.

To do a full calculation, one would also want to factor in the feedback from city size to wages (see above). Estimates suggest that these effects could lead to an increase in wages. Rosenthal and Strange (2004) review the literature, and suggests that doubling city size increases productivity by between 3% and 8%. Recent papers that better control for individual characteristics give estimates around 2%. Taking these more recent estimates suggest that we may be able to ignore the feedback from size to wages if we are only talking about a marginal relaxation of planning restrictions.

Much more important is the feedback from city size to innovation and growth. Here the literature suggests that these effects are likely to be important, although we are a long way from being able to benchmark magnitudes in the way that we did above for wages.

### **Impact on development costs**

There is more agreement that overly tight planning frameworks for cities have costs on development. For example, restrictions that have historically prevented sprawl and maintained urban sightlines deliberately place constraints on urban growth in popular cities – both outwards (via Green Belts) and upwards (via height restrictions). By raising development costs, especially in urban areas, planning restrictions *lower levels of business investment* in these areas. SERC evidence shows that these costs can be high in both the commercial office and retail sectors.

Cheshire and Hilber (2008) carefully document how *planning restrictions in England impose a 'tax' on office developments* that varies from around 250% (of development costs) in Birmingham, to 400-800% in London. In contrast, New York imposes a 'tax' of around 0-50%, Amsterdam around 200% and central Paris around 300%. Such substantial implicit taxes on development should clearly affect investment in these cities. Koster et al (2011) show that in Holland, height restrictions specifically act as constraints on agglomeration economies from tall buildings, echoing analysis by Glaeser (2011).

We do not know of comparable evidence for manufacturing or wholesale distribution, but to the extent that factories and logistics centres tend to use *more* land than offices, we would expect the effects to be larger for these sectors. Offset against this is the fact that constraints on land use may lead Local Planning Authorities to continue to oversupply manufacturing land (if it refuses to change designation for sites no longer in use). Growth in relative prices over time certainly show that these effects are much more pronounced for housing and office developments than they are for industrial land (Cheshire and Sheppard 2005).

### **Impact on specific sectors**

*Current planning rules also negatively affect productivity in parts of the retail sector.* In recent SERC research, Cheshire et al (2012) demonstrates that planning rules reduced productivity in a leading supermarket chain by at least 20%. This is one study, for a single operator (albeit a large retailer represented across the UK). But it does provide a measure of costs – and they are large. Opponents of planning reform have suggested such evidence does not exist. This is incorrect. *There is evidence that planning negatively affects productivity.* All else equal, bigger supermarkets are more productive; and their precise location is important. Easy access for lorry deliveries and car-borne shoppers has substantial impact on productivity.

Since the introduction of town centre first planning in the mid-1990s, the share of new retail development in urban areas rose from 14% (in 1994) to 33% in 2009 (British Council of Shopping Centres 2006). While the policy may have increased the quantum of retail activity in cities – thus raising high street ‘vitality’ – it also appears to have helped change high street character. Specifically, evidence suggests that *small and independent shops have been hurt by town centre first policies.* Sadun (2008) and Haskel and Sadun (2009) find that town centre first rules have directly caused a reduction in smaller shops’ employment – mainly because big supermarkets developed smaller formats and moved into high streets. Thus, by restricting space and raising rents, town centre first rules may also have contributed to high street ‘cloning’. Again, planning has both benefits and costs and, despite claims to the contrary, there is evidence available on the costs of planning policies on independent retailers.

## Benefits and costs of Brownfield development

Many opponents of the planning reforms think that development should be heavily focused on brownfield – i.e. previously developed – land. This policy protects previously undeveloped land, *but is not costless*.

There are three types of problem. The supply of brownfield land does not geographically match the demand for productive developable land. A hectare in Bradford is not a close substitute for another in Cambridge. The costs of developing brownfield sites are considerably higher than those of Greenfield sites and, moreover, the supply of the easier-to-develop brownfield sites has been differentially used up. Developers go for the cheaper-to-develop site first. The extra costs arise not just from costs of clearing and cleaning brownfield sites but because they are typically smaller and more difficult to access. Ball et al (2008) and Ball (2011) show also that – perhaps surprisingly - brownfield sites typically involve longer delay in getting planning permission. Finally sites which are legally defined as brownfield often have high amenity value and usually have greater environmental and social value than does high-intensity agricultural land.

During the 1990s and mid-2000s, the combination of a national brownfield land target and a minimum density floor for development helped concentrate new development in urban areas – particularly core cities such as Manchester and Liverpool. These cities also benefited from a number of other important supporting factors – a benign macro environment, rising public spending, an expanding higher education sector, a growing consumer interest in city living, and readily available finance for building and buying (Nathan and Urwin 2006).

The national target ensured these trends played out more broadly. In 1998, approximately 50% of development occurred on brownfield land (a figure that had been remarkably stable for long periods of time). The Labour government committed itself to a target of 60% of new development on brownfield land by 2008. The target had been met by the early 2000s. In 2005, 70% of new development was on brownfield land (Urban Task Force 2005).

From the point of view of the opponents of the NPPF, meeting the national target sounds like success. Qualitative research suggests that in cities like Manchester and Liverpool, brownfield policies that targeted the urban core have helped repopulate city centres, and encouraged

commercial activity to return. These policies also helped local leaders reposition their cities' public image (Nathan and Urwin 2006; Unsworth and Nathan 2006). (One of us, Max Nathan, is very positive about these developments in those cities.)

However, somewhat surprisingly, we know of no evidence that rigorously assesses the *causal* impact of the brownfield target on the pattern of development within cities, or on the overall effects for the city as a whole. We can speculate that in cities like Manchester, the brownfield target may have led to more development across the city than previously. However, an alternative strategy of focusing on (say) South Manchester might have brought higher overall development to the city, but with a different spatial pattern. That is, *skewing development towards city centres might have come at the expense of less growth for the city as a whole.*

Brownfield land is expensive to build on suggesting that there could be an effect on overall levels of development from the decision to prioritise brownfield land. Findings on the negative effect of town centre first on retail productivity are consistent with this (Cheshire, Hilber et al. 2012). Further from the point of view of England as whole, lots of brownfield land is in ex-industrial cities where - unlike parts of, say, London and Manchester – demand for housing and commercial development is low.

In terms of the spatial pattern of development, large pieces of land that become available (for example, former MOD or NHS sites) are often some way from existing settlements (working against other stated objectives on densification). Worse, as highlighted by the coalition government, *a small but increasing share of building on 'brownfield' land has been building on private residential gardens* – the share of new homes built on previously residential land rose from 11 percent to 23 percent between 1997 and 2008.<sup>7</sup>

In short, top-down targets for brownfield land haven't always delivered the kind of development people want in the places where they want it. The combination of brownfield targets and density standards has also tended to produce large numbers of small flats in urban areas – although there is a clear need for larger, family homes in these places (Silverman, Lupton et al. 2006; Unsworth and Nathan 2006). These costs need to be offset against the benefits of preserving undeveloped land. Undeveloped land does deliver benefits, but SERC research suggests that these are far less

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<sup>7</sup> DCLG (2010) 'Clark - new powers to prevent unwanted 'garden grabbing'', accessed 5 October 2011.

than usually claimed (Gibbons, Mourato et al. 2011). While urban parks and high amenity land accessible to the public yield substantial social benefits, Gibbons et al. (2011) found that Greenbelt land as such – most of which is in high-intensity agricultural use with limited public access – was of measurable value only to those owning houses within it. Town dwellers near its borders were willing to pay no premium to live near it. This finding matches that of Cheshire and Sheppard (2004) although their result was specific to the area around Reading, Berkshire.

### **Sustainable development?**

Paradoxically, the restrictiveness of the current system also results in some clearly *unsustainable* development. In popular areas of the country, demand for land is high but supply is highly restricted. This means large financial gains to landowners in popular areas when land is made available for development. Often, it is local authorities who realise these gains by selling off their own land – in particular allotments, parks and school playing fields (according to the Guardian, the waiting list for allotments currently stands at 86,000 people).<sup>8</sup>

As Cheshire and Sheppard (2005) argue, the social and environmental case for *not* building on school playing fields or allotments is very strong. Even ‘classic’ brownfield land such as disused quarries, railway land or industrial sites is often used for informal recreation and is increasingly cited as providing important habitats for rare wildlife: not rare just in towns but rare in Britain as a whole.<sup>9</sup> One of the primary functions of the planning system should be to protect such areas from development. But by causing land in desirable locations to be in such short supply the system has created strong incentives - sadly often too alluring to resist - which result in development going onto exactly the most socially and environmentally valuable land.

As discussed above, there is good evidence that Green Belt policies impose a development ‘tax’ on urban businesses (Cheshire and Hilber 2008) and would-be house buyers alike. These costs might well be an acceptable part of a planning trade-off if the environmental gains are substantial.

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<sup>8</sup> Harrison (2011) ‘Garden sharing: growing your own vegetables on someone else’s patch’, Guardian, 2 September, <http://bit.ly/n9dsBp> (accessed 5 October 2011)

<sup>9</sup> See for example: <http://www.buglife.org.uk/conservation/currentprojects/Habitats+Action/Brownfields>, or

[http://www.butterfly-conservation.org/article/9/292/return\\_of\\_the\\_ranunculus\\_the\\_moth\\_that\\_came\\_back.htm](http://www.butterfly-conservation.org/article/9/292/return_of_the_ranunculus_the_moth_that_came_back.htm)

However, as Kate Barker pointed out, in fast-growing cities like Oxford and Cambridge, development has leap-frogged green belts into the countryside proper. The result is more commuting, congestion and pollution than relaxing restrictions might have achieved (Barker Review of Land Use Planning 2006). A recent study by GLA Economics showed that expressed as a proportion of the locally resident highly qualified working population whose jobs were in central London, there were important daily commuting flows from as far away as Norwich and the New Forest – let alone the expected places as Oxford, Brighton or Winchester (Ennis, Theseira et al. 2009).

### **Dynamic effects**

The least well-understood aspects of the current planning system are its *dynamic impacts* – for example, the impact of regional house price differentials on spatial labour market adjustment. How long run trends in property prices affect the cost of living and doing business in London versus other ‘competitor’ cities. What are the implications of this for innovation and growth?

Empirical estimates (see Rosenthal and Strange, 2004) are inconclusive on whether size of cities or specialisation matter more for growth. Duranton and Puga (2001) suggest that larger cities might act as incubators – creating more firms that then move out to more specialised cities once they are established. Glaeser (2011) strongly argues that there is a link from size to innovation and growth. He argues that this works through density, rather than size per se – although it would be fair to say that the correlations available to support this assertion are suggestive at best.

Forecasting models are widely used within urban planning (Waddell 2002; Couclelis 2005) and by ecological geographers to explore long-term ecosystem developments (Verburg, Soepboer et al. 2002; Shen, Chen et al. 2009; Lambin and Meyfroidt 2010) but these are not based on causal estimates of the long run impacts.

## 6 Conclusions

To summarise, there is evidence that the UK planning system:

- Increases house prices and reduces housing quality (with a regressive impact on low to middle income families)
- Increases housing market volatility
- Increases office rents
- Lowers retail productivity
- Lowers employment in small independent retailers
- May not properly assess the true social costs of brownfield versus greenfield development.

Other possible costs of the system are not well documented (e.g. the negative impact on land intensive manufacturing and wholesale distribution) but might be expected to be significant. The government's proposed reforms attempt to address these problems by increasing the supply of land for development. It is perfectly valid to question the extent to which these reforms will be successful (we do this in a companion paper (Nathan and Overman 2011) which should be read alongside this one ). Campaigners are also perfectly entitled to argue that these are prices worth paying to 'protect the countryside' or achieve other policy objectives. However, it is not helpful for public debate to pretend that these costs do not exist and that there is no evidence to suggest otherwise. Existing research, documented here, shows that this is simply not the case. There are multiple links from planning to the economy and any sensible debate on planning reform must recognise this.

A final point. Despite fears about concreting over England recent research shows a surprisingly small proportion of England – even the South East of England including Greater London is actually developed. The Foresight Land Use Futures research (2010) showed that only 9.95 percent of England was in urban development and of this almost half was in parks or gardens. Domestic and industrial and commercial buildings together accounted for just 1.8 percent of England's surface. The evidence equally shows that Greenbelt land is of very little amenity or environmental value to anyone except those who have houses within its bounds.<sup>10</sup>

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<sup>10</sup> The work done to value Britain's natural resources (UK National Ecosystem Assessment 2010) concluded that intensively farmed agricultural land had a negative environmental value. Most Greenbelt land is in intensive agriculture.

## Appendix

### Understanding approval rates

Defenders of the status quo suggest that because 80% of current planning applications get through, no reform is needed. But this is to misunderstand the data. Planning applications costs time and money, so developers only tend to put in applications if they think they have a reasonable chance of succeeding. If relaxing the rules led to more applications then overall development might increase even if there was *no* change in the approval rate. Approval rates do matter (because failed applications 'cost' developers and local authorities) – but with approval rates so high (they are 87-94% for commercial development) it is the effect of the rules on *submission* rates that matters most for understanding the impact of planning on development. Research by SERC shows stricter planning *cause* reductions in submission rates and hence housing supply (Hilber and Vermoulen 2011).

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The work associated with this study on the economic value of land (Gibbons et al 2011). As noted above found no measurable economic value associated with Greenbelt land except for those who owned houses within it.

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