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# Cause Area Report: Housing Affordability in England

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LAST UPDATED 04/2020





# Executive Summary

## 1 Scope of this report

This research was conducted in response to member demand for high-impact donation opportunities in high-income countries. We were prompted to look into housing affordability and land-use reform by similar research from the Open Philanthropy Project<sup>1</sup> and experts who claim that inefficient land use is likely one of England's most significant socioeconomic problems.<sup>2</sup> We focus on England rather than the UK because the [Town and Country Planning Act](#), the country's foundational land-use legislation, is specific to England and Wales. We use data for England wherever possible but use UK data where necessary.

We continue to encourage people seeking to maximise the amount of good done by their donation to look for opportunities to help **people in lower-income countries, animals, or future people** on the basis that charities in these areas generally receive much less funding than charities working in high-income countries. However, for donors who would prefer to use some of their donations to help people in high-income countries, land-use reform is likely to be one of the highest-impact opportunities available. At the end of this report we compare work on this cause to funding opportunities in low-income countries in greater detail.

## 2 Summary of findings

Housing affordability varies greatly between different parts of England. In terms of both prices and rents, and even after adjusting for local incomes, housing is much more expensive in London and the Greater South East than in the rest of the country. In this report, we discuss the severity of housing unaffordability in England, the likely reasons for local variation in housing costs, and the effects on wellbeing. There are strong reasons to believe that it is unusually difficult to build houses in certain



parts of England and that this is an important driver of housing unaffordability. Moreover, the places where it is more difficult to build are generally more economically productive. This relationship has important welfare implications.

First, high regional housing costs reduce movement to economically prosperous places. This lowers economic growth, depresses incomes, and reduces social mobility. Because the effects of lower productivity accumulate year-on-year, the aggregate effect is large: each house that is not built represents a societal loss on the order of £100,000 just in lost productivity. This estimate does not account for agglomeration externalities, i.e. the fact that people are more productive when they work alongside many other people in dense cities.<sup>3</sup> The total economic loss from reduced population growth in productive places could be even higher.

Second, there are negative distributional effects. Restrictions on the supply of houses have contributed to a decades-running increase in real house prices that has transferred wealth from young people and renters to older people and long-term homeowners. While rents do not exhibit the same long-term increase as do prices, the current level of rent is unaffordable in many parts of England. This increases the prevalence of homelessness.

Third, supply restrictions make it harder to replace older homes and densify cities. This means that English homes are unusually old, small, and low quality. Less dense cities also have larger environmental impacts.

Overall, we estimate that these effects add up to *at least* £3 billion per year. It is plausible that the annual productivity hit is about 1% of GDP, representing a loss of about £20 billion per year. Though that's just a few hundred pounds per person, the effects are unevenly distributed and that figure does not account for lost agglomeration benefits, increased homelessness, reduced quality of life, or environmental impacts.



To help solve these problems, we recommend supporting **London YIMBY**. A small organisation founded to improve housing policy in England, London YIMBY has taken a novel approach that focuses on overcoming political economy challenges. This is important because political hurdles have stymied many past attempts at reform. If London YIMBY's policy proposals succeed, they could also be replicated in other areas and have widespread positive impact. Finally, for a small but growing organisation like London YIMBY, donations are likely to have a large counterfactual impact.



## Acknowledgements

We are grateful to the people who gave feedback on this report, especially Ian Mulheirn (Tony Blair Institute) and David Miles (Imperial College London). Thank you also to the many experts with whom we spoke during the research process.



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# 1 What is the problem?

## 1.1 State of the evidence for a housing crisis

We start by examining the strength of the evidence for a housing crisis in England. We focus on *rent*-to-income ratios as a measure of affordability rather than *price*-to-income ratios. The cost of housing is signalled by market rent or the ‘imputed’ rent on an owner-occupied house, comprising costs like maintenance and mortgage payments.<sup>4</sup> This is a better affordability metric than prices because the cost of housing services are what reduce net incomes and stop people from moving to certain areas or living in nicer homes. However, we do also briefly discuss house prices because understanding housing markets inevitably requires us to consider both prices and rents.

The degree to which housing is unaffordable and how this has changed over time are difficult to determine with certainty. Local housing markets function differently across the country, data on rents are limited, and housing affordability can be measured in several ways. After accounting for this uncertainty, we draw two key conclusions:

1. By the metric of median rent-to-income ratios, housing in London, and to a lesser extent the Greater South East, is currently unaffordable.
2. House prices have grown dramatically in real terms over the last few decades. It is less clear whether rents have similarly grown, and the trendline of affordability changes depending on which metric you choose to measure.

We first discuss the current level of housing costs before considering how they have changed over time.



1.1.1 Local rents and prices

Housing is much more expensive in some parts of England than in others. In 2014 rent as a proportion of total disposable income was more than twice as high in London as in the North East, despite salaries being much higher in London (figure 1).<sup>5</sup> For individuals, in 2016 the median rent-to-salary ratio was 27% for all of England, but ranged from 23% in the North East to 49% in London.<sup>6,7</sup> In fact, London has the sixth-highest rents in the world according to Deutsche Bank.<sup>8</sup> In a 2018 Ipsos Mori survey, 1000 respondents ranked housing affordability behind only Brexit and crime as the most important issue facing the city.<sup>9</sup>

Figure 1: Earnings vs rent, regions of England

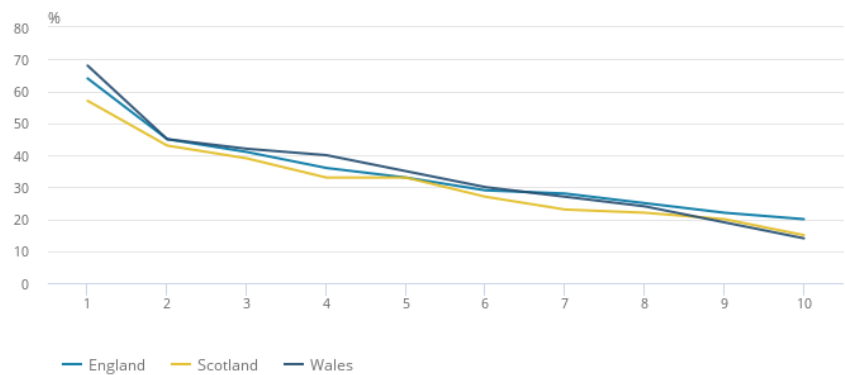


Source: “Economic Review: April 2016,” Wales

Affordability is worse for people with lower incomes. At the national level, for the lowest 10% of income earners, median housing costs comprise about 65% of median household income (figure 2).<sup>10</sup> In 2017, the *lowest quartile* rent in London was £1,175 (57% of earnings) and in the South East it was £695 (37% of earnings).<sup>11</sup> Note, though, that this does not account for social transfers such as Housing Benefit.



Figure 2: Median ratio of housing costs to net household income, by Family Resources Survey income decile (combined five years of data 2012 to 2016, countries of Great Britain)

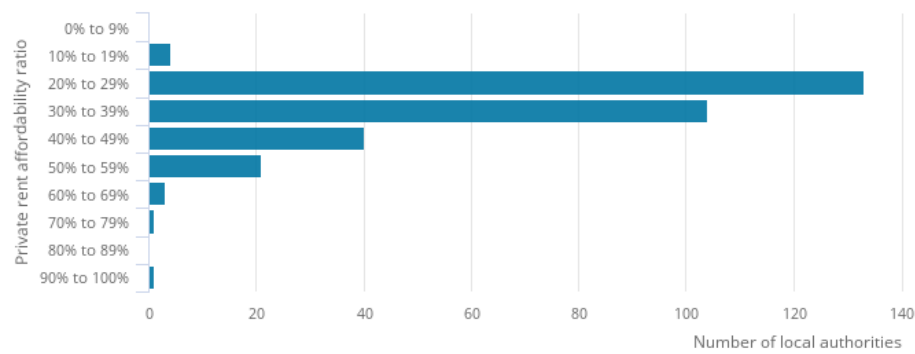


Source: “UK Private Rented Sector: 2018”, Christiansen and Lewis

Whether or not such levels of rents are affordable depends on how one defines affordability. Conventionally, the upper limit of affordability is set at a rent-to-income ratio of between .25 and .40.<sup>12</sup> By that metric, rents in London and, to a lesser extent, the Greater South East, seem clearly unaffordable. However, straightforward comparisons of rent and income are tricky and we have to be careful what variables we use. For example, there are more workers than households in the UK,<sup>13</sup> so simply comparing median earnings to median rents will slightly underestimate the affordability ratio. Data on rents are also more limited than data on prices, especially at the local level.<sup>14</sup> Where data are available, we lack panel data that clarify long-term trends. Overall, though, the available data do support the perception of a housing affordability crisis. In a majority of local authorities, the median monthly rent exceeds 30% of the median gross monthly salary (figure 3).



Figure 3: Median monthly rent as a percentage of median gross monthly salary, by local authority, England, 2016



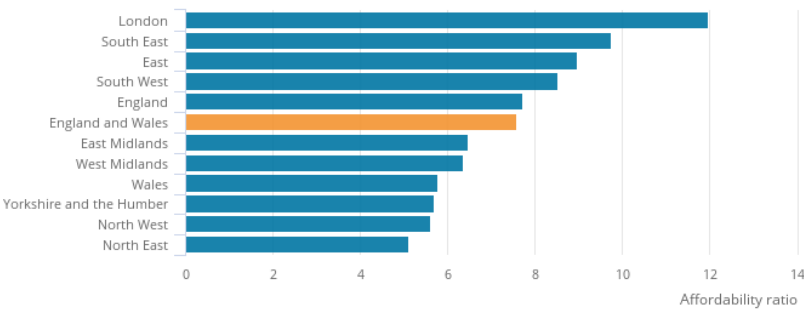
Source: "Housing Summary Measures Analysis: 2016," Henretty

Because the average household has about 1.2 wage earners, median rent will comprise a slightly lower percentage of the median *household* salary. However, this effect is not large enough to dramatically change our interpretation of figure 3. Moreover, note that figure 3 compares rent to gross salary; the ratio would be even larger were we to consider net salary after taxes and deductions. Unfortunately, the Office for National Statistics does not provide data that compare median household rent to median net household salary at the local authority level.

House prices display even more local variation than rents. While the rent-to-income ratio is about twice as high in London than in the North East, the corresponding *price*-to-income ratio is almost three times higher (figure 4).



Figure 4: Ratio of median price paid for residential property to median workplace-based gross annual earnings, by region and country, England and Wales, 2016



Source: "Housing Summary Measures Analysis: 2016," Henretty

Overall, both rent and house price data support the popular conception that London, and a few other parts of England, face serious housing affordability challenges. In the next section, we look into whether this has been getting worse over time.

1.1.2 Long-term trends

While data for house prices since the 1800s are available, data for historical rents are lacking. That makes it difficult to assess how housing affordability has changed over time. Changes in home ownership rates and public subsidies also mean we cannot just look at how average rent has changed over time. In this section, we review the available data on trends in housing affordability. House prices appear to have significantly diverged from housing costs over the past few decades. UK house prices have more than tripled since 1980 in real terms. While this does not change our interpretation of the current *level* of rent affordability, it does show that we cannot assume that all measures to reduce house prices will also reduce rents, and vice versa.

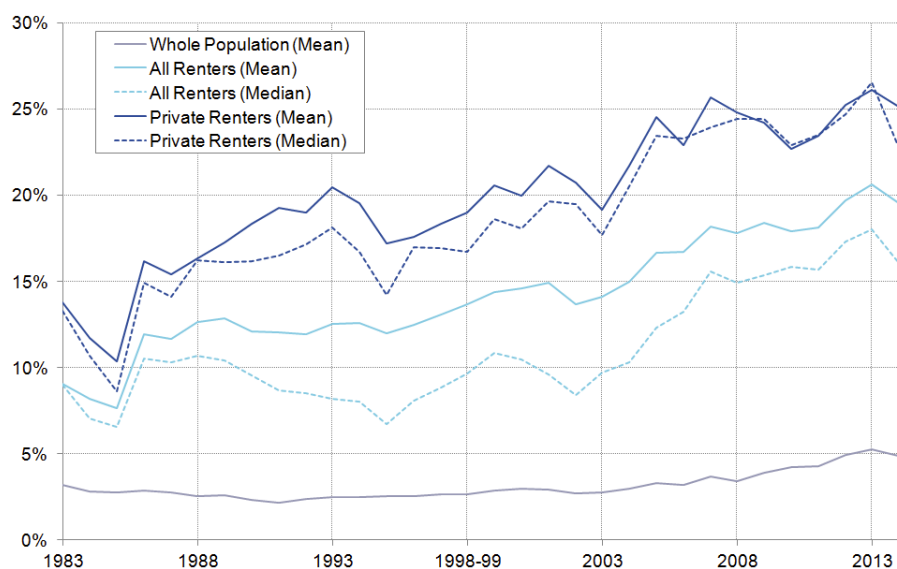
1.1.2.1. Compositional change and rents

Wales documents an upward trend since the 1980s for both mean and median rent-to-income ratios for renters. Figure 5 shows the fraction of total household disposable income accounted for by rental



charges on primary dwellings. On average, the proportion of a renting household's disposable income spent on rent has more than doubled since the early 1980s. For private renters, the average amount spent on rent is now close to 25%.<sup>15</sup>

Figure 5: Fraction of total disposable household income spent on rent

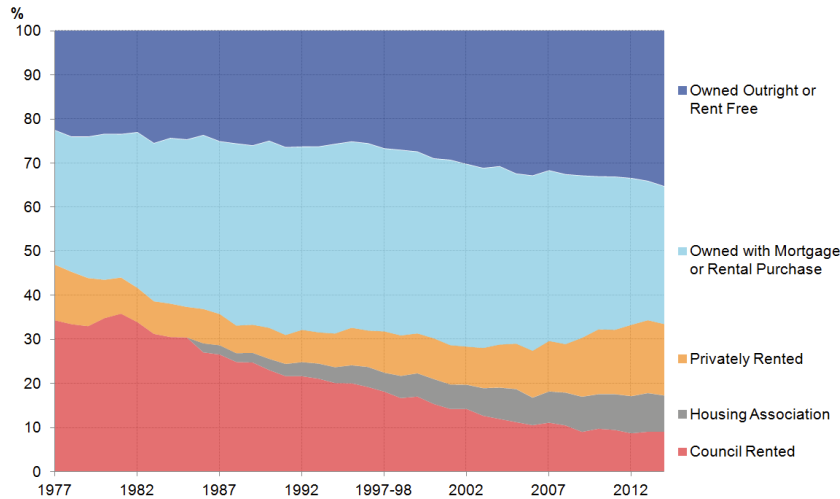


Source: "Economic Review: April 2016", Wales

However, compositional change means trends in rental affordability cannot be easily inferred from this graph. Compositional change refers to population-wide shifts in the proportion of people who own their homes, rent privately, or rent subsidized social housing. It can also refer to changes in the location or types of homes people are renting. Since 1980, the council rented-sector has declined while the proportion of homes rented privately or from Housing Associations has grown. Because council rents are heavily subsidized, this shift may have increased the average rent without increasing the rent of any given property.<sup>16</sup> Figure 6 shows that people were more than twice as likely to rent privately in 2014 as they were in 1987, though private rentals are still a small part of the total market. Home ownership also grew over the same period.



Figure 6: Proportion of population by tenure status, England, 1977 to 2014

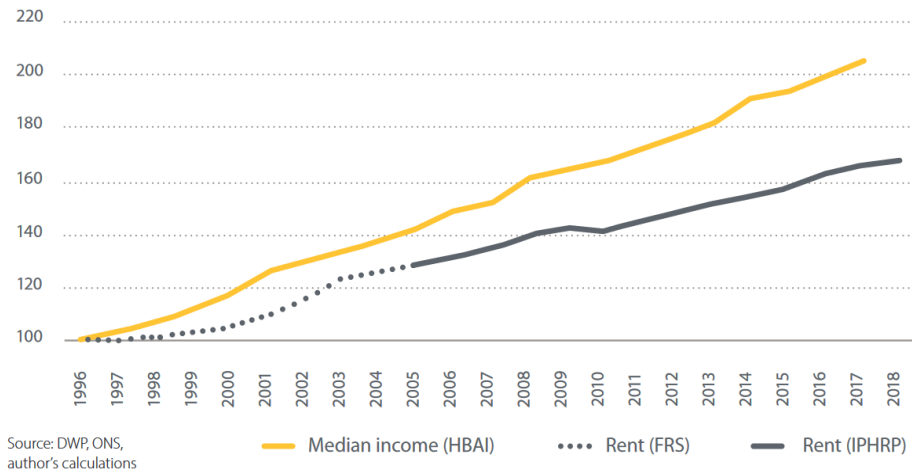


Source: "Economic Review: April 2016", Wales

A statistic published by the Office for National Statistics called the Index of Private Housing Rental Prices measures rent changes while accounting for compositional change. This index is calculated by tracking rent over the course of a year for each property in a large sample of privately-rented properties. That means it tracks rents on a "like-for-like basis." Data from the sample are then adjusted to reflect national compositional changes. This metric is useful, with two limitations: (1) it is not adjusted for inflation and (2) official data are only available for England from 2005 on. This index appears to show that median income growth has actually outstripped average rent growth in recent years (figure 7).<sup>17</sup> Rental costs grew by about 30% since 2005. Over the same period, median incomes grew by about 45%. The solid line in figure 7 is official data. The dotted line represents a proxy metric used by Ian Mulheirn in "Tackling the UK Housing Crisis", and should be treated somewhat cautiously.



Figure 7. Housing costs and household incomes, current prices, 2005-18



Source: "Tackling the UK Housing Crisis", Mulheirn

Note, though, that this does not contradict the story of a housing crisis. First, Wales's data document a long-term trend in rent growth but relative stability among private renters at ~25% of income since 2005, from which time we have official rental index data. Second, and more importantly, recent rent trends do not change the fact that the current level of rent is very high in certain parts of the country. It is possible that rents were already unaffordable in 2005 or 1996.

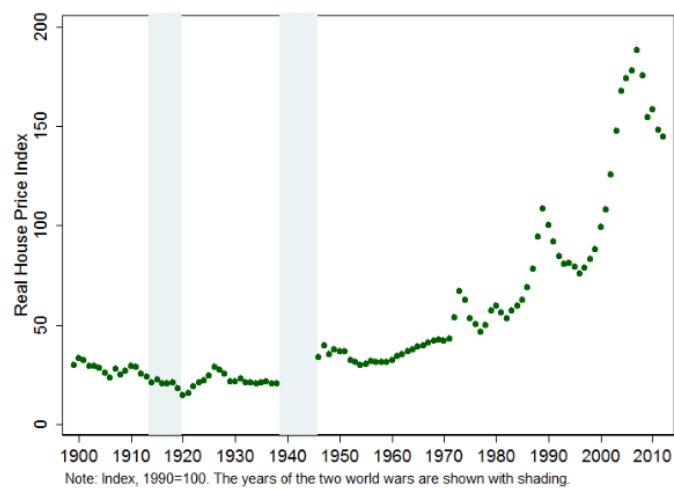
#### 1.1.2.2. House price growth

While rent data are difficult to interpret, real house prices have undoubtedly experienced dramatic growth. Figure 8 shows that UK house prices more than doubled between 1950 and 1980 and then doubled again between 1996 and 2006.<sup>18</sup>





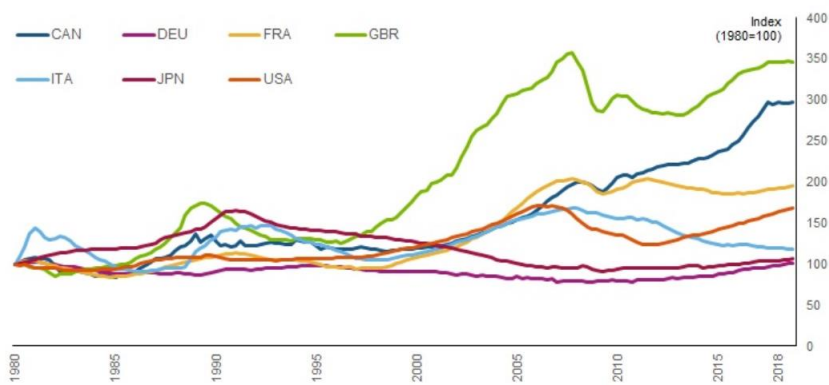
Figure 8: Real house price index for the UK, 1899-2012



Source: "No Price Like Home", Knoll et al.

Although house prices have also risen in comparable countries, growth in the UK seems to have been particularly severe (figure 9).<sup>19</sup>

Figure 9: Real house price growth in G7 countries, 1980-2018



Source: "UK House Prices and Three Decades of Decline in the Risk-free Real Interest Rate", Miles and Munro



While not offering a clear picture on long-term affordability trends, these data show how house prices and rents can move independently. That is why we focus on rent-to-income ratios as a measure of affordability rather than house prices, because price increases do not *necessarily* indicate worsening affordability. In the next section, we try to understand these trends by taking a closer look at how housing markets work.

## 1.2 How housing markets affect affordability

Why are rents so much higher in certain places, even after adjusting for incomes? And why have house prices risen so much in recent years? Evaluating proposals to improve housing affordability requires a good understanding of housing markets. This is challenging as there is a great deal of expert disagreement on these questions. In England, the debate has two main focal points. First, there is disagreement over how to measure housing affordability, and in particular when to look at rents and when to look at prices. Second, there is debate about whether high rents and prices result more from strong demand due to falling interest rates<sup>20</sup> or weak supply due to insufficient rates of homebuilding.<sup>21</sup>

One of the reasons this is complicated is that there are two distinguishable but related markets within the housing sector. First, there is a market for *housing services*, in which demand is driven by people looking for nice places to live. Second, there is a market for *housing assets*, in which demand is driven by investors who want to hold assets that are expected to appreciate and provide a return (in this case, a rental yield equivalent to the annual rent divided by the price of a house). These markets are linked because the level of market rent is set by the interaction of renters' demand for housing services and the supply of homes. Demand drivers like income or population growth can affect rents by increasing demand for housing. Supply shocks, like sudden changes in building costs or financial markets, can affect rents by increasing or decreasing the cost of providing housing assets.



In this section, we focus on rent-to-income ratios and discuss the influence of both demand- and supply-side factors. We note that rising incomes, population growth, and falling interest rates have all increased demand for housing. We then review evidence that suggests England's supply of housing is particularly *inelastic*: few new homes are built in response to growing demand, leading to higher prices and rents. Drawing on evidence from other countries and modelling exercises for England, we argue that a key cause of this inelastic supply is government policy, particularly the national planning system. A strong case can be made that about half of the house price growth in the 2000s was driven by falling interest rates. However, because interest rate changes shift demand for housing assets more than housing services, a better explanation for regional disparities in rent affordability is weak supply due to local regulatory strictness. We examine each of these factors in turn and conclude this section by summarizing how they interact.

### 1.2.1 Strong demand for housing

#### 1.2.1.1. Population and income growth

Population growth increases housing demand. Income growth does as well because as people earn more money they want to live in nicer places. The *income elasticity of housing demand* describes the strength of this effect. Most estimates of income elasticity find that it is about 1. That is, when someone's income grows by 1% they spend about 1% more on housing.<sup>22</sup> Income elasticity of demand in the UK may be slightly higher than average.<sup>23</sup>

The UK's median income has grown about 1.7% annually, adjusted for inflation.<sup>24</sup> Muellbauer shows that the growth of the UK's housing stock has not kept up. He suggests that this has inflated house prices, though does not consider the effect on rents. Rather than number of houses, he uses the total value of the housing stock (i.e. the total value of all dwellings in England minus the value of land) because this accounts for both new construction and quality improvements. If the average quality of the housing stock (considered broadly as newer, nicer, or better located homes) does not improve as



incomes rise, then people will end up spending more for the same housing services as they compete to live in the nicest places. In contrast, if the average quality of the stock improves, then everyone can end up better off. This is important because some data suggest that English homes are, on average, of lower quality than homes in comparable countries.<sup>25</sup>

Muellbauer models housing demand  $h$  as

$$\ln h = -\alpha \ln hp + \beta \ln y + z$$

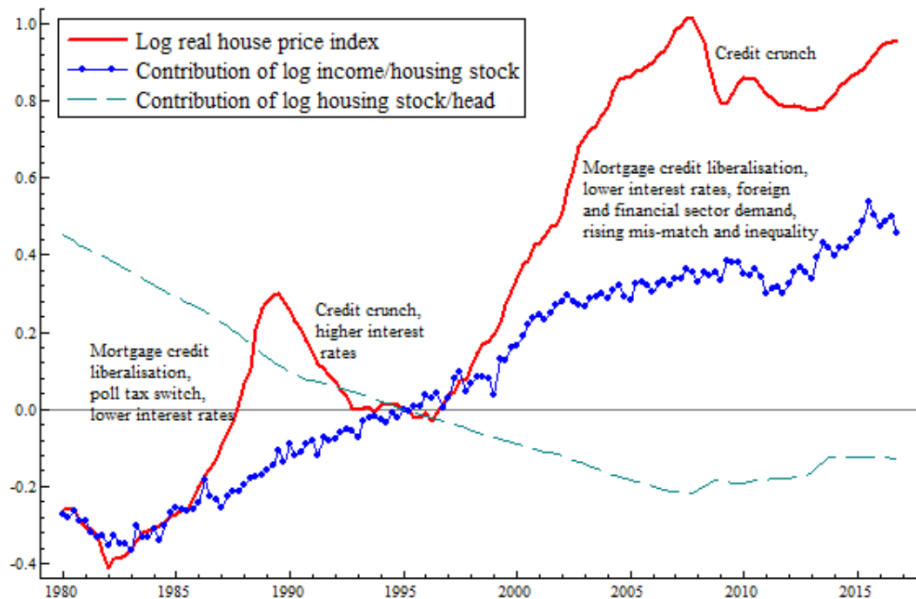
where  $hp$  is the real housing price,  $y$  is real income and  $z$  represents other demand shifters such as interest rates and expectations of future income growth. The *own-price elasticity of demand*, which measures how much demand falls as prices rise, is  $-\alpha$  and the income elasticity is  $\beta$ . Assuming, with empirical justification, that  $\beta \sim 1$ , he rearranges equation 1 to obtain the following expression for house prices:

$$\ln hp = (\ln y - \ln h + z)/\alpha$$

His findings are shown in figure 10. The red line is the log of the real house price index. The blue line measures income per house relative to the housing stock, while the green line measures housing stock per capita. The large gap between these two lines means that income growth has outpaced housing stock growth.<sup>26</sup>



Figure 10. Key drivers of UK real house prices



Source: "Housing, Debt and the Economy", Muellbauer

However, house prices have grown more than income and population growth alone would predict. The gap in price growth is accounted for by  $z$ , other demand shifters. The annotations on figure 10 indicate that changes in financial markets play an important role in explaining this gap.

#### 1.2.1.2. Changes in financial markets

Because houses are assets in addition to goods, housing demand is affected by international financial markets. The demand for houses from investors who are looking for assets depends in part on the return offered by competing assets, such as government bonds. Such factors also affect mortgage rates. When it is cheaper to borrow money, each homebuyer can afford to service a larger mortgage, so house prices increase.

Recent research by the Bank of England assesses the contribution of financial market conditions to house price growth between 1985 and 2018. The authors assume that, in equilibrium, housing costs



equal market rents. That is, at the margin, some people are indifferent between owning a house and renting because the costs are the same.<sup>27</sup> The costs of home ownership include the opportunity cost of capital (the money used to buy a house could instead be invested elsewhere), taxes, and maintenance, and are offset partially by expected capital gains.

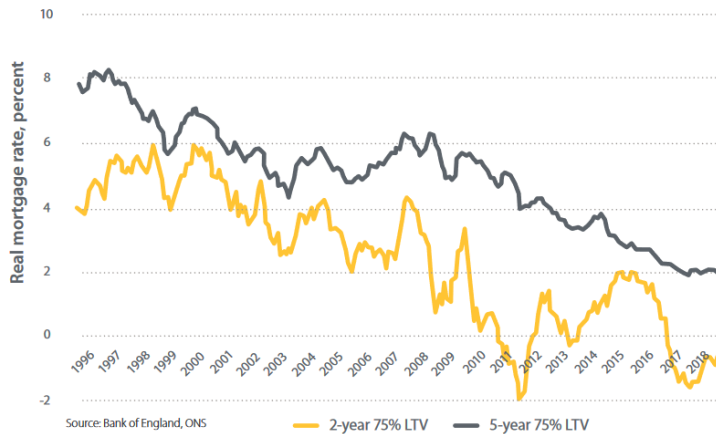
This implies:

$$\begin{aligned} \text{Rent} = & \text{house prices} \times (\text{risk-free rate} + \text{maintenance} + \text{ownership taxes} \\ & + \text{depreciation rate and risk premium on housing} - \text{expected capital gains}) \end{aligned}$$

When rates fall, as they have in England (figure 11), investors demand more housing relative to other assets and homebuyers borrow more because it is cheaper to service their mortgage.<sup>28</sup> However, while interest rate falls can increase demand for housing quite quickly, houses take time to build and supply cannot change in the short-term. This means that the only way for the market to clear is for prices to increase.



Figure 11: Inflation-adjusted mortgage rates, 1996-2018. LTV stands for loan-to-value, so this is measuring the interest rate on mortgages worth 75% of the price of property.



Source: "Tackling the UK Housing Crisis", Mulheirn

This has likely had a significant effect on house prices. Miles and Monro estimate that the falling risk-free rate alone increased house prices by 108%, while rising incomes increased prices by 80%.<sup>29</sup> Importantly, though, several other assumptions contribute to this estimate, including assumptions about the response of housebuilders. In the next section, we turn to these supply-side factors.

## 1.2.2 Inelastic housing supply

### 1.2.2.1. How supply elasticity affects housing costs

Multiple factors have contributed to increased demand for housing over the last few decades. But the effect of increased demand on housing costs and house prices depends on the reaction of housing supply. The *elasticity of supply* measures how much housing supply expands when prices increase. The lower this elasticity, the larger the effect of demand changes on prices.

Supply elasticity in the UK is notoriously low.<sup>30</sup> One estimate puts the UK's supply elasticity at 0.395 compared to an OECD average of 0.653.<sup>31</sup> Other estimates suggest an even lower elasticity, possibly close to 0.<sup>32</sup> In contrast, housing supply elasticity is 2.01 in the US, 0.528 in Australia, and 0.428 in



Germany, though in other countries such as the Netherlands (0.186) and Switzerland (0.146) supply is less elastic than in the UK.<sup>33</sup> Inelastic supply contributes to higher house prices because if more houses are not built when demand increases, homebuyers will compete for the existing homes and bid up prices. This will also raise rents because, in a competitive market, rental yields will stay relatively constant.

When interest rates fall and housing demand grows, prices must increase in the short-term because houses take time to be built. In the long-term, though, suppliers could react to higher prices by building more homes. This increased supply would partly counteract the short-term price increase. Yet because the elasticity of supply in the UK is so low, the long-term price increase is 90% as large as the short-term increase.<sup>34</sup> In a counterfactual model holding all else constant, but doubling the elasticity of supply, prices are estimated to be 9% lower in 2018.<sup>35</sup> This underestimates the total effect of inelastic supply because the model only considers price increases since 1985.

#### 1.2.2.2. The cause of inelastic supply in England

Supply elasticity is strongly influenced by government housing policy. Research in other jurisdictions has found that stricter regulations on development are correlated with higher house prices.<sup>36</sup> In the US, Raphael finds a strong correlation of  $r=.83$  between median rent-to-income ratio and state regulatory stringency index.<sup>37</sup>

In England, the national planning system regulates development, and there are several reasons to think that this system makes housing supply more inelastic.<sup>38</sup> Its key feature is that the authority to approve or reject development proposals rests with local authorities who have few incentives to approve development.<sup>39</sup> This makes supply more inelastic for several reasons:

- The system lacks consistent rules governing land-use permissions. Instead, all new developments or renovations are subject to political approval from local authorities on a case-





by-case basis.<sup>40</sup> The uncertainty inherent in this process raises average development costs because builders have to account for the chance that their project will be rejected.

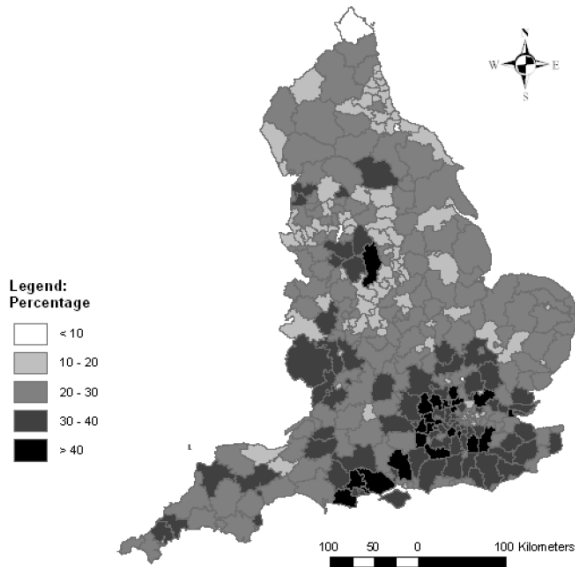
- In addition to this uncertainty, obtaining planning permission is a complicated and lengthy process.<sup>41</sup> Appendix A.4. shows how burdensome the planning process can be.
- Local authorities capture few of the benefits of development but absorb most of the negative externalities from construction and increased density.<sup>42</sup> NIMBY (“Not In My Back Yard”) activists also apply political pressure. Local residents dislike development because it disrupts their life and in-migration will increase pressure on local amenities. Since current residents have a vote in local politics that potential future residents lack, local politicians have few incentives to approve developments.<sup>43</sup>
- While increased development raises land values, local authorities capture few benefits, if any, though the council tax system.<sup>44</sup> This means financial incentives are also lacking.

Because planning permission is difficult to obtain, land that already has planning permission is far more valuable than land that lacks it. For example, receiving planning permission to convert agricultural land to residential use increases its value by almost 100 times.<sup>45</sup> In 2004, office space in Birmingham cost 44% more per square metre than it did in Manhattan.<sup>46</sup>

Hilber and Vermeulen estimate the aggregate effect of the planning system by comparing house prices and regulatory restrictiveness between 1974 and 2008. Figure 12 shows there is substantial geographic heterogeneity in planning restrictiveness, with more restrictions in London and the South East.



Figure 12: Average refusal rate of residential projects with more than 10 dwellings, 1979-2008



Source: "The Impact of Supply Constraints on House Prices in England", Hilber and Vermeulen

Their results suggest that if the average refusal rate for major residential projects<sup>47</sup> had been 16.7% instead of 25.4%, house prices, and by extension rents, would be 14% lower today.<sup>48</sup> If planning restrictions were fully relaxed they estimate prices and, holding all else constant, rents would be up to 40% lower today.

### 1.2.3 Complications

Because data are limited and rent and income statistics can be interpreted in multiple ways, the severity of the housing crisis has been intensely debated. Compositional change, household formation, inflation, and regional disparities all stymie straightforward analyses of housing costs. We discuss this further in the appendices.

In the preceding discussion we have focused on rents, and specifically rent-to-income ratios, as the measure of affordability wherever possible. However, data on prices are more readily available than data on rents. Where variables affect prices without changing the housing stock, as falling interest



rates do, then prices may move independently of rents. In other cases where prices are affected by changes in the growth of the housing stock - for example, by increased demand from rising income or supply restrictions from planning decisions - then prices and rents will be correlated. This is because, as shown by the Bank of England's model, the rent on a house is set in a competitive market for assets. If the price of a housing asset falls due to a supply increase, then the rent will decrease proportionally so the rental yield stays constant.

Because housing markets are complex and much of the evidence we present above was generated by modelling exercises rather than experimental studies, our views here are uncertain. Overall, though, it seems likely that restrictive planning has led to a lack of growth in the housing stock relative to rising incomes, and that this has put significant upward pressure on both prices and rents. In the next section, we examine the various ways in which this has lowered quality of life in England.

### 1.3 Effects on wellbeing

To estimate the welfare loss due to high housing costs, we focus on three main effects: lower productivity and incomes due to reduced labour mobility, increased homelessness, and more unequal wealth distribution. In section 1.3.4., we briefly discuss other plausible impacts, but do not quantify these in great detail.

#### 1.3.1 Lower productivity

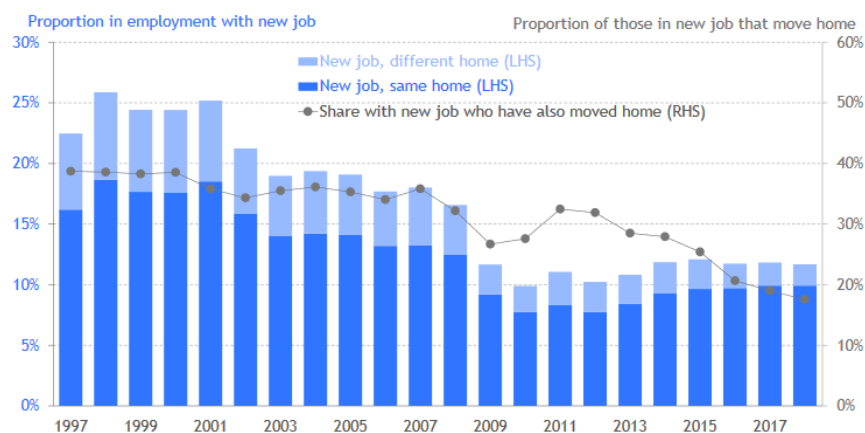
##### 1.3.1.1. The effect of housing costs on labour mobility

On average, labour productivity is higher in cities. However, in England housing costs are also higher in cities.<sup>49</sup> At the margin, this will discourage some people from moving to work in these highly-productive areas. At the individual level, the people who would have moved if housing costs weren't so high end up working where wages are lower but housing is more affordable. This leads to *spatial misallocation of labour*. In the UK, the Resolution Foundation has shown that young people aged 25-34



are only one-third as likely to have moved home and changed jobs in the last year as they were 20 years ago (figure 13).<sup>50</sup>

Figure 13: Proportion of 25-34 year olds renting privately in the UK who changed residence and jobs in the past year (two-year rolling averages).



Source: "Moving Matters", Judge

A small but growing literature suggests that the overall impact of spatial labour misallocation is very large. Hsieh and Moretti observe that low levels of housebuilding have depressed population growth in New York, San Francisco, and San Jose, cities where productivity and income are high.<sup>51</sup> They model the effects and estimate that reducing supply restrictions in these cities to the level of the *median* American city would increase the annual growth rate of aggregate output in their sample of 220 cities from 0.795% to 1.49% between 1964 and 2009. This would cause U.S. GDP to be 8.9% higher in 2009, adding \$1.28 trillion in economic output per year.<sup>52</sup>

We take this estimate as a theoretical upper bound because this growth acceleration requires enormous shifts in population distribution. For example, in the counterfactual scenario New York and San Francisco grow 10 times and 7 times more than they actually have. Still, even when imperfect labour mobility is introduced to the model - i.e. when it is assumed that moving is costly and people



don't always move to the best opportunity available - U.S. GDP is estimated to be 3.7% higher in 2009, a gain of \$540 billion annually.<sup>53</sup>

A recent working paper by Duranton and Puga supports Hsieh and Moretti's estimates.<sup>54</sup> Notably, their model incorporates more realistic assumptions about the costs of urbanization, but finds similarly large effects of foregone GDP growth due to restrictions on housing supply.<sup>55</sup> Duranton and Puga model the effects of setting planning restrictiveness in the three most productive U.S. cities to the level of the median U.S. city and find that the average real income would grow by 8.2%, or about \$5,000 per person.<sup>56</sup>

These estimates are highly uncertain and, like many modelling exercises, sensitive to assumptions. Nevertheless, we note that even if they are overestimated by an order of magnitude, the annual cost of high housing costs as a result of supply restrictions in the US is on the order of \$50 billion to \$100 billion annually, about 65% of which is foregone wages for workers.<sup>57</sup>

#### 1.3.1.2. Estimating the productivity effects in England

No similar exercise has been conducted for England. However, we think it is likely that the effects are even greater in relative terms. Even in expensive American cities like New York and San Francisco, housing supply is more elastic than in England.<sup>58</sup> If we assume sluggish housing supply has lowered English GDP by between 1% and 10%, the total cost is between £17.5b and £175 billion annually.<sup>59</sup> In per capita terms, that's between £260 and £2,650 per person and probably borne disproportionately by lower-income people.

We can roughly estimate the potential costs for England by estimating the amount of foregone construction. Because developers make decisions based on the price for which they can sell the home rather than the cost of the services it provides, we measure foregone construction using prices rather than rents. As an upper bound for the price inflation, we take Hilber and Vermeulen's estimate that



prices are up to 40% higher than they otherwise would be due to regulatory restrictions on housing supply.<sup>60</sup> As a lower bound, we take Miles and Monro's estimate that prices would be roughly 10% lower if supply elasticity was doubled.<sup>61</sup> The true figure likely lies in the middle. Hilber and Vermeulen's estimate assumes total relaxation of regulatory constraints, which is infeasible. However, Miles and Monro only measure the price increase since 1985, so almost certainly underestimate the total effect.

The elasticity of demand for housing with respect to price is about -0.4.<sup>62</sup> Therefore, Britons would probably consume 5% to 22% more housing services if prices were between 10% and 40% lower. Overall, we estimate that, if lower prices led to more construction, the value of the English housing stock would increase by about £100 billion to £400 billion above its current value of ~£6 trillion.<sup>63</sup>

We can use gross value added statistics to get a sense of the potential productivity gains. Moving to a city like London is associated with about a 20% boost to income<sup>64</sup> as the median income in London is £10,000 higher than the median income for the UK as a whole.<sup>65</sup> If supply restrictions were dramatically relaxed, 300,000 additional homes in London built over the next couple of decades is a reasonable goal.<sup>66</sup> If we assume each new house is occupied by an average of 1.2 workers, the total income gains would be around £3 billion to £4 billion. If similar effects occurred in other urban centres such as Oxford, Cambridge and Manchester, the annual gains could double to about £6 billion annually in lost wages alone. This is almost certainly an underestimate of the economic effect as it does not account for the capital share of the productivity boost or increasing agglomeration externalities.

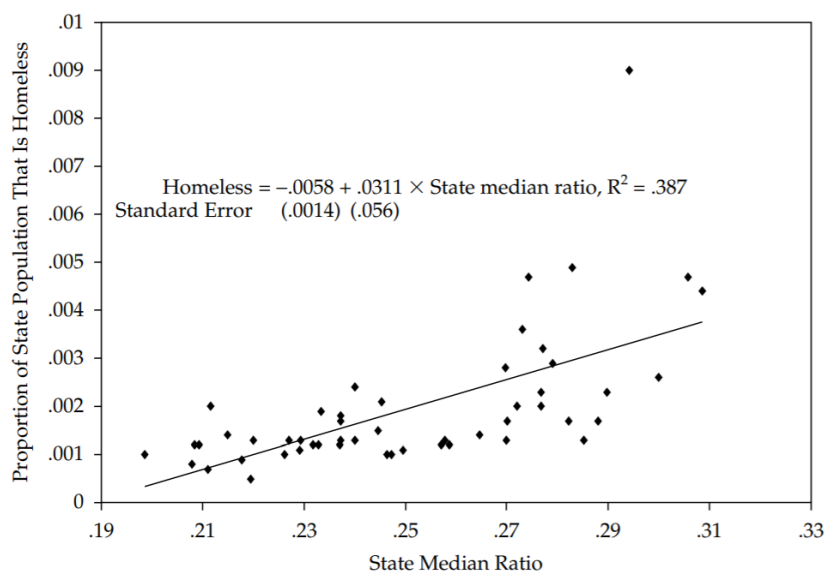
### 1.3.2 Increased prevalence of homelessness

High housing costs also likely increase the prevalence of homelessness.<sup>67</sup> Homelessness, of course, is a complex social problem driven by a range of social, economic, and health factors. However, there is evidence that people in regions with lower housing affordability are more likely to experience



homelessness. Raphael, for example, documents a reasonably strong correlation between homelessness incidence and rent-to-income ratios for US states (figure 14).

Figure 14: Proportion of state that is homeless on a single night vs state median rent-to-income ratio, 2007



Source: "Housing Market Regulation and Homelessness", Raphael

This does not prove that affordability has a causal effect on homelessness. States with nicer climates, for example, may attract higher demand for housing and larger populations of people experiencing homelessness. The causal relationship could also go the other way. Policymakers in regions with growing populations may introduce regulations on housing supply to try and control migration. However, after controlling for multiple covariates Raphael still finds that reducing housing costs by modestly reducing regulatory strictness could reduce homelessness at the national level by up to 22%.<sup>68</sup>

We have been unable to find similar research that explicitly links housing supply, affordability, and homelessness trends in England. Some information is found in a housing model developed by Bramley et al. for the Ministry of Housing, Communities and Local Government. Their results describe the



elasticity of several measures of homelessness to house prices and affordability ratios. They estimate that a 1% decrease in house prices would reduce homelessness by 0.18%<sup>69</sup> and that a 1% decrease in the price-to-income ratio would reduce the incidence of concealed households by .36%<sup>70</sup> and overcrowding by 0.51%.<sup>71</sup> These effects are very sensitive to assumptions, including the relative proportion of social and private housing that comprise the increased housing supply. Nevertheless, we take them as weak evidence in support of the hypothesis that a general increase in the supply of houses would reduce the incidence of homelessness in England. If we combine Bramley et al.'s figures with a potential 20% to 40% decrease in housing costs, homelessness may be reduced by ~3.6% to ~7.2%. These numbers roughly match Raphael's estimates for the USA. Excluding concealed households, this would imply that between 5,000 and 10,000 families, between 11,500 and 23,000 people, and between 180 and 370 rough-sleepers would find housing.<sup>72</sup>

### 1.3.3 Distributional effects

High housing costs have other distributional effects, especially for people with low incomes and young people. First, low-income renters spend a larger fraction of their earnings on housing. This means that increases in housing costs are more burdensome for people lower on the income distribution. Malpezzi and Green show that in the US, holding all else constant, moving from an area with few regulations on housing supply to an area with highly-regulated housing supply disproportionately increases the rents of low-income renters.<sup>73</sup> Raphael also documents adverse effects for low-income renters.<sup>74</sup> As previously discussed, this pattern is also evident in England.

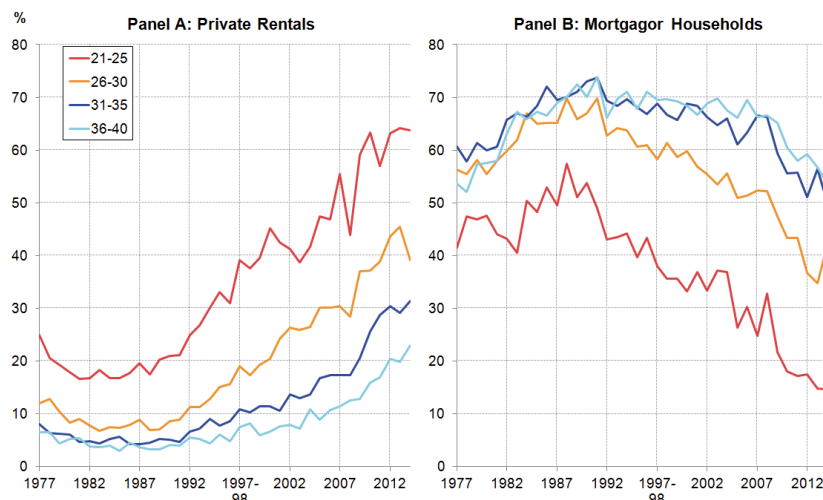
Second, in the UK older and more educated people are more likely to own homes (figure 15). Those with post-secondary education are 16 percentage points more likely to own a house, which is unusual for OECD countries.<sup>75</sup> The gap in home ownership rates between young and old people has also consistently widened as house prices have increased. Constantly increasing house prices transfer





wealth from renters, who tend to be younger, less educated, and poorer, to older, wealthier, and more educated people, and make it harder for people in the former group to move to the latter.

Figure 15: Tenure status by age group, 1977-2014



Source: "Economic Review: April 2016", Wales

Because obtaining planning permission is so valuable, relaxing regulatory restrictions may be a windfall to the owners of land which otherwise would not have gained planning permission. To the extent that house prices fall as more homes are built, people who are short housing, e.g. renters,<sup>76</sup> will benefit, while those who are long, e.g. landlords and homeowners, will lose out. Because homeowners are currently richer than average, we expect that this will make overall wealth distribution more equal.

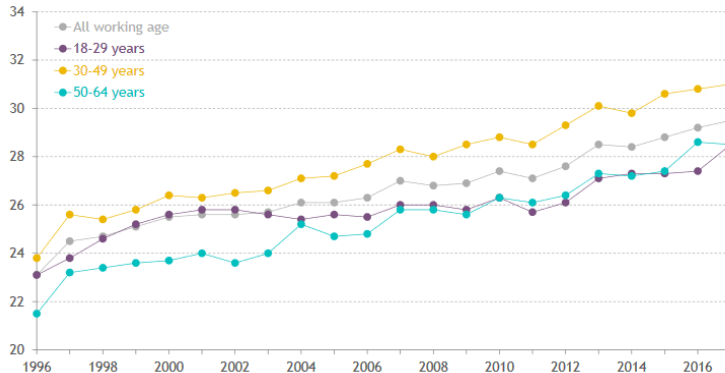
### 1.3.4 Quality of life and environmental benefits

It is plausible that increased housing supply could produce several other benefits.

Densification could lower commute times. A review paper finds that, among 15 large European countries, the U.K. has the third-longest average commute. Commute length has been increasing for all age categories (figure 16).<sup>77</sup>



Figure 16. Mean travel time from home to work in minutes, by age, England



Source: "Moving Matters", Judge

There is some debate in the literature regarding the effect of commute length on life satisfaction.<sup>78,79</sup> Nevertheless it seems likely that shorter commutes are a positive side-effect of increased homebuilding and densification. Because the effect is uncertain and seems likely to be less important than the productivity or homelessness effects, we do not incorporate this into our cost-effectiveness analysis.

Increased homebuilding rates would lower the average age and increase the average quality of English homes. Depressed rates of homebuilding also mean that the UK's housing stock is unusually old and poor quality. The proportion of buildings built before 1945 is higher in the UK than in any other EU country.<sup>80</sup> The UK is one of only three OECD countries in which maintenance of existing buildings accounts for more than 30% of total residential investment.<sup>81</sup> British homes are smaller on average, too.<sup>82</sup> Over the last two decades floor space per person has grown by only about 3%, whereas it appears to have increased by 18% in France and 28% in Japan.<sup>83</sup> In the mid-1990s, the UK had more floor space per person than both France and Japan; now it has less. In London, people are increasingly forced to share homes to make them affordable.<sup>84</sup>



In addition to reducing home energy use, increased building could have other environmental benefits if it leads to more densification. Urban expansion into rural areas could be slowed. Denser cities are also more walkable, more energy-efficient, and support more environmentally-friendly public transportation systems.<sup>85</sup>

## 2 What are the potential solutions?

### 2.1 Prioritizing interventions

Given the above evidence, we considered interventions that would increase the elasticity of housing supply so that more homes are built in response to growing demand for housing in England.

Muellbauer, for example, identifies a range of policy factors that explain the difference between the British housing market and the more affordable German market. He proposes a reform agenda for the UK in two main areas: (1) tax reform to encourage better land-use and (2) supply-side reforms to encourage the granting of more planning permissions, more release of public-sector land, more financial incentives to grant planning permission, and more social housebuilding.<sup>86</sup> We looked into three particular approaches mentioned in the literature and by experts with whom we spoke: advocating for improvements to the English planning system, directly subsidizing housing at below-market rates, and advocating for more social housing. Planning reform is our preferred approach as it seems most likely to be cost-effective, politically feasible, and impactful.

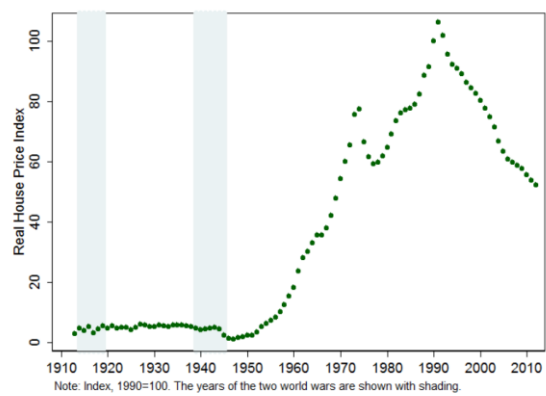
#### 2.1.1 Planning reform

A philanthropist could try to make private housing supply more responsive to changes in housing demand by supporting efforts to improve planning policy. The unusually low elasticity of U.K. housing supply suggests there is room for improvement. England's discretionary planning differs from the rules-based systems of the USA, Denmark, and Germany.<sup>87</sup> Breach suggests that relatively low average



rents in Tokyo are due in part to Japan’s simple zoning system, which allows for “by-right” development.<sup>88</sup> Muellbauer contrasts the UK and Germany, attributing the notable divergence in affordability over the last three decades to a variety of factors, especially restrictive planning.<sup>89</sup> Japan (figure 17) and Germany (figure 18) prove popular comparisons because their house prices notably diverge from the OECD trend.

Figure 17. Real house price index in Japan, 1913-2012



Source: "No Price Like Home", Knoll et al.

Figure 18. Real house price index in Germany, 1870-2012



Source: "No Price Like Home", Knoll et al.



Data on rents are more limited, but it's notable that no German cities rank in the top 20 of Deutsche Bank's list of the most expensive cities for rent.<sup>90</sup> Frankfurt is ranked 23rd, with an average rent 37% lower than London (ranked 6th). Tokyo is 10th, with rents 19% lower than London. These rankings do not account for local earnings, but these are roughly similar (Germany's GDP per capita is actually 15% higher than the UK's).

### 2.1.2 Directly subsidize or build below-market housing

Another approach would be to subsidize homebuilding or directly build homes at below-market rates. These approaches are similar in that they increase the number of homes built in equilibrium by shifting the amount of demand for or supply of housing. However, we did not look at these approaches in great detail because they seem unlikely to be cost-effective. To have a meaningful impact on average housing costs in England, hundreds of thousands or even millions more homes will need to be built. The total value of the English housing stock is about £6 trillion.<sup>91</sup> So if a philanthropist wanted to increase the housing stock by 1% and provide the additional homes at just 10% below market rates, the cost would be on the order of £6 billion. Less lavish subsidies are just not large enough to improve housing affordability on the scale required.

### 2.1.3 Advocate for more public housing subsidies

A philanthropist could also fund advocacy efforts to increase government housing subsidies. The government could increase their support for housing benefit or build more social housing for rent at below-market rates. Modelling presented in Bramley suggests that building more social housing reduces homelessness, though general supply increases better address regional disparities and overall affordability.<sup>92</sup>

We did not deeply investigate this approach because policies that depend on large increases in public spending currently seem politically infeasible.<sup>93</sup> The Conservative's 2019 election manifesto focused

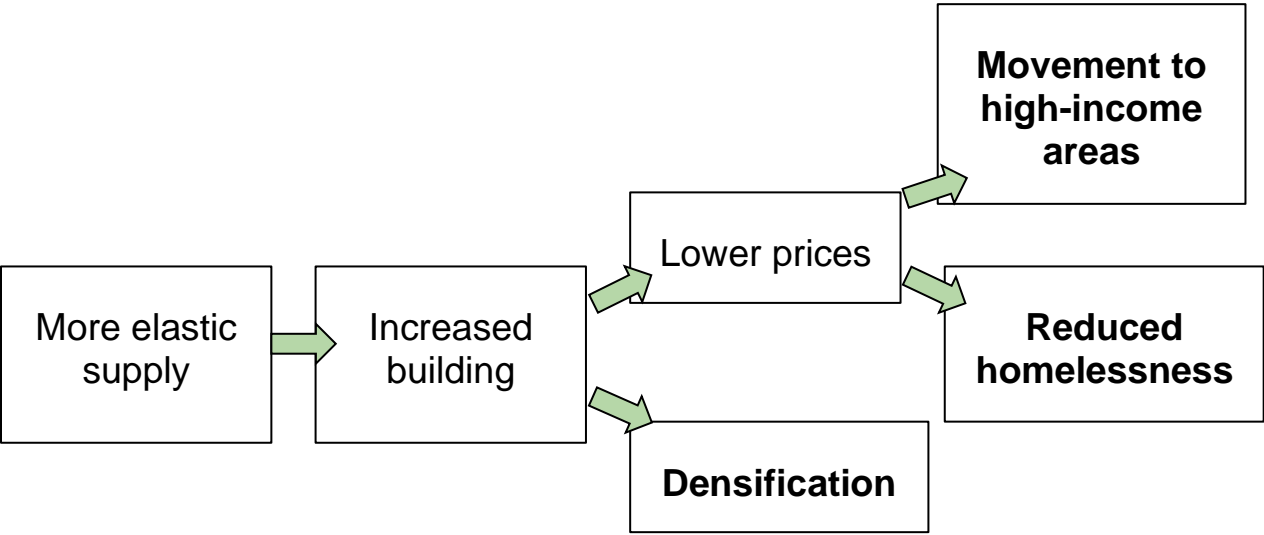


on private housing supply, mortgage reform, and support for renovations instead of increased social housing support.<sup>94</sup>

## 2.2 Benefits of solving the problem

We focused on finding opportunities to advocate for improvements to the English planning system. The aim of these improvements should be to reduce regulatory burdens, make housing supply more elastic, and increase the number of homes being built in areas where demand is high and regulation is currently strict, i.e. in London and the Greater South East (figure 19).

Figure 19: Theory of change for housing supply interventions



We used a [Guesstimate model](#) to estimate the expected effect of adding between 20,000 and 300,000 homes to London over the next 30 years.<sup>95</sup> We assume there are 1.2 wage earners per household, in line with the national average, and we assume that moving to London increases their productivity by between £5000 and £10,000.<sup>96</sup> Finally, we assume that increased homebuilding in London accounts for between 30% and 80% of the total benefits of planning reform. This estimate is highly uncertain. London accounts for just ~20% of England’s population,<sup>97</sup> ~25% of England’s GDP,<sup>98</sup>



and ~30% of the value of the country's stock.<sup>99</sup> Planning reform could also have significant benefits by increasing building in other productive areas like Oxford, Cambridge, and Manchester. Because London has the most unaffordable rents and the most restrictive regulation, we expect the value of reform to be disproportionately concentrated there, but it is plausible that more than half of the benefits could still flow from opening up access to urban centres in the rest of the country.

Overall this model estimates that, once the homes are built, the benefits of planning reform are about £3 billion per year in expectation. The total benefits over the next 30 years are about £67 billion. This seems likely to be an underestimate because the lower bound for the number of additional homes is very conservative, the model also does not account for increasing returns to urban agglomeration or other effects such as reduced homelessness or environmental impacts. The highest estimates of the benefits of planning reform extend up to £600 billion *per year*.<sup>100</sup>

We are most likely to be underestimating the amount of extra building that could occur. For example, Cheshire and Buyukileva estimate that if Green Belt permissions were slightly relaxed, up to two million new homes could be built nationally and up to 900,000 in London.<sup>101</sup> This is significantly higher than our estimate. It is also possible that we are underestimating the productivity gains and the effects in the rest of the country beyond London. Together these factors could depress our estimate by an order of magnitude. If instead, we simply assume that planning restrictions are roughly as severe in England as they are in the US<sup>102</sup> and that we solve just 10% of the problem, then the benefits would be on the order of 1% of GDP, or about £20 billion per year.

The magnitude of other benefits, especially reduced homelessness, depend on the change in housing costs resulting from the increased supply. We can roughly estimate the impact of increased supply on prices in London. While we care about housing costs rather than house prices, note that the Bank of



England model shows that, holding other demand-side factors constant, a decrease in house prices should lead to a proportional decrease in housing costs.

The consensus in the literature is that, all else equal, a 1% increase in the housing stock is expected to reduce house prices and rents by about 2%.<sup>103</sup> London currently has about 3.5 million households and is expected to grow to about 4.3 million households over the next 20 years.<sup>104</sup> If we could instantly add 200,000 homes in London, that would increase the stock by 6% and reduce prices and rents by 12%. If we add those houses over the next 20 years, the stock will grow by an additional 5% and prices and rents will be 10% lower. These figures are more conservative than other estimates: the Bank of England model predicts a price decrease of 9% with increased supply elasticity, but this underestimates the local effect because it is measured at the national level and only for the study period (1985-2018). Hilber and Vermeulen estimate that reducing the regulatory burden in the South East to the level of the North East would eventually reduce local prices by up to 25%.<sup>105</sup>

Overall, it seems reasonable to expect that increasing the supply of homes in London by an additional 200,000 units would reduce prices and rents by at least 10%. We would expect increased internal and external migration in response which would somewhat counteract the price decrease. However, this would not have a large effect on the total welfare gains because those moves will likely be from areas with lower incomes.

### 2.3 Uncertainties

While the potential benefits from an improved English planning system seem considerable, there are a few good reasons to be skeptical about advocating for policy change in this area. In particular, there are considerable political economy challenges to overcome, the benefits are uncertain and may take decades to manifest, and there may be costs to some people even if the net effects are positive.



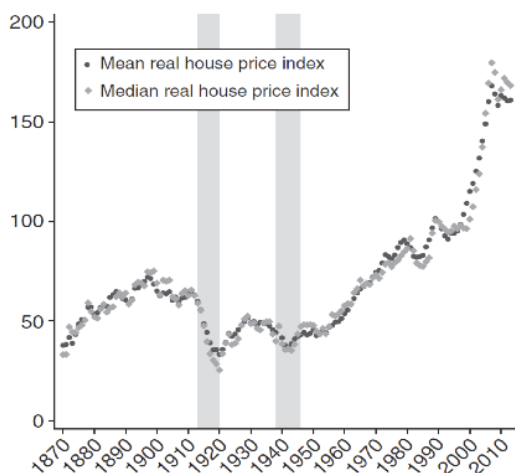


### 2.3.1 Political economy challenges

Criticisms of the planning system date back to at least the 1970s, and were a key result of the government-sponsored 2004 Barker Review of Housing Supply.<sup>106</sup> Yet house price-to-income ratios have continued to rise and rent affordability does not seem to have improved. This suggests that there are substantial political barriers to reform.

One concern is that strict regulations may be largely endogenous; that is, that regions which are growing quickly may enact more regulations to try and slow in-migration.<sup>107</sup> Deteriorating housing affordability is not a problem unique to the UK. Recall from the first section of this report that the UK is far from the only high-income country in which house prices have increased over the last few decades (figure 19).

Figure 19. Mean and median real house price growth, OECD countries



Source: "No Price Like Home", Knoll et al.

The endogeneity explanation would explain why multiple markets saw a similar pattern of extreme house price growth without a strong supply response in response. While it does not mean that increasing supply elasticity would be useless, it does mean that proposed reforms may face strong social and political opposition.



### 2.3.2 Skepticism about the effect of supply-side reforms

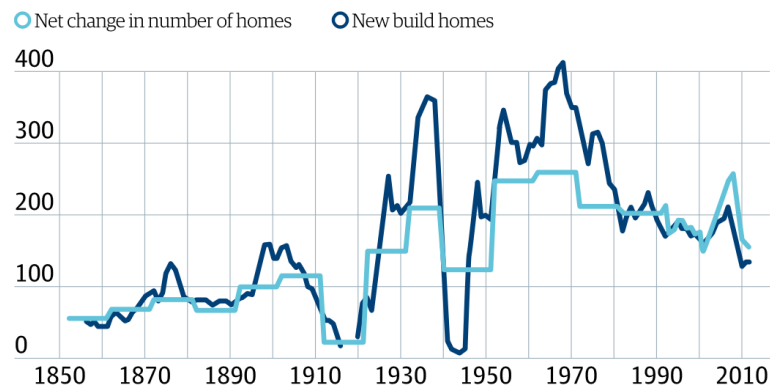
Some researchers are also skeptical that even substantially increased homebuilding would meaningfully reduce housing costs. The English housing stock comprises about 24 million homes<sup>108</sup> and between 100,000 and 200,000 new houses are already built per year.<sup>109</sup> An additional ~30,000 properties are added to the stock through 'change-of-use' (often office buildings converted to apartments) each year, although this is not sustainable because there are limits to the number of convertible buildings.<sup>110</sup> That means that the stock is only growing by about .5% to 1% per year. Recall that Miles and Monro estimated that if housing supply had been twice as elastic between 1985 and today, house prices in England would be 9% lower.

Similarly, were we to make supply more elastic today, prices would only be noticeably reduced over decades. Let us again assume a price elasticity of demand for housing between -1.1 and -2.2. England had about 24.2 million homes in 2018, so we can estimate how much supply we would need to add to lower prices significantly. These estimates are rough, since houses take some time to build and the other factors that affect demand and supply are dynamic over the construction period. A 10% price drop would require a 5% to 7% increase in stock, or 1.2 million to 1.7 million homes. Boosting the rate of net additions to the English housing stock to 300,000 per year would reduce prices by between 7% and 13% over 20 years.<sup>111</sup>

Historical homebuilding rates do indicate that such a level of homebuilding is possible. The country as a whole built more than 300,000 houses per year from about 1955 to the late 1970s, albeit with much of the difference between then and now accounted for by increased building by local authorities (figure 20).



Figure 20: Gross & net change in dwellings, England and Wales (thousands of homes)



Source: "The housing crisis in charts", Osborne and Allen

But measuring the price change at the national level obscures heterogeneous responses among local housing markets. We wouldn't expect prices to fall much in places where supply has been elastic in the past. However, we would expect prices to fall a lot in the places where inelastic supply has driven up house prices. That 10% fall, then, could involve more substantial price and rent decreases in certain areas. Because we expect prices to fall more in urban areas with larger agglomeration externalities and higher per capita productivity, the total economic boost could be substantial.

2.3.3 Potential downsides

Because the value of a plot of land is affected by the value of surrounding plots, land use markets are vulnerable to various market failures. Imagine you own piece of land in a desirable neighbourhood in London. You would expect that many people would like to live there, so the value of the land is quite high. But then imagine that your next-door neighbour decides to open an extremely noisy pub. Fewer people now want to live nearby, so your land becomes less valuable. In fact, the societal value created by the new pub could be more than counteracted by the loss of value to surrounding plots. Regulations are meant to solve these problems.



For that reason, we should also consider the potential downsides of changing regulatory systems. For example, the Green Belts which surround English cities like London reduce the amount of land available for housing and contribute to inelastic supply. However, Green Belts also may provide some public goods, such as ecosystem services like improved air quality or access to recreation. Wanton deregulation could destroy these positive externalities. Because private interests cannot profit fully from their provision, the market will undersupply them and there will be a net loss to society.<sup>112</sup>

The first thing to note here is that we do not have to choose between total top-down planning and complete deregulation. As discussed in section 2.1., most reform proposals instead advocate a shift from the discretionary planning system to a rules-based system with more certainty. Comparable countries, including Japan, Canada, and the U.S., employ such a system while preserving public goods. Some research also suggests that the net effect of planning restrictions is negative. Cheshire compares the benefits of planning to the costs in Reading, a highly-regulated city. The benefits are more accessible open space (e.g. parks) and controlled industrial development, while the costs are increased house prices due to land supply restrictions. He finds that the net costs of planning comprise up to 3.9% of annual household incomes.<sup>113</sup> This holds even when all the benefits of open space (e.g. parks) in the city are attributed to planning. Koster and Zabihidan find similarly that the net welfare effect of green belts is negative.<sup>114</sup>

Mulheirn suggests that while increased housing supply would reduce prices and rents and perhaps improve labour mobility, it would also draw resources away from more valuable investments<sup>115</sup> and create “millions of empty homes.”<sup>116</sup> We are less worried about this. A more elastic supply curve would lead to more homes being built, but the amount of new homes built in the new equilibrium would still be mediated by demand. That demand would be shaped by people wanting to move to certain areas to take advantage of local job markets or amenities, and investors looking to buy properties which



they can rent out. In both cases, housebuilding is stimulated by local demand for places to live (either directly or mediated by demand from landlords). If, on the other hand, the new supply was provided through government subsidized social housing, which is less responsive to market signals, then the empty homes argument may be more of a concern.

Overall, a shift from discretionary planning towards rules-based planning with more responsiveness to market signals seems to have limited downside. The question is whether the expected benefits are as large as the most optimistic reform advocates claim.

## 3 Recommended funding opportunities

### 3.1 Shortlist

We developed a shortlist of research and advocacy organisations with a track record of supporting evidence-based improvements to English planning. We looked for organisations on the internet and solicited suggestions from experts in the field. We then narrowed down the shortlist by eliminating those organisations which did not seem to be currently prioritizing housing affordability or planning policy or which were not currently soliciting donations. Appendix A.6 provides a full list of organisations we considered.

We asked five organisations to submit information about their past work and future plans related to housing affordability:

- Adam Smith Institute
- Center for Cities
- Center for Policy Studies



- Create Streets
- London YIMBY

### 3.2 Evaluation

To evaluate the organisations, we weighed four main factors:

- The extent to which the organisation focused on the effects of planning policy and housing supply elasticity as a core driver of housing unaffordability
- The extent to which the organisation addressed the political economy challenges of planning reform
- The extent to which the organisation demonstrated a deep understanding of the policymaking process and the potential to affect policy
- The extent to which additional funding seemed like it would meaningfully increase the organisation's efficiency and influence

For this report, we did not construct a full cost-effectiveness model for each organisation. Instead, we chose the organisation we felt had the strongest case for additional funding among those we evaluated. We do give a rough cost-effectiveness estimate of additional funding for this cause in section 3.3.2., but our credence in our recommendation relies much more heavily on the strength of the organisation and its room for more funding.

### 3.3 Recommendation

We recommend that donors interested in improving economic opportunity and housing affordability in England support **London YIMBY**. Though they are a new organisation without a substantial track



record, London YIMBY is advocating solutions that seem likely to meaningfully expand housing supply, especially in the cities where supply is most constrained. An unusually strong commitment to finding win-win solutions that can overcome political opposition to development distinguishes London YIMBY from other organisations we've investigated. We also believe that additional funding is likely to appreciably increase their organisational effectiveness.

### 3.3.1 Description of London YIMBY

#### 3.3.1.1. What do they do?

So far, London YIMBY has focused on researching homeowner preferences, building support among the public and advocacy groups for their policy ideas, and publishing reports. They also interact directly with policymakers to draw attention to their proposals and increase the chance that effective reforms are implemented.

London YIMBY is notable for a focus on overcoming the hurdles at which past reform attempts have faltered. Two factors are particularly important here. First, high house prices benefit current homeowners whose house represents much of their personal wealth.<sup>117</sup> Second, politicians are reluctant to implement policies which will meaningfully reduce prices because homeowners are a majority of voters. The benefits of these policies are often spread among the populace. The direct beneficiaries, i.e. the people who would buy or rent the new home, do not yet live in the area, so do not have political power in the current system.

London YIMBY seeks to overcome this challenge by designing and advocating for politically-feasible policies that will increase building without harming current homeowners.<sup>118</sup> This approach means they put a greater emphasis on stakeholder engagement. One example of this is the local surveying which London YIMBY has conducted to gauge support for their proposals in different neighbourhoods.



### 3.3.1.2. What policies do they advocate for?

London YIMBY broadly advocates for greater devolution of the authority to grant planning permission. Two reforms they have pushed have been particularly successful. First, the organisation plausibly caused, and at least contributed to, the extension of Neighbourhood Development Orders to include the ability to approve development on green belt land in the 2018 National Planning Policy Framework, though we haven't thoroughly assessed how much influence the organisation had in this case. Neighbourhood Development Orders allow local authorities to approve certain development proposals by referendum.<sup>119</sup> Prior to 2018, such orders were not used to approve green belt developments as the legality of this use was not clear. At the national level, 1.8% of green belt land is within 800 meters of public transit stations with easy access to city centres.<sup>120</sup> Policies that increase development on this land could increase the supply of homes without incurring significant environmental costs. London YIMBY agrees that Neighbourhood Development Orders are currently too limited to significantly increase development, but may be expanded in the future to have larger effects.

Second, the government's *Building Better, Building Beautiful Commission* included London YIMBY's "Better Streets" idea in their final report, published January 2020.<sup>121</sup> The Better Streets proposal, a.k.a. street-level zoning, lets individual streets decide to give themselves the right to extend or replace existing buildings and set their own design code. London YIMBY proposes that such changes would require a "double supermajority": two-thirds of those voting and two-thirds of those who have lived on the street for at least three years would have to approve the new permissions.<sup>122</sup>

Currently, the productivity benefits of increased development are diffused among the population. However the costs are concentrated on local residents and local councillors who stand to lose their jobs if their electorate is unhappy. London YIMBY's proposals aim to overcome this by increasing the benefits to local residents. Since planning permission is currently several times more valuable than the





land to which it is attached, residents can increase the value of their home by granting themselves more planning permissions. This is important because homeowners comprise a majority of the English electorate. Homeowners do not wish to see the value of their main asset fall, and so have opposed past attempts at reform that aim to reduce house prices without benefitting current homeowners.<sup>123</sup>

Admittedly, the level of support for these proposals among the population is not clear at the moment. London YIMBY's surveys indicate homeowners are generally in favour, but it is not clear whether the support reaches the high bar of a double supermajority.<sup>124</sup> So the feasibility and effects of London YIMBY's proposals are highly uncertain. We think that given the strong requirements proposed for allowing development, the downside risk is minimal. Because the effects of many large-scale policy reforms are inherently uncertain, testing new policy ideas also produces information gains.

### 3.3.1.3. Are they a strong organisation?

London YIMBY has a limited track record. This means that it is difficult to assess the impact of their work, and increases the risk of making a grant to them. However, there are several reasons to believe that funding London YIMBY is somewhat less risky than a typical seed funding-type grant:

- The experts we spoke to were generally positive about the organisation's work<sup>125</sup>
- The government has previously endorsed proposals supported by London YIMBY, though, we haven't deeply investigated the extent to which London YIMBY influenced these decisions
- London YIMBY's proposals have been supported by a range of important stakeholders, such as Create Streets<sup>126</sup> and economist Tyler Cowen.<sup>127</sup>

We do not place as much weight on the above factors as we would on an established track record of impact. Influencing policy is a highly complex process and there is a risk that London YIMBY will not be able to achieve its goals. We consider London YIMBY a higher-risk funding opportunity than some



of our other recommended charities. Plus, while we are positive about some of London YIMBY's ideas, others seem less likely to have a big impact. More recently they have suggested a greater need for "experimentation" by housing policymakers, possibly supported by randomized controlled trials. Given the difficulty of designing, implementing, and assessing the results of experiments in the housing market, we don't see this as a very promising approach.<sup>128</sup> This proposal lowered our confidence in the effectiveness of London YIMBY's overall approach.

Past experience shows that implementing impactful land-use policy reforms in England is likely to be very difficult. We think that new, promising approaches have merit. However such approaches also come with significant risks that donors should be aware of.

#### 3.3.1.4. What will they do with additional funding?

London YIMBY has not previously fundraised from external parties. With additional funding London YIMBY plans to publish additional research reports with established research partners. With sufficient funding London YIMBY would also hire support staff to assist with the organisation's research and operations. At the moment, almost all of London YIMBY's work is done by the organisation's founder, John Myers. This means that even a small increase in the organisation's capacity could substantially increase their output (we estimate a 1-20% increase in effectiveness, depending on the amount of funding they receive). This opportunity for funding to have a large counterfactual impact on the organisation's output was a strong point in favour of London YIMBY in our evaluation process.

We think that London YIMBY could productively use around £50,000 per year to cover publication costs and hire research help. If that funding gap is filled, we will revisit this report and make further recommendations.



#### 3.3.1.5. Why did we choose to recommend them?

We are also positive about the land-use policy reform work of the **Center for Cities** and the **Center for Policy Studies**. However, at this time we think donations to London YIMBY have a larger counterfactual impact due to London YIMBY's focus on solving political economy problems and currently small budget. If London YIMBY's funding gap closes, we may revisit this report and expand our recommendation.

Researchers and advocates have no shortage of proposals for how to improve housing supply and reduce housing costs, both in England and in other countries like Canada, the US, and the Netherlands. Yet overcoming political opposition to implementing these reforms has proven to be extremely difficult. See [Wikipedia](#), for example, on the recent failure of California SB-50, a bill that proposed rezoning land close to transit hubs for denser development. We think there is additional value in trialling a new approach such as London YIMBY's. If Better Streets, Better Blocks, or similar policies prove successful in England, they may be copied in other markets where housing costs are high and new building rates are low. Policy proposals that appeal to broad coalitions and overcome political economy challenges are needed in many places, not least [California](#), [Canada](#), and the [Netherlands](#). Increasing the chance that housing policy is improved in these productive jurisdictions could significantly increase the value of a grant to London YIMBY.

#### 3.3.2 Back-of-the-envelope cost effectiveness calculation

Because the potential benefits of reform are so large (on the order of .1% to 1% of GDP), a grant to London YIMBY seems likely to be highly cost-effective. Our [Guesstimate model](#) suggests that even if London YIMBY's work only makes policy change ~1% more likely to happen, and a £50,000 grant to London YIMBY increases the organisation's output by between 1% and 20%, the expected benefits of the grant are about 1000 times greater than the costs. While these assumptions are conservative, the



cost-benefit ratio is sensitive. For example, if the grant has a lower effect on the organisation's effectiveness, or is more expensive than expected, the cost-benefit ratio can fall by more than half. Due to this uncertainty, the confidence interval for the cost-benefit ratio spans four orders of magnitude (30 to 10,000). That makes this a high-risk, high-reward opportunity.

For donors who are particularly interested in helping people in the UK, donating to London YIMBY is one of the best opportunities we have found.

### 3.3.3 Comparison to other funding opportunities

We strive to maximize the positive impact of philanthropic actions. In practice, this means encouraging donors who wish to help people currently alive to focus on opportunities in low-income countries. There are three main reasons this is generally a good idea. First, poverty rates and disease burdens are much more severe in low-income countries than in high-income countries. Second, charitable causes in low-income countries receive much less funding than causes in high-income countries.<sup>129</sup> Third, the wellbeing returns to income are closer to logarithmic than linear. This means that the lower someone's current income is, the more additional resources improve their welfare.

This premise is well-supported by data.<sup>130</sup> It is also intuitive. Receiving £1 would have no meaningful impact on the life of the average English person. However, that £1 could be transferred to a person in need in a low-income country for whom it can mean the difference between hunger and nourishment. Beneficiaries of GiveDirectly, a Founders Pledge-recommended charity that unconditionally transfers money to impoverished people in low-income countries, typically have daily household incomes of just a few pounds.<sup>131</sup>

That does not mean that we should *never* fund opportunities in high income countries. However, it does mean that the bar for funding such opportunities is *very* high. Because the average consumption of people in high-income countries is up to 100 times higher than the typical GiveDirectly recipient,



and some charities are even more effective at improving wellbeing than GiveDirectly, we want funding opportunities in high-income countries to offer a 1000-to-1 return on investment.<sup>132</sup>

Our [Guesstimate model](#) suggests that advocacy for planning reform in England likely surpasses this bar. However, this estimate is highly uncertain and sensitive to assumptions. While we expect donations in this space to be highly cost-effective, the strength of the evidence here is much weaker than for highly-vetted, robust funding opportunities like distributing anti-malarial bed nets. Nevertheless we see London YIMBY as a high impact funding opportunity on about the same level as GiveDirectly. Because such opportunities are rare in high income, this is likely one of the very best opportunities we will find in this space.



## 4 Appendices

### 4.1 Are foreign buyers responsible for high house prices in London?

Mulheirn posits that international investors have a unique preference for ‘global cities’ and that this extra demand partly explains why prices in London are higher than elsewhere in the country. He cites a working paper from the International Monetary Fund that shows changes in London house prices are correlated with changes in prices in cities such as Sydney and Stockholm.<sup>133</sup> However London is not the only outlier in house prices. Prices are also abnormally high throughout the South East, and within other regions of the country they tend to be higher in cities than in other places (e.g. Cardiff). Analysis from the Mayor of London’s office also finds foreign buyers have not had a major effect.<sup>134</sup>



Figure 21. House price growth 2009-2017



Source: "Supply Is the Cause of the Housing Crisis", Swinney

Mulheirn also suggests that depreciation rates are lower for London properties.<sup>135</sup> This seems plausible but does not seem like a strong enough factor to explain the degree to which regional prices have diverged.



## 4.2 Has rent affordability worsened?

Office for National Statistics data appear to show that the proportion of private renters' income spent on rent has increased. However, Mulheirn argues that, at least since 1996, the median income has grown faster than rents. This apparent discrepancy arises from the different measures these two analyses employ. The Index of Private Housing Rental Prices, used by Mulheirn, measures the average change in rent for a *given* property. This means that rent on each property went up 30% over this period.<sup>136</sup> In other words, renters are paying more for the same properties. As incomes rise, people spend more on housing. But that extra spending should get them a *better home*.

The value of a house is a function of its location and its structure. Nicer homes have higher costs (maintenance, taxes, mortgage, opportunity cost of capital), but these costs should not change as incomes rise. However, location costs may grow with incomes because the number of good locations is limited. So, the Index of Private Housing Rental Prices's expected growth depends on how much of a home's value is in its structure and how much is in its location.

Comparing the Index of Private Housing Rental Prices to the private rental market statistics, which measure median rent for a sample of ~500,000 rental properties in England, can help us disentangle this geographical effect. Between the beginning of 2013 and the end of 2019, "the average annual growth rate of the private rental market statistics is 2.8%, compared with an average annual growth rate in the Index of Private Housing Rental Prices of 1.8%."<sup>137</sup> That is, the average rent has grown faster than the rent of any given property. Half of this difference is due to geography (people moving to expensive areas) and a quarter is due to the increasing number of bedrooms in each property. This suggests that, over a limited period of six years, only about 0.75 percentage points of a total rent increase of 2.8% is due to people moving to larger and better-located houses.





For methodological reasons the Office for National Statistics advises users not to use the private rental market statistics as time series data, so we shouldn't rely solely on the above comparison as an explanation.<sup>138</sup> That makes it more difficult to construct a reliable picture of rent affordability. But we can say that the Index of Private Housing Rental Prices rising more slowly than median household incomes doesn't necessarily mean that housing is becoming more affordable.

### 4.3 Has household formation been constrained?

Household formation is endogenous to affordability. Rising housing costs will lead some families or single people who would have otherwise lived alone to instead share with others. If affordability is constraining household formation, then we would see household incomes rising faster than family unit incomes because households are larger than they otherwise would be. While there has undoubtedly been a spike in the number of concealed households, it appears that it's largely been driven by an increase in the number of migrant concealed households. However, it is not clear whether migrants choose to share more than native-born households for economic or cultural reasons.

Mulheirn argues that data on growth in the number of households and net additions to the housing stock appear to dispute the narrative of a housing shortage. Between 1996 and 2018, the number of households grew by 147,000 per year on average, while there were 168,000 net additions to the housing stock per year. A household is defined by the Office for National Statistics as "one person living alone, or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room, sitting room or dining area. A household can consist of a single family, more than one family or no families in the case of a group of unrelated people". Net additions to the housing stock are calculated by adding up new builds, conversions, and changes of use and subtracting demolitions. So, it seems that more houses were built over this period than



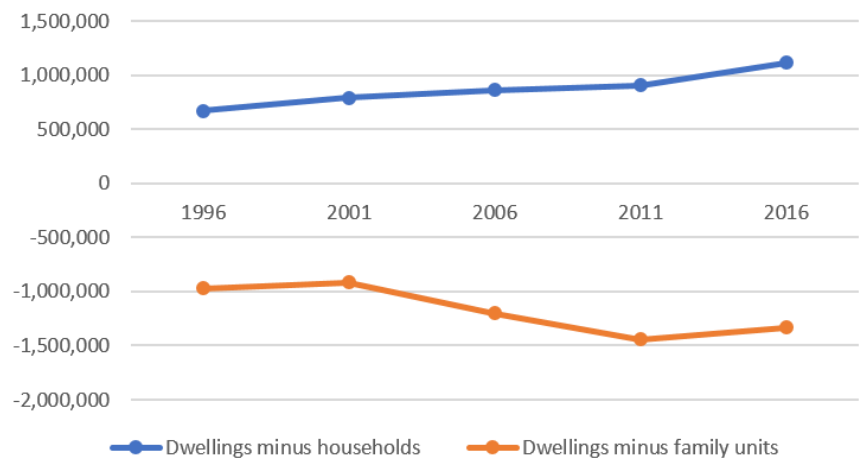
groups or families formed to fill them. Mulheirn shows that even in regions like London and the South East, the gap between the number of households and housing stock grew in the last 20 years.

However, affordability constraints can reduce the formation of new households. A family unit is defined as “either a single person; a married or cohabiting couple; a married or cohabiting couple and their never-married children who have no children of their own living with them; or a lone parent with such children”.<sup>139</sup> Multiple family units living together count as one household. If housing is expensive because few new homes are being built, then some families at the margin will choose to share homes instead of living separately. The data will show that housing stock and household formation are matched, but in a counterfactual scenario without supply constraints both would have grown more. These would-be households are called concealed households.

There is some evidence that the number of concealed households has grown. For example, the proportion of young people aged 20 to 34 living at home grew from 2.7 million, or one in five, in 1996 to 3.4 million, or one in four, in 2017. Because 1996 was actually a local maximum, Gleeson estimates that there was an increase of a million, or about 40%, between 2002 and 2017.<sup>140</sup> Growth of household numbers is also compared to growth of family unit numbers. The number of concealed households grew from 1.64 million to 2.45 million between 1996 and 2016. While the number of homes added to the housing stock outstripped the number of households formed, it fell short of the number of new family units.



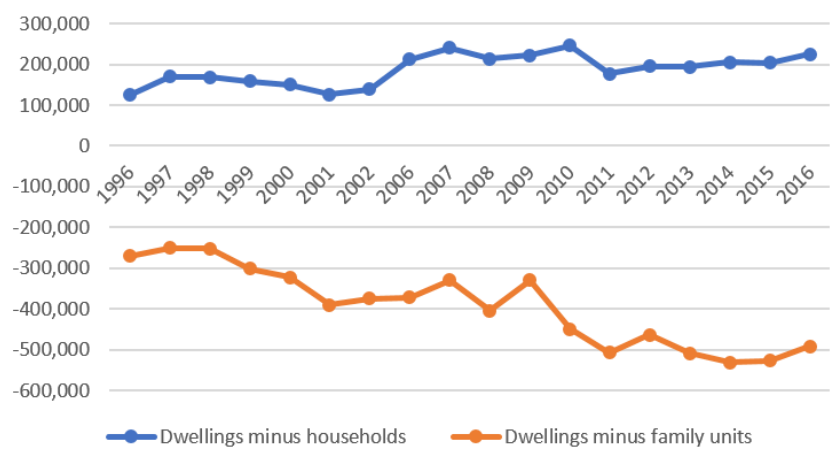
Figure 22: Difference between number of homes built and numbers of additional households and family units in England, 1996-2016



Source: "Yes, There Is a Housing Shortage", Gleeson

This shortfall was even worse in London.

Figure 23. Difference between number of homes built and numbers of additional households and family units in London, 1996-2016

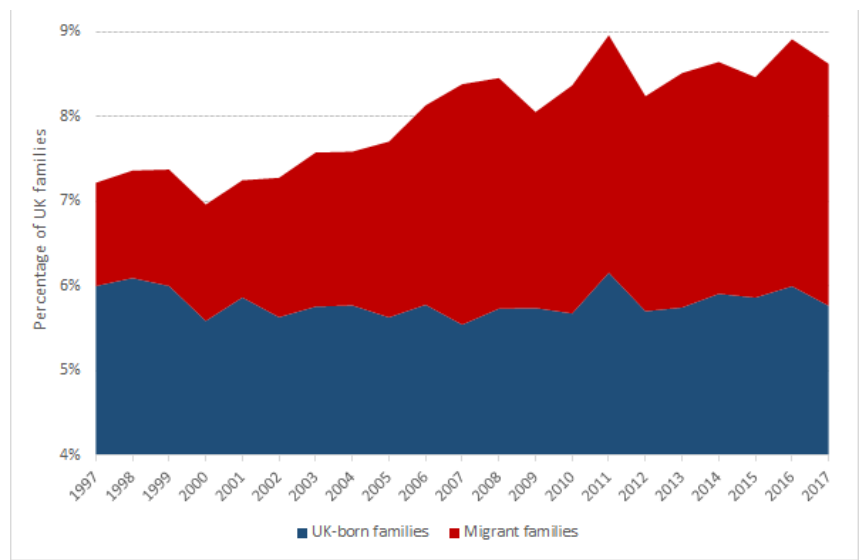


Source: "Yes, There Is a Housing Shortage", Gleeson



Mulheirn notes that this picture is complicated by higher levels of immigration to the UK. He uses Labour Force Survey data to estimate that immigrant families are roughly twice as likely as UK-born households to share a household.<sup>141</sup>

Figure 24. Concealed households by migration status as percentage of all UK families



Source: "Concealed Households", Mulheirn

This raises a few more questions. First, it appears that the number of UK-born concealed households has been steady at 6% of the population. However, due to increased immigration, the number of UK-born families as a proportion of the total number of families in the UK has been declining. Depending on how significant this decline is, it's possible that concealed families have become a greater proportion of the total number of UK-born families. However, the number of concealed migrant families looks like it has about doubled. If the total number of migrant families doubles, then the effect on the composition of the population could be quite large.

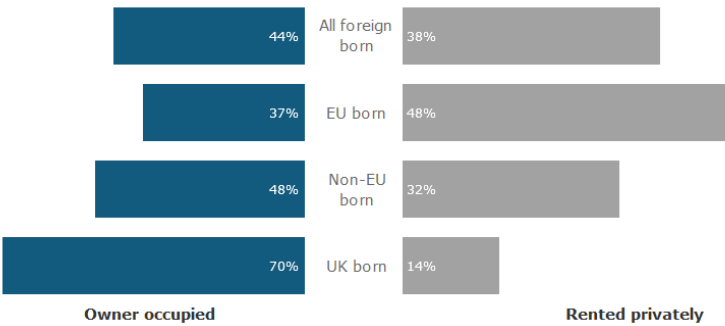
Second, given that median incomes have been rising, we should not expect the number of UK-born concealed households to remain steady. We should expect it to decline as society gets wealthier and fewer people have to share a home.



Third, Mulheirn implies that the reason migrant families are more likely to share a household is cultural or sociological. However, the reason could easily still be economic. Migrants typically earn about the same or even slightly higher incomes than UK-born people. However, there are a few other housing factors that disproportionately affect them:

Migrants are much more likely than UK-born people to be renters rather than owners (figure 25).<sup>142</sup>

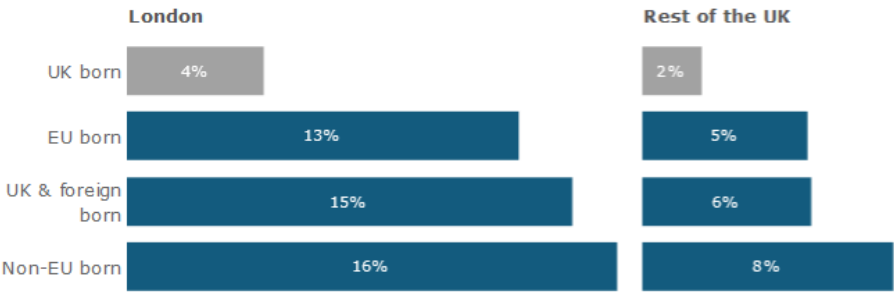
Figure 25. Tenure status by migration status, UK, 2018



Source: "Migrants and Housing in the UK", Vargas-Silva and Fernández-Reino

Migrants are also significantly more likely to live in ‘overcrowded’ conditions, defined as a home where, basically, there are fewer bedrooms than there are people living in the house. Migrants born outside the EU are 4x more likely than UK born people to live in an overcrowded home (figure 26).<sup>143</sup>

Figure 26. Overcrowding rate by migration status, UK, 2016-2018



Source: "Migrants and Housing in the UK", Vargas-Silva and Fernández-Reino

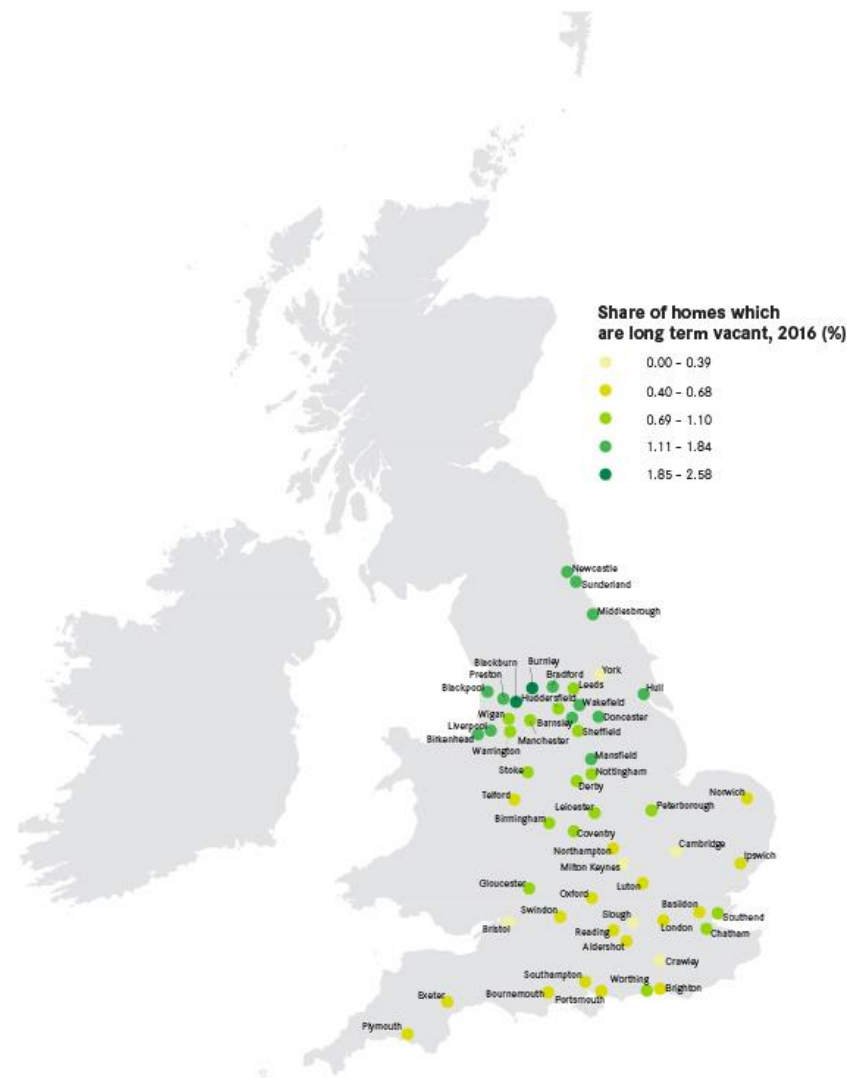


Would migrants choose to live in overcrowded homes for cultural or sociological reasons? These data instead suggest that they face affordability problems.

Cities with higher prices also tend to have low vacancy rates (figure 27). That is, if there is an oversupply of houses built relative to households formed, it does not seem to show up as an increase in empty homes at the local level.<sup>144</sup>



Figure 27. Long-term vacancy rate, 2016



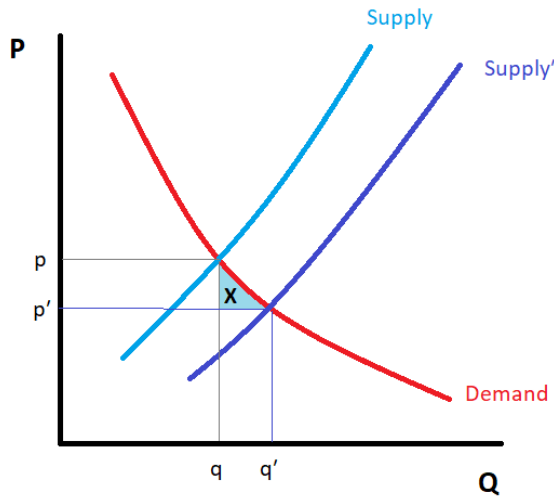
Source: " Supply Is the Cause of the Housing Crisis", Swinney

4.4 Illustration of foregone construction

Author’s calculations.



Figure 28: Effect of increased supply on foregone construction



Here, the reduced regulatory burden is expressed as a rightward shift in the supply curve to Supply'. In a competitive market, reduced regulatory costs for suppliers will be translated into lower prices ( $p'$ ).

We calculate deadweight loss using a method employed by The Open Philanthropy Project [here](#). We use real estate data from Savills to estimate that the current English housing stock ( $q$ ) is worth about £6 trillion. To aid calculation, we define the current housing stock as one unit, i.e.  $q=1$ . We assume values for  $p'$  as a proportion of  $p$  using estimates from the literature, taking Miles and Monro as a lower bound and Hilber and Vermeulen as an upper bound.

First, we estimate  $q'$ .

$$\text{Lower bound} = (\text{price ratio})^{(\text{demand elasticity})} = (.9)^{(-.4)} = 1.04$$

$$\text{Upper bound} = (\text{price ratio})^{(\text{demand elasticity})} = (.6)^{(-.4)} = 1.22$$

Then, we calculate deadweight loss ( $X$ ) in each of these counterfactual scenarios.





(Lower) deadweight loss = (value of regulatory tax) \* (increased demand) / 2 = £6 trillion \* (.9) \* (.04) / 2 = £96 b

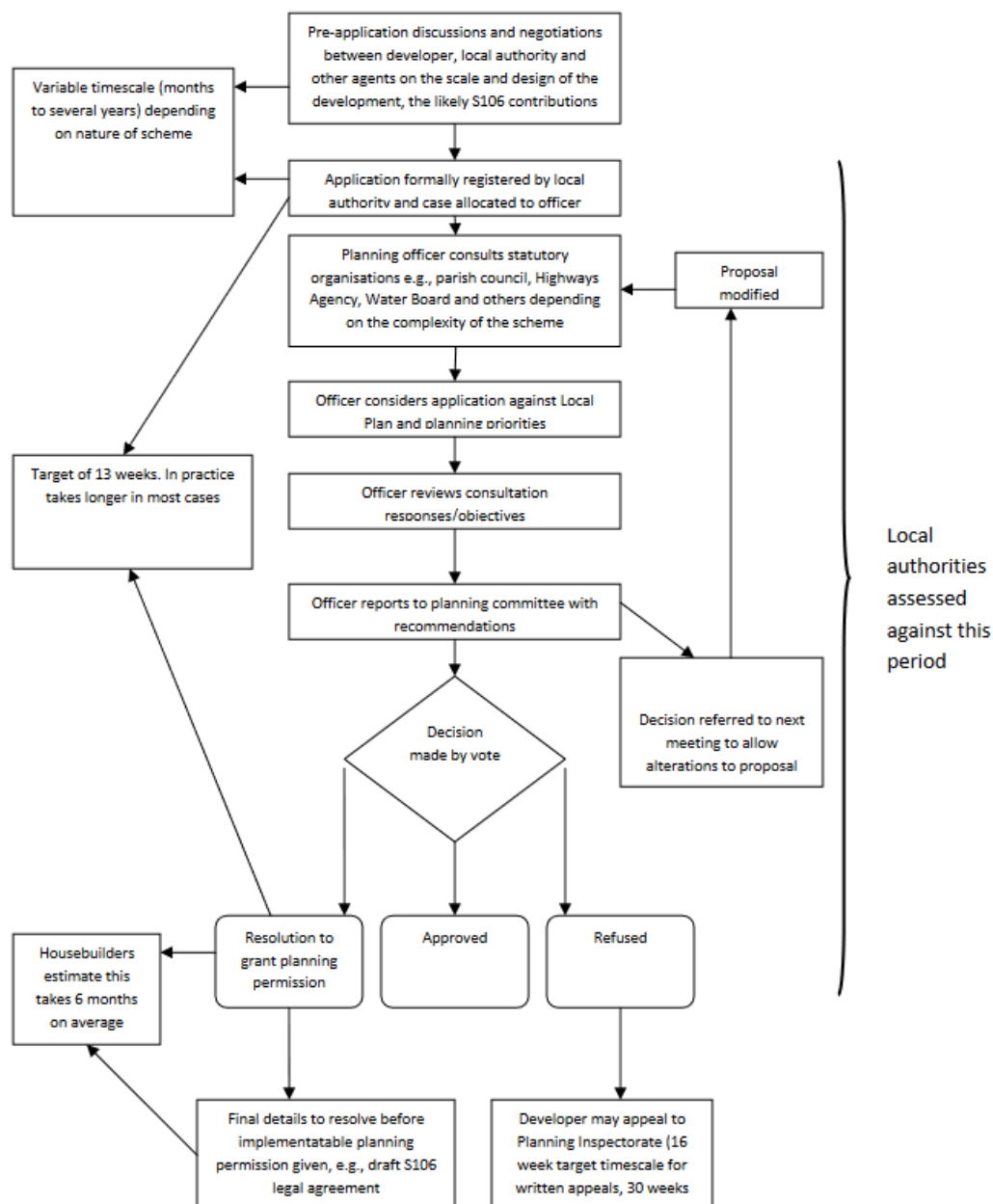
(Upper) deadweight loss = (value of regulatory tax) \* (increased demand) / 2 = £6 trillion \* (.6) \* (.22) = £395 b

This loss represents total societal loss, split between producers and consumers, so it is difficult to translate into an additional number of homes built. However, it represents a large amount of foregone value.



## 4.5 Diagram of the planning process for major housing proposals

Figure 29: English planning process for major residential projects

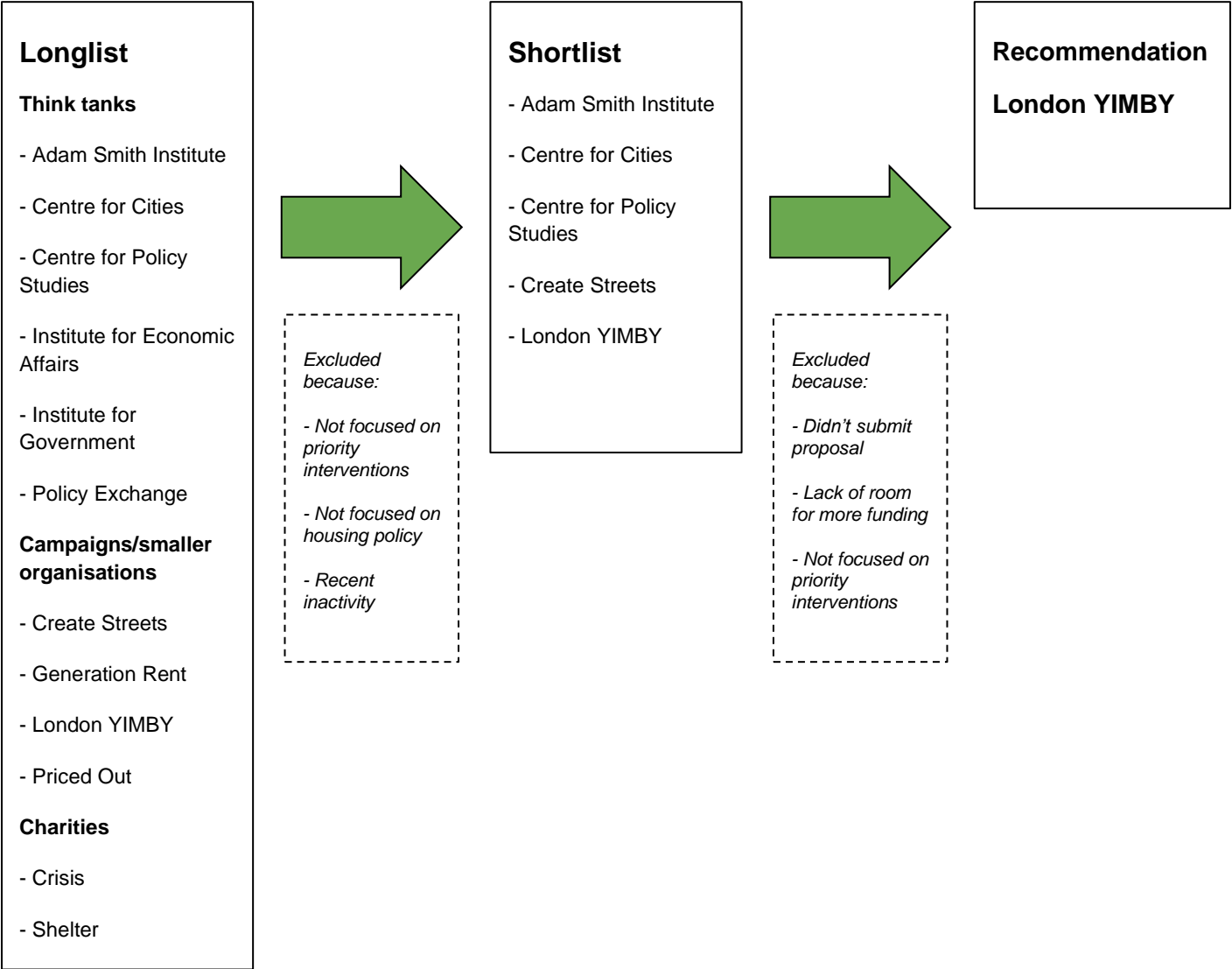


Source: "Planning Delay and the Responsiveness of English Housing Supply", Ball et al.



4.6 Recommendation process

Figure 30: Recommendation process for this report





## Endnotes

<sup>1</sup> Alexander Berger, “Land Use Reform,” Open Philanthropy, n.d., <https://www.openphilanthropy.org/focus/us-policy/land-use-reform>.

<sup>2</sup> “The undersupply of housing, whose root cause is a dysfunctional land use planning system, is the UK’s biggest problem.” Sam Bowman and Stian Westlake, “4a. Housing,” Reviving Economic Thinking on the Right, 2020, <https://revivingeconomicthinking.com/housing/>.

<sup>3</sup> “Urban economists generally accept the existence of agglomeration economies, which exist when productivity rises with density.” Edward L. Glaeser and Joshua D. Gottlieb, “The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States,” *Journal of Economic Literature* 47, no. 4 (December 2009): 1, <https://doi.org/10.1257/jel.47.4.983>.

<sup>4</sup> “The day-to-day cost of housing services is measured by national statistical agencies around the world by the market rent on a rented house or the equivalent ‘imputed rent’ on an owner-occupied house.” Ian Mulheirn, “Tackling the UK Housing Crisis: Is Supply the Answer?” (UK Collaborative Center for Housing Evidence, August 2019), 5, <https://housingevidence.ac.uk/wp-content/uploads/2019/08/20190820b-CaCHE-Housing-Supply-FINAL.pdf>.

<sup>5</sup> “In London, spending on rent accounted for 34% of disposable income for private renters in 2014, compared with just 15% in the North East. The South West and South East also have ratios above 25%.” Philip Wales, “Economic Review: April 2016,” Office for National Statistics, April 6, 2016, <https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/economicreview/april2016>.

<sup>6</sup> “In 2016, median monthly private rent for England was 27% of median gross monthly salary. This means that someone working in England could expect to spend 27% of their monthly salary on private rent. London, the South East, East of England and the South West, all had percentages above this level. Overall, median monthly private rent as a percentage of median monthly salary ranged from 23% in the North East, to 49% in London.” Nigel Henretty, “Housing Summary Measures Analysis: 2016,” Office for National Statistics, November 29, 2017, <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/housingsummarymeasuresanalysis/2016>.

<sup>7</sup> “In 2013–2015, the average (median) rent-to-income ratio among private renters was 40% in London and 28% in the rest of Great Britain.” Robert Joyce, Matthew Mitchell, and Agnes Norris Keiller, “The Cost of Housing for Low-Income Renters” (Institute for Fiscal Studies, October 2017), 2, <https://www.ifs.org.uk/uploads/publications/comms/R132.pdf>.

<sup>8</sup> See figure 3 in: Jim Reid, Craig Nicol, and Henry Allen, “Mapping the World’s Prices 2019” (Deutsche Bank Research, May 16, 2019), [https://www.dbresearch.com/PROD/RPS\\_EN-PROD/PROD0000000000494405.pdf](https://www.dbresearch.com/PROD/RPS_EN-PROD/PROD0000000000494405.pdf).

<sup>9</sup> “Housing is named by 16% of Londoners as the most important issue, just behind crime and policing (17%). An overwhelming majority (81%) agree that housing in London is in crisis, with more than half naming high house



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prices (57%) and high rents (51%) as the most important problems facing the London housing market. This is in marked contrast to a previous survey of Great Britain as a whole, where only 28% identified high rents as an important issue.” Lewis Hill, “Londoners Say Brexit, Crime and Housing Are the Top Issues Facing the Capital,” Ipsos MORI, November 22, 2018, <https://www.ipsos.com/ipsos-mori/en-uk/londoners-say-brexit-crime-and-housing-are-top-issues-facing-capital>.

<sup>10</sup> Kat Christiansen and Rhys Lewis, “UK Private Rented Sector: 2018,” Office for National Statistics, January 18, 2019, <https://www.ons.gov.uk/economy/inflationandpriceindices/articles/ukprivaterentedsector/2018>.

<sup>11</sup> “at the lowest quartile, the respective [rent] values for the South East and London were £695 (37 per cent [of earnings]) and £1,175 (57 per cent).” Geoff Meen, “Tackling the UK Housing Crisis: Is Supply the Answer?: Peer Review Comments” (UK Collaborative Center for Housing Evidence, 2019), 3, [https://housingevidence.ac.uk/wp-content/uploads/2019/08/190820-Geoff-Meen-comments\\_final-1.pdf](https://housingevidence.ac.uk/wp-content/uploads/2019/08/190820-Geoff-Meen-comments_final-1.pdf).

<sup>12</sup> “Traditionally, ‘one week’s pay for one month’s rent’ (a U.S. expression from the 19th century) was used to define rent affordability as roughly the 25% of the household earnings (Meen 2018, p. 7). The affordability ratio can vary between 25-50% of household income (Bramley 2012, p. 134). In Canada and the U.S., a ratio of 30% is considered acceptable, while in Australia it is 25% (Fenton et al. 2011). In the UK, there is no official benchmark for this ratio, although, according to the National Housing Federation, housing is affordable if the ratio is up to 25%, and according to CIH, if the ratio ranges between 20-30% (CIH 2013). Based on research, a rent can be considered affordable when housing costs do not consume more than 30-40% of households’ incomes (Stephens et al. 2015).” “Rent Affordability in the Affordable Housing Sector: Literature Review” (Scottish Government, n.d.), <https://www.gov.scot/publications/rent-affordability-affordable-housing-sector-literature-review/pages/9/>.

<sup>13</sup> About 28 million households and about 33 million employed or self-employed people (see ONS statistics: [Sanders, 2019](#) and [Leaker, 2020](#))

<sup>14</sup> “Household income-based measures of affordability [...] are more comprehensive but are not available for lower geographies [such as local authorities].” Christiansen and Lewis, “UK Private Rented Sector: 2018.”

<sup>15</sup> “Among all renting households, rental costs accounted for around 20% of household disposable income on average – up from less than 10% in the early 1980s and 12% in 1986. Among private renters the fraction is higher still: close to 25% on average, up from close to 16% in 1986.” Wales, “Economic Review: April 2016.”

<sup>16</sup> If a privately-rented one bedroom apartment rents for £800, but a council-rented one bedroom apartment rents for £400, then a shift in the market from council-rented to private-rented apartments will increase the average rent without necessarily making a given private- or council-rented apartment more expensive.

<sup>17</sup> Mulheirn, “Tackling the UK Housing Crisis.”

<sup>18</sup> Katharina Knoll, Moritz Schularick, and Thomas Steger, “No Price Like Home: Global House Prices, 1870-2012,” *American Economic Review* 107, no. 2 (2017): 16, <https://doi.org/10.1257/aer.20150501>.



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<sup>19</sup> David Miles and Victoria Monro, "UK House Prices and Three Decades of Decline in the Risk-free Real Interest Rate," Staff Working Paper (Bank of England, December 2019), <https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2019/uk-house-prices-and-three-decades-of-decline-in-the-risk-free-real-interest-rate.pdf?la=en&hash=7C12A901353CB615C3FC1A58557918D50775E470>.

<sup>20</sup> Mulheirn, "Tackling the UK Housing Crisis."

<sup>21</sup> Paul Swinney, "Supply Is the Cause of the Housing Crisis – and We Do Need to Build More Homes in Successful Cities," *Centre for Cities* (blog), February 26, 2018, <https://www.centreforcities.org/blog/yes-supply-cause-housing-crisis-need-build-homes-successful-cities/>.

<sup>22</sup> "Hunt (2005) notes that the UK's housing demand elasticity with respect to income is high in an international comparison, with UK estimates close to 1, compared to international average of around 0.5" Robert Kuenzel and Birgitte Bjørnbak, "The UK Housing Market: Anatomy of a House Price Boom," *ECFIN Country Focus* 5, no. 11 (October 24, 2008): 3, [https://ec.europa.eu/economy\\_finance/publications/pages/publication13282\\_en.pdf](https://ec.europa.eu/economy_finance/publications/pages/publication13282_en.pdf).

<sup>23</sup> "Meen and Andrew (2008) assume an income elasticity of housing demand of unity, although Meen and Andrew (1998) estimate income elasticity at 1.27 and Meen (1996) cites estimates ranging from 1.7 to 3. Given that most other estimates confirm an elasticity of at least unity, housing would appear to be a (borderline) superior good in the UK." Kuenzel and Bjørnbak, 10.

<sup>24</sup> "Middle Income Households, 1977-2010/11" (Office for National Statistics, March 18, 2013), 2, [https://webarchive.nationalarchives.gov.uk/20160107031032/http://www.ons.gov.uk/ons/dcp171776\\_303386.pdf](https://webarchive.nationalarchives.gov.uk/20160107031032/http://www.ons.gov.uk/ons/dcp171776_303386.pdf).

<sup>25</sup> See section 1.3.4.

<sup>26</sup> "The red line is the log of the real house price index. The blue line measures the contribution of the key demand-supply imbalance, 'income per house', which combines real household income and population relative to the housing stock. The housing stock is not a count of heterogeneous units but is the constant price measure of the net capital stock for all dwellings from the national accounts. It therefore includes improvements in dwellings as well as new residential construction. The figure shows that since 1980, around two thirds of the rise in the UK real house price index is accounted for by the failure of residential investment to keep up with income and population growth." John Muellbauer, "Housing, Debt and the Economy: A Tale of Two Countries," *National Institute Economic Review* 245 (August 2018): 4, <https://doi.org/10.1177/002795011824500112>.

<sup>27</sup> Survey data show that most people in England attach a high premium to homeownership (see Coelho et al., 10). However, Miles and Monro (2019) note that their assumption only requires *some* people to be indifferent at the margin.

<sup>28</sup> The changes have to be unanticipated because if they were predictable, the falling opportunity cost would have already been incorporated into the price.



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<sup>29</sup> “Combining these factors, we estimate that the long-run effect of the decline in the risk-free rate increased real house prices by about 108%; the increase in household income increased house prices by around 80%; whilst the increased net tax obligations pushed house prices down by around 15%.” David Miles and Victoria Monro, “What’s Been Driving Long-Run House Price Growth in the UK?,” *Bank Underground* (blog), January 13, 2020, <https://bankunderground.co.uk/2020/01/13/whats-been-driving-long-run-house-price-growth-in-the-uk/>.

<sup>30</sup> “In recent years in England, house building has barely reached 200,000, compared to an existing housing stock of around 22 million residential properties. So building is just under 1% of the stock of housing. Applying a price elasticity of new building volumes of 0.4 to a 1% increase in house prices amounts to just 800 more houses built - even across a 20 year horizon, that is a mere 16,000 new houses built, or slightly under 0.0008 of the existing stock. This is equivalent to a stock elasticity after 20 years of 0.08 - the value we use in the remainder of this paper. At such a low stock elasticity, people would be rational to believe that the amount of housing is effectively unchanged by house price changes.” Miles and Monro, “UK House Prices and Three Decades of Decline in the Risk-free Real Interest Rate,” 17–18.

<sup>31</sup> Aida Caldera and Åsa Johansson, “The Price Responsiveness of Housing Supply in OECD Countries,” *Journal of Housing Economics* 22, no. 3 (September 2013): 231–49, <https://doi.org/10.1016/j.jhe.2013.05.002>.

<sup>32</sup> “[Barker (2004)] reports a supply elasticity of almost zero [...] Malpezzi and MacLennan (2001) infer the price elasticity of housing supply in the US and the UK from a long-run relationship between income and house prices in these countries. For the post war period, they report a range between 0 and 0.5 for the UK.” Wouter Vermeulen and Jan Rouwendal, “Housing Supply and Land Use Regulation in the Netherlands,” Tinbergen Institute Discussion Paper No. 07-058/3, July 2007, 16, <https://doi.org/doi.org/10.2139/ssrn.1003955>.

<sup>33</sup> Caldera and Johansson, “The Price Responsiveness of Housing Supply in OECD Countries,” 243.

<sup>34</sup> “We model the housing market, applying parameters for supply elasticities consistent with the empirical literature (which suggests they are very low), and estimate that the medium term sensitivity of house prices to unanticipated changes in real interest rates is about 90% of the short-run effect.” Miles and Monro, “What’s Been Driving Long-Run House Price Growth in the UK?”

<sup>35</sup> Ian Mulheirn, “The Bank of England’s Shifting Stance on House Prices Has Big Implications,” *Noteworthy - The Journal Blog* (blog), January 9, 2020, <https://blog.usejournal.com/the-bank-of-englands-shifting-stance-on-house-prices-has-big-implications-57350d79fca0>.

<sup>36</sup> “The vast majority of studies have found that locations with more regulation have higher house prices and less construction. [...] many estimates seem to be quite large. As noted earlier, Katz and Rosen (1987) found that in the San Francisco Bay Area, house prices are at least 17% higher in jurisdictions with at least one formal growth management program. In Malpezzi’s (1996) study of 56 metropolitan areas, increasing the level of regulation from its average by one standard deviation is associated with 22% higher house prices and 11% lower construction.” Joseph Gyourko and Raven Molloy, “Regulation and Housing Supply,” in *Handbook of Regional and Urban Economics*, vol. 5 (Elsevier, 2015), 1317, <https://doi.org/10.1016/B978-0-444-59531-7.00019-3>.



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<sup>37</sup> “a large and growing body of empirical literature demonstrates higher housing costs in more regulated local markets, with particularly large price disparities between more and less regulated markets for low-quality, low-income housing.” Steven Raphael, “Housing Market Regulation and Homelessness,” in *How to House the Homeless* (Russell Sage Foundation, 2010), 137. [See figure 6.4 on p. 127 for correlation between rent-to-income ratio and regulatory stringency].

<sup>38</sup> Supply elasticity is also affected by construction costs. Construction costs have risen since WWII, but much less than house prices. See figure 7 in: Knoll, Schularick, and Steger, “No Price Like Home: Global House Prices, 1870-2012.”

<sup>39</sup> “The [Town and Country Planning Act, 1947] effectively separated land use rights from land ownership rights, and assigned control over the former to the state (acting primarily through local authorities). Most forms of development or substantive changes of land use require explicit planning permission, for which application must be made to the local planning authority. The authority whilst it is urged to process the application with due speed and diligence, has substantial discretion over whether to grant planning permission and with what conditions or obligations attached.” Nicole Gurran and Glen Bramley, *Urban Planning and the Housing Market* (Palgrave Macmillan, 2017), 125–26.

<sup>40</sup> “All decisions are subject to the uncertain and gameable mechanism of ‘development control’: decisions are made by a local political committee and this is subject to lobbying and political expediency. As is explained in Section 7 we have inbuilt institutional structures and fiscal incentives to enable and motivate restrictiveness. A proposal may conform to the local plan – if there is one – but if it is in the ward of the committee chair it may still be refused.” Paul Cheshire, “Broken Market or Broken Policy? The Unintended Consequences of Restrictive Planning,” *National Institute Economic Review* 245 (August 2018): 4, <https://doi.org/10.1177/002795011824500111>.

<sup>41</sup> Michael Ball, “Planning Delay and the Responsiveness of English Housing Supply,” *Urban Studies* 48, no. 2 (February 2011): 349–62, <https://doi.org/10.1177/0042098010363499>.

<sup>42</sup> “One key cause of the lack of residential construction in the UK is the fact that local authorities have virtually no fiscal incentives to permit development.” Christian Hilber, “UK Housing and Planning Policies: The Evidence from Economic Research,” CEP Election Analysis (Centre for Economic Performance, 2015), 7, <http://cep.lse.ac.uk/pubs/download/EA033.pdf>.

<sup>43</sup> “Compared to other countries, incentives to support and promote development are weaker, relative to the political costs which local councillors perceive.” Gurran and Bramley, *Urban Planning and the Housing Market*, 163.

<sup>44</sup> “the current highly regressive form of Council Tax creates perverse incentives for the conversion of multi-unit residences into single-family luxury homes especially in the most expensive locations, which pay far lower Council Tax relative to property values.” Muellbauer, “Housing, Debt and the Economy,” 17.

<sup>45</sup> “According to Government statistics published in February 2015, the average figure for England (excluding London) is that agricultural land, which is granted planning permission for residential use, would, on average,





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increase in value from £21,000 per hectare to £1.95 million per hectare.” Communities and Local Government Committee, “Land Value Capture” (UK Parliament, September 13, 2018), <https://publications.parliament.uk/pa/cm201719/cmselect/cmcomloc/766/76605.htm>.

<sup>46</sup> “The cost of constructing a m<sup>2</sup> of office space in Birmingham, England, in 2004 was approximately half that in Manhattan [...] When we couple the cost of construction with the costs of occupation of that same m<sup>2</sup>, however, we do get a shock. In the same year, the total occupation costs per m<sup>2</sup> were 44 percent higher in Birmingham than they were in Manhattan. Something very odd must be going on.” Paul Cheshire and Christian Hilber, “Office Space Supply Restrictions in Britain: The Political Economy of Market Revenge,” *The Economic Journal* 118, no. 529 (2008): 1.

<sup>47</sup> Defined as residential projects with more than 10 dwellings.

<sup>48</sup> Author’s calculations. Hilber and Vermeulen report that a one standard deviation fall in restrictions would cause a 14% decrease in house prices. They also report the average refusal rate is 25.4% and the standard deviation is 8.7%.

<sup>49</sup> Urban productivity gains probably even *induce* planning restrictions and price increases as existing residents seek to reduce local costs of migration and densification. For more discussion see: Steven Raphael, “Housing Market Regulation and Homelessness,” in *How to House the Homeless* (Russell Sage Foundation, 2010).

<sup>50</sup> “We find the propensity of young private renters to move home and job has fallen by two-thirds between 1997 and 2018, and suggest that this partly reflects the fact that private rents have risen consistently faster in higher-paying areas of England. Rents have risen by almost 90 per cent in the highest-paying 30 per cent of local authorities over the past 20 years, compared to just over 70 per cent among the 30 per cent lowest paying places.” Lindsay Judge, “Moving Matters: Housing Costs and Labour Market Mobility,” Briefing (Resolution Foundation, June 2019), 3.

<sup>51</sup> “Despite torrid growth in labor demand – mainly driven by the growth of finance, high tech, biotech and other industries concentrated there – [New York, San Francisco, and San Jose] are smaller today than they used to be (relative to other cities).” Chang-Tai Hsieh and Enrico Moretti, “Housing Constraints and Spatial Misallocation,” *American Economic Journal: Macroeconomics* 11, no. 2 (April 2019): 13, <https://doi.org/10.1257/mac.20170388>.

<sup>52</sup> “US GDP in 2009 was \$14.5 trillion so a GDP increase of 8.9% implies an additional aggregate income of \$1.95 trillion [sic]. Given a labor share of 0.65, this amounts to an increase of \$1.27 trillion in the wage bill, or \$8,775 additional salary per worker assuming a fixed number of workers. The salary increase would be smaller if more workers decide to enter the labor market in response to the higher salary.” Hsieh and Moretti, 23. There is a typo in the original paper: 8.9% of \$14.5 trillion is \$1.28 trillion, not \$1.95 trillion. We have corrected this in our report.

<sup>53</sup> “The net effect is that US GDP in 2009 would be 3.7% higher under this counterfactual, which translates into an additional \$3,685 in average wages for all workers, or an increase of \$0.53 trillion in the wage bill [sic]. The salary increase would be smaller if more workers decide to enter the labor market in response to the higher



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salary or if there is immigration.” Hsieh and Moretti, 24. Again, a typo leads the authors to overestimate the GDP increase. We have corrected this.

<sup>54</sup> Gilles Duranton and Diego Puga, “Urban Growth and Its Aggregate Implications” (Cambridge, MA: National Bureau of Economic Research, December 2019), <https://doi.org/10.3386/w26591>.

<sup>55</sup> Specifically, they use empirical data on within- and between-city variation in commute lengths and housing costs to estimate how much the costs of urbanization increase with population (see pp. 25-8 of the paper for detailed discussion).

<sup>56</sup> “If we relax planning regulations in the three most productive cities to same [sic] level as in the median US city, average real income in our framework would rise by 8.2%” (Duranton and Puga, 37-8). We note that while the magnitude of the income gains are similar, the distribution of income gains across the population is significantly different between Hsieh and Moretti and Duranton and Puga. “The increase in aggregate income in Hsieh and Moretti arises mainly because population losses in all but the three highly productive cities raise the marginal product of their remaining residents. In our model, incumbent residents outside the three most productive cities endogenously lower planning regulations to keep themselves unaffected when the expansion of the three most productive cities weakens pressure on their own housing market. Lower regulatory costs everywhere, not just in the three most productive cities, are an important source of aggregate gains in our framework” (Duranton and Puga, 38).

<sup>57</sup> Here we’re taking the numbers from the Hsieh and Moretti model with imperfect mobility. U.S. GDP is currently about \$20 trillion. So,  $3.7\%/10 * \$20\text{tn} = \$74 \text{ billion} \sim \$100\text{bn}$ . These returns would be split between the [wage share](#) of GDP and the capital share.

<sup>58</sup> No American city has a more inelastic supply than the UK: supply elasticity is 0.76 in New York, 0.66 in San Francisco, and 0.86 in Boston. Miami has the lowest supply elasticity in the US, at 0.60 (see table VI in Saiz, “The geographic determinants of housing supply” (2010)).

<sup>59</sup> Assuming England accounts for about 85% of the U.K.’s ~\$3 trillion PPP GDP. 1 PPP\$ = ~£0.70.

<sup>60</sup> “Bearing the various caveats in mind, the scenarios point to a substantial impact of regulatory supply constraints: house prices in the ‘average’ LPA in England in 2008 would be 21.5 (lowest bound) to 38.1 percent (lower upper bound) lower if the planning system were completely relaxed. The baseline estimate yields a reduction of 35 percent.” Christian A. L. Hilber and Wouter Vermeulen, “The Impact of Supply Constraints on House Prices in England,” *The Economic Journal* 126, no. 591 (March 2016): 21, <https://doi.org/10.1111/eoj.12213>.

<sup>61</sup> Miles and Monro, 2019

<sup>62</sup> “The most striking result is that the estimates of the price elasticity of housing demand are fairly stable—at around -0.4—throughout all the specifications of the housing demand equation, and they are also statistically well determined.” J.F. Ermisch, J. Findlay, and K. Gibb, “The Price Elasticity of Housing Demand in Britain: Issues



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of Sample Selection," *Journal of Housing Economics* 5, no. 1 (March 1996): 76, <https://doi.org/10.1006/jhec.1996.0004>.

<sup>63</sup> Please see the calculations in the appendix.

<sup>64</sup> Resolution Foundation, "'Big Smoke Bonus' of Moving to London for Work Has Grown to Almost 20 per Cent over the Last Decade," March 28, 2018, <https://www.resolutionfoundation.org/press-releases/big-smoke-bonus-of-moving-to-london-for-work-has-grown-to-almost-20-per-cent-over-the-last-decade/>.

<sup>65</sup> "The median household income for London in 2013/13 was £39,100, while the mean income was £51,770. Both mean and median income is higher in Inner London than Outer London. The UK median in 2012/13 was £30,600, which is 22 per cent below the London figure." Gareth Piggott, "GLA Household Income Estimates," *London Datastore* (blog), July 30, 2015, <https://data.london.gov.uk/blog/gla-household-income-estimates/>. <https://data.london.gov.uk/blog/gla-household-income-estimates/Piggott>. Similarly, the average gross value added per head, a common measure of productivity, for London local authorities is £42,955 while for the rest of England it's £25,048, a difference of more than £15,000.

<sup>66</sup> Cheshire and Buyukileva suggest that there's room for 900,000 additional homes in London (18). One million net additions by 2020 was the target the U.K. government set in 2015. See: Cassie Barton and Wendy Wilson, "Tackling the Under-Supply of Housing in England," Commons Research Briefing (House of Commons Library, March 9, 2020), <https://commonslibrary.parliament.uk/research-briefings/cbp-7671/>.

<sup>67</sup> Rent-to-income ratios are also used to measure affordability by the [Office for National Statistics](#).

<sup>68</sup> "Relative to a base homelessness count of 645,273 persons, reducing regulatory stringency above the median to the median value would result in a decline in homelessness of 46,246, roughly 7.2 percent of total homelessness. Reducing all state-level regulatory stringency values to the minimum value results in even larger declines— 144,294 persons, roughly 22 percent." Raphael, "Housing Market Regulation and Homelessness," 136–37.

<sup>69</sup> "The local housing market does affect homeless rates; for example, through house prices (elasticity 0.18), although these effects are less strong than those of income (-0.48)." Glen Bramley et al., "Estimating Housing Need" (Department for Communities and Local Government, November 2010), 59, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6338/1776873.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/6338/1776873.pdf).

<sup>70</sup> "We model all three types of concealed households together using the broader definition (not filtering forage), for the relevant sub-set of household types. The key drivers are as expected: affordability - house price:income ratio (HPIR) with an elasticity of 0.36 - area poverty and area unemployment (both positive), private renting(+), with sickness and disability having small positive effects as well, and students a small negative effect." Bramley et al., 45.



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<sup>71</sup> “A statistical model fitted to SEH micro data provides a reasonably good explanation of the incidence of overcrowding [...] Affordability (house price:income ratio) has a strong effect, with an elasticity of 0.51.” Bramley et al., 45.

<sup>72</sup> “Since the financial crisis of 2008, homelessness has remained fairly constant at an average of around 140,000 households, representing some 320,000 people [...] Of the 320,000 homeless people in the UK, just over 5,000 are rough-sleepers.” “BBC Briefing: Housing” (BBC, February 24, 2020), 31–38, <http://news.files.bbc.co.uk/include/newsspec/pdfs/bbc-briefing-housing-newsspec-26534.pdf>.

<sup>73</sup> “[Malpezzi & Green’s] results indicate that moving from a relatively unregulated to a heavily regulated metropolitan area increases rents among the lowest-income renters by one-fifth and increases home values for the lowest-quality single-family homes by more than three-fifths. The largest price effects of such regulations occur at the bottom of the distribution in units that are disproportionately occupied by low- and moderate-income households.” Raphael, “Housing Market Regulation and Homelessness,” 118.

<sup>74</sup> “Thus housing is more expensive in more regulated markets. In addition, housing prices have appreciated at much faster rates in regulated housing markets relative to unregulated housing markets. Finally, these differences appear to have a particular impact on low-income households in the most regulated states, where the median rent-to-income ratio among this group now exceeds .5.” Raphael, 132.

<sup>75</sup> “The impact of education on the probability of being a homeowner is particularly strong in the United Kingdom – household heads that are tertiary educated are 16 percentage points more likely to be a homeowner than those without post-secondary education.” Aida Caldera Sánchez and Dan Andrews, “The Evolution of Homeownership Rates in Selected OECD Countries: Demographic and Public Policy Influences,” *OECD Journal: Economic Studies* 2011, no. 1 (December 9, 2011): 220, [https://doi.org/10.1787/eco\\_studies-2011-5kg0vswqpmg2](https://doi.org/10.1787/eco_studies-2011-5kg0vswqpmg2).

<sup>76</sup> Plus young owners of small properties who are set to consume more housing over their lifetimes than they already own, and lower-income people who are paying a larger proportion of their income in housing costs.

<sup>77</sup> Judge, “Moving Matters: Housing Costs and Labour Market Mobility.”

<sup>78</sup> “In contrast to Stutzer and Frey (2008) we find no evidence that longer commutes are associated with lower levels of subjective well-being as measured by self-reported overall life satisfaction. When using the GHQ score as an alternative measure of subjective well-being we find, in line with Roberts et al. (2011), that longer commutes are associated with lower levels of well-being for women but not for men.” Andy Dickerson, Arne Risa Hole, and Luke A. Munford, “The Relationship between Well-Being and Commuting Revisited: Does the Choice of Methodology Matter?,” *Regional Science and Urban Economics* 49 (November 2014): 13, <https://doi.org/10.1016/j.regsciurbeco.2014.09.004>.

<sup>79</sup> “a consistent link between commuting and life satisfaction overall has not been established. The evidence suggests that commuters are generally successful in trading off the drawbacks of longer and more arduous commute journeys against the benefits they bring in relation to overall life satisfaction, but further research is required to understand the decision making involved.” Kiron Chatterjee et al., “Commuting and Wellbeing: A



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Critical Overview of the Literature with Implications for Policy and Future Research,” *Transport Reviews* 40, no. 1 (January 2, 2020): 5, <https://doi.org/10.1080/01441647.2019.1649317>.

<sup>80</sup> European Construction Sector Observatory, “Improving Energy and Resource Efficiency,” Analytical Report (European Commission, December 17, 2018), 8, <https://ec.europa.eu/docsroom/documents/33121>.

<sup>81</sup> “[Among OECD countries,] Only in Sweden, the United Kingdom and Poland does maintenance and repairs of existing dwellings account for at least 30% of investment, possibly reflecting a relatively old stock of housing in these countries.” Caldera and Johansson, “The Price Responsiveness of Housing Supply in OECD Countries,” 234.

<sup>82</sup> “The size of new houses has been decreasing and is now smaller than in many other advanced economies such as the Netherlands, Germany and the US, where house prices are also cheaper than in the UK.” Miguel Castro Coelho, Vigyan Ratnoo, and Sebastian Dellepiane, “Housing That Works for All: The Political Economy of Housing in England” (Institute for Government, 2014), 3, <https://www.instituteforgovernment.org.uk/sites/default/files/publications/Political%20Economy%20of%20Housing%20in%20England%20231014F1.pdf>.

<sup>83</sup> Jim Gleeson, March 3, 2019, <https://twitter.com/geographyjim/status/1102215171718684672>.

<sup>84</sup> “After falling to 2.3 in 1991, London’s average household size started to increase again, and according to one survey has now climbed to 2.79. Much of this increase is due to the growing number of unrelated people sharing accommodation, with the number of households containing two or more distinct family units rising from around 300,000 in 1996 to around 470,000 in 2016.” “Housing in London 2015: The Evidence Base for the Mayor’s Housing Strategy” (Greater London Authority, September 2015), 29, [https://www.london.gov.uk/sites/default/files/housing\\_in\\_london\\_2015.pdf](https://www.london.gov.uk/sites/default/files/housing_in_london_2015.pdf).

<sup>85</sup> See part 11 “The Virtues of Density” in: Matt Yglesias, *The Rent Is Too Damn High: What To Do About It, And Why It Matters More Than You Think* (Simon & Schuster, 2012).

<sup>86</sup> Muellbauer, “Housing, Debt and the Economy,” 19–20.

<sup>87</sup> “[In the English system] all decisions are subject to the uncertain and gameable mechanism of ‘development control’: decisions are made by a local political committee and this is subject to lobbying and political expediency [...] Other planning systems work according to rules – for example the Master Planning system of Denmark or Germany or the US Zoning system.” Paul Cheshire, “Broken Market or Broken Policy? The Unintended Consequences of Restrictive Planning,” *National Institute Economic Review* 245 (August 2018): 4, <https://doi.org/10.1177/002795011824500111>.

<sup>88</sup> “The planning framework that underpins this supply is a simple zoning system that allows by-right development, rather than one that relies on granting planning permission for each individual site [...] This allows market supply to respond quickly as market demand changes and ensures development and density is driven by land values.” Anthony Breach, “Can Tokyo Show Us How to Solve Britain’s Housing Shortage?,” *Centre for Cities*



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(blog), April 25, 2019, <https://www.centreforcities.org/blog/can-tokyo-show-us-how-to-solve-britains-housing-shortage/>.

<sup>89</sup> “A sensibly regulated rental market and stable German house prices have combined to leave the rental sector with over half of tenures. Policy failures in the UK have resulted in widening intergenerational inequality, increased social exclusion, adversely affected productivity and growth and raised the risk of financial instability.” Muellbauer, “Housing, Debt and the Economy,” 1.

<sup>90</sup> Reid, Nicol, and Allen, “Mapping the World’s Prices 2019,” 9.

<sup>91</sup> Lawrence Bowles, “Value of UK Housing Stock Hits Record High,” *The Savills Blog* (blog), February 4, 2019, <https://www.savills.com/blog/article/274512/residential-property/value-of-uk-housing-stock-hits-record-high.aspx>.

<sup>92</sup> “The analysis for England demonstrates that increasing the supply of social rented housing to around 85,000 to 90,000 homes per annum, with a degree of targeting towards areas of greatest need, as part of a generous overall housing supply (circa 340-350,000) produces optimal outcomes compared with other scenarios. Increasing the supply of social rent beyond this level produces less favourable outcomes, and in particular a rapid escalation and spread of low demand problems.” Glen Bramley, “Housing Supply Requirements across Great Britain: For Low-Income Households and Homeless People” (Crisis, November 2018), 30.

<sup>93</sup> Multiple experts we spoke to were skeptical about these approaches. Bramley attributes this to “ideological distaste for public intervention in land markets.”

<sup>94</sup> “Who Should I Vote for? General Election 2019: Compare the Party Manifestos,” BBC News, December 11, 2019, <https://www.bbc.co.uk/news/election-2019-50291676>.

<sup>95</sup> Cheshire and Buyukileva advocate for adding up to 1 million additional homes in London through Green Belt reforms. 300,000 additions per year was the target commonly cited in 2019 election manifestos, which is 20k to 50k above current building rates, equivalent to an additional 400k to 1M additional homes nationally over a 20 year period.

<sup>96</sup> Author’s calculations using the Office for National Statistics’s regional gross value added (income approach) statistics. Per capita annual productivity in London is £15,000 higher than the national median, so these estimates are relatively conservative.

<sup>97</sup> London has between 9m and 14m inhabitants, depending on where you draw the municipal boundary. England has 56 million citizens.

<sup>98</sup> “Regional Gross Domestic Product All NUTS Level Regions,” Office for National Statistics, December 19, 2019, <https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/regionalgrossdomesticproductallnutslevelregions>.





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<sup>99</sup> Author's calculations using data from Savills World Research, "How Much Is the UK Worth?," Residential Property Focus (Savills, 2017), <https://pdf.euro.savills.co.uk/uk/residential-property-focus-uk/residential-property-focus-issue-1-2017.pdf>.

<sup>100</sup> John Myers, "The Housing Crisis: An Act of Devastating Economic Self-Harm," CapX, August 11, 2017, <https://capx.co/the-housing-crisis-an-act-of-devastating-economic-self-harm/>.

<sup>101</sup> Paul Cheshire and Boyana Buyukileva, "Homes on the Right Tracks: Greening the Green Belt to Solve the Housing Crisis" (Centre for Cities, September 22, 2019), 15, <https://www.centreforcities.org/publication/homes-on-the-right-tracks/>.

<sup>102</sup> About 8% of GDP, as measured by Hsieh and Moretti and Duranton and Puga.

<sup>103</sup> "The Ministry's results are in line with every other similar study for the UK ... [Research from the Office for Budget Responsibility, Geoff Meen, the OECD, and Oxford Economics suggests] that 1% more houses would cut prices by somewhere between 1.1% and 2.1% (hence [the Ministry of Housing, Communities, and Local Government's] use of 2% is in line with these)." Ian Mulheirn, "What Would 300,000 Houses per Year Do to Prices?," *Medium* (blog), April 20, 2018, <https://medium.com/@ian.mulheirn/what-would-300-000-houses-per-year-do-to-prices-f506e82bbe8d>.

<sup>104</sup> "The London Plan - Chapter One: Context and Strategy," Mayor of London, 2020, <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-one-context-and-strategy-5>.

<sup>105</sup> "House prices would be roughly 25 percent lower in the South East, had it the restrictiveness level of the North East, which is arguably still highly restrictive in an international context." Hilber and Vermeulen, "The Impact of Supply Constraints on House Prices in England," 21.

<sup>106</sup> "There was an element of such criticism in Hall et al.'s review in 1973, particularly as this coincided with a significant house price boom. There were further concerns from the late 1970s and 1980s, which focussed on issues of land availability, the proliferation of Green Belt and other less formal constraints, and the unwillingness of local authorities to pay attention to 'market signals' [...] The Barker (2004) review marked a more serious change, in perception and policy." Gurran and Bramley, *Urban Planning and the Housing Market*, 5.

<sup>107</sup> In a nonexperimental setting, it is difficult to dismiss the possibility that "areas experiencing rapid growth in housing endogenously enact more strict regulation in an attempt to control growth." Raphael, "Housing Market Regulation and Homelessness," 132–33.

<sup>108</sup> "English Housing Survey Headline Report, 2018-19" (Ministry of Housing, Communities, and Local Government, n.d.), 25, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/860076/2018-19\\_EHS\\_Headline\\_Report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/860076/2018-19_EHS_Headline_Report.pdf).



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<sup>109</sup> “House Building; New Build Dwellings, England: September Quarter 2019,” Housing Statistical Release (Ministry of Housing, Communities, and Local Government, January 29, 2020), 6.

<sup>110</sup> “House Building; New Build Dwellings, England: September Quarter 2019,” 6.

<sup>111</sup> Mulheirn, “What Would 300,000 Houses per Year Do to Prices?”

<sup>112</sup> Cheshire, “Broken Market or Broken Policy?”

<sup>113</sup> “The estimates obtained in this study are likely to be indicative of the situation in many cities in southern England. The net costs are apparently significant, as much as 3.9% of annual household incomes.” Cheshire, 267.

<sup>114</sup> “We show that greenbelt policy implies a negative welfare cost of about £7.5 billion a year (0.5% of England’s GDP).” Hans R.A. Koster and Mohammad Saeed Zabihidan, “The Welfare Effects of Greenbelt Policy: Evidence from England,” Discussion Paper, Tinbergen Institute, August 2018, <https://papers.tinbergen.nl/19023.pdf>.

<sup>115</sup> “out-building the rate of household formation inevitably results in a growing surplus stock of housing. This has the benefit of reducing prices and rents. It may also ease labour mobility and thus improve productivity. But investment that results in vacant properties also carries an economic cost to society since it represents resources that cannot go into other potentially more valuable infrastructure or consumption.” Mulheirn, “Tackling the UK Housing Crisis,” 36.

<sup>116</sup> Ian Mulheirn, “No Nonsense,” *Medium* (blog), January 2, 2020, <https://medium.com/@ian.mulheirn/no-nonsense-b05509526f9e>.

<sup>117</sup> “There are a range of policies that would solve this, and many of them are well known. But none have been implemented because they have not been able to generate support from existing home-owners and the residents of areas that would see increased building.” John Myers, “Yes in My Back Yard: How To End The Housing Crisis, Boost The Economy And Win More Votes” (Adam Smith Institute, 2017), 1, <https://static1.squarespace.com/static/56edde762cd9413e151ac92/t/598c03c5be6594815d7741c5/1502348236073/John+Myers+-+YIMBY+-+Final.pdf>.

<sup>118</sup> “Bold politicians can solve the problem if they are willing to think big and propose policies that make reform work for everyone. Reforms that make most voters worse off have little chance of happening.” Myers, 2.

<sup>119</sup> NDOs are defined in the National Planning Policy Framework as “An Order made by a local planning authority (under the Town and Country Planning Act 1990) through which parish councils and neighbourhood forums can grant planning permission for a specific development proposal or classes of development” (69).

<sup>120</sup> Cheshire and Buyukileva, “Homes on the Right Tracks,” 2.

<sup>121</sup> “Policy proposition 14: permit intensification with consent. The government should investigate ways of facilitating gentle suburban intensification and mixed use, with the consent of local communities. In particular, it





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should consider the possibility of allowing individual streets to vote to opt in to limited additional permissions, subject to design codes. The government should investigate which types of streets this approach might work in, how to pilot it and what the challenges might be.” Building Better, Building Beautiful Commission, “Living with Beauty: Promoting Health, Well-Being and Sustainable Growth,” January 2020, 80, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/861832/Living\\_with\\_beauty\\_BBBBC\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/861832/Living_with_beauty_BBBBC_report.pdf).

<sup>122</sup> Myers, “Yes in My Back Yard,” 14–15.

<sup>123</sup> “rising numbers of owner-occupiers, and rising house prices from the late 70s onwards, have shaped electoral preferences about homeownership and (opposition to) development [...] local support for development is likely to be sensitive to the costs that it imposes on local communities, especially when there is no compensating mechanism in place.” Coelho, Ratnoo, and Dellepiane, “Housing That Works for All,” 4–7.

<sup>124</sup> “Private surveys carried out in the South East of England in 2016 and 2017 (with no prompting to explain the benefits to each homeowner) showed up to 53% in favour for their street, depending upon the question asked.” Myers, “Yes in My Back Yard,” 13.

<sup>125</sup> One expert said that London YIMBY “has done more [for housing policy] in three years than had been done in the 30 years before that.”

<sup>126</sup> “Creating Communities 2019 – John Myers, London YIMBY,” *Create Streets* (blog), March 6, 2019, <http://www.createstreets.com/creating-communities-2019-what-where-who-and-how-2/>.

<sup>127</sup> Tyler Cowen, “More Housing? YIMBY, Please,” *Bloomberg Opinion*, July 25, 2019, <https://www.bloomberg.com/opinion/articles/2019-07-25/the-answer-to-the-affordable-housing-crisis-is-yimby>.

<sup>128</sup> Some reasons for skepticism are that (1) regional housing markets are interconnected, so it is impossible in practice to separate treatment groups from control groups and (2) that effects of housing policy changes are felt on the timescale of years or even decades, which is much longer than political cycles.

<sup>129</sup> Of the £68 billion spent by charities registered in England and Wales in 2015, £53 billion (78%) was spent by charities that work only in the UK. Charities that work solely outside the UK spent just £3 billion. See: Dan Brockington and Nicola Banks, “Changes in Expenditure, Income and Income Sources for Development NGOs Based in the UK,” October 2017, [https://www.sheffield.ac.uk/polopoly\\_fs/1.748112!/file/finalreport1.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.748112!/file/finalreport1.pdf).

<sup>130</sup> Esteban Ortiz-Ospina and Max Roser, “Happiness and Life Satisfaction,” *Our World in Data*, May 2017, <https://ourworldindata.org/happiness-and-life-satisfaction>.

<sup>131</sup> “FAQ,” GiveDirectly, 2020, <https://www.givedirectly.org/faq/>.

<sup>132</sup> Alexander Berger, “GiveWell’s Top Charities Are (Increasingly) Hard to Beat,” *Open Philanthropy* (blog), July 9, 2019, <https://www.openphilanthropy.org/blog/givewells-top-charities-are-increasingly-hard-beat>.



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<sup>133</sup> Adrian Alter, Jane Dokko, and Dulani Seneviratne, “House Price Synchronicity, Banking Integration, and Global Financial Conditions,” IMF Working Papers (International Monetary Fund, November 28, 2018), <https://www.imf.org/en/Publications/WP/Issues/2018/11/28/House-Price-Synchronicity-Banking-Integration-and-Global-Financial-Conditions-46380>.

<sup>134</sup> “[Foreign buyers are] responsible for only a small share of transactions and likely to have had only modest effects on house prices in London.” Joel Marsden, “House Prices in London – an Economic Analysis of London’s Housing Market,” Working Paper, GLA Economics (Greater London Authority, November 2015), 34, <https://www.london.gov.uk/sites/default/files/house-prices-in-london.pdf>.

<sup>135</sup> To understand why this is, say the cost of the structure of a house is £100k. This is the same whether you build it in London or Newcastle. The depreciation rate is related to the structure. Let's say it's 2% per year, so £2000. But in London the land the house is built on is worth £100k, whereas in Newcastle it's worth £50k. So the overall depreciation rate will be  $2000/£200k = 1\%$  in London, but  $2000/£150k = 1.3\%$  in Newcastle. (The numbers are made up for illustrative purposes).

<sup>136</sup> The sample size is 450,000 properties in England. “Index of Private Housing Rental Prices QMI,” Office for National Statistics, n.d., <https://www.ons.gov.uk/economy/inflationandpriceindices/methodologies/indexofprivatehousingrentalpricesqmi>.

<sup>137</sup> Ceri Lewis, “Private Rental Growth Measures, a UK Comparison: October to December 2019,” Office for National Statistics, January 15, 2020, <https://www.ons.gov.uk/economy/inflationandpriceindices/articles/comparingmeasuresofprivaterentalgrowthinthek/octobertodecember2019>.

<sup>138</sup> “users are advised not to infer trends in the rental market over time by comparing prices year-on-year.” Lewis.

<sup>139</sup> Sophie Sanders, “Families and Households Statistics Explained,” Office for National Statistics, November 15, 2019, <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/articles/familiesandhouseholdsstaticsexplained/2019-08-07>.

<sup>140</sup> Jim Gleeson, “Yes, There Is a Housing Shortage,” *James Gleeson* (blog), November 20, 2017, <https://jamesjgleeson.wordpress.com/2017/11/20/yes-there-is-a-housing-shortage/>.

<sup>141</sup> Ian Mulheirn, “Concealed Households — What’s the Real Story?,” *Medium* (blog), June 8, 2018, <https://medium.com/@ian.mulheirn/concealed-households-whats-the-real-story-971f31bb53e8>.

<sup>142</sup> Carlos Vargas-Silva and Mariña Fernández-Reino, “Migrants and Housing in the UK: Experiences and Impacts” (The Migration Observatory, October 24, 2019), <https://migrationobservatory.ox.ac.uk/resources/briefings/migrants-and-housing-in-the-uk-experiences-and-impacts/>.

<sup>143</sup> Vargas-Silva and Fernández-Reino.

<sup>144</sup> Swinney, “Supply Is the Cause of the Housing Crisis – and We Do Need to Build More Homes in Successful Cities.”