

WHY BUILDING MORE HOMES OF ALL TYPES HELPS FIRST TIME BUYERS

A RESEARCH STUDY TO TEST THE PRICE EFFECTS OF NEW HOMES AT HIGHER PRICE POINTS ON THE AFFORDABILITY OF HOMES AT LOWER PRICE POINTS

MAY 2025

PUBLICFIRST



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ABOUT THE REPORT

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ABOUT PUBLIC FIRST

Public First is a global strategic consultancy that works to help organisations better understand public opinion, analyse economic trends and craft new policy proposals. It has worked directly with some of the world's biggest companies, government departments, top universities and major charities to produce bespoke, original policy proposals and reports derived from an evidence base of economic analysis and public opinion research. Public First is a member of the British Polling Council and is a Company Partner of the Market Research Society, whose rules and guidelines it adheres to.





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EXECUTIVE SUMMARY

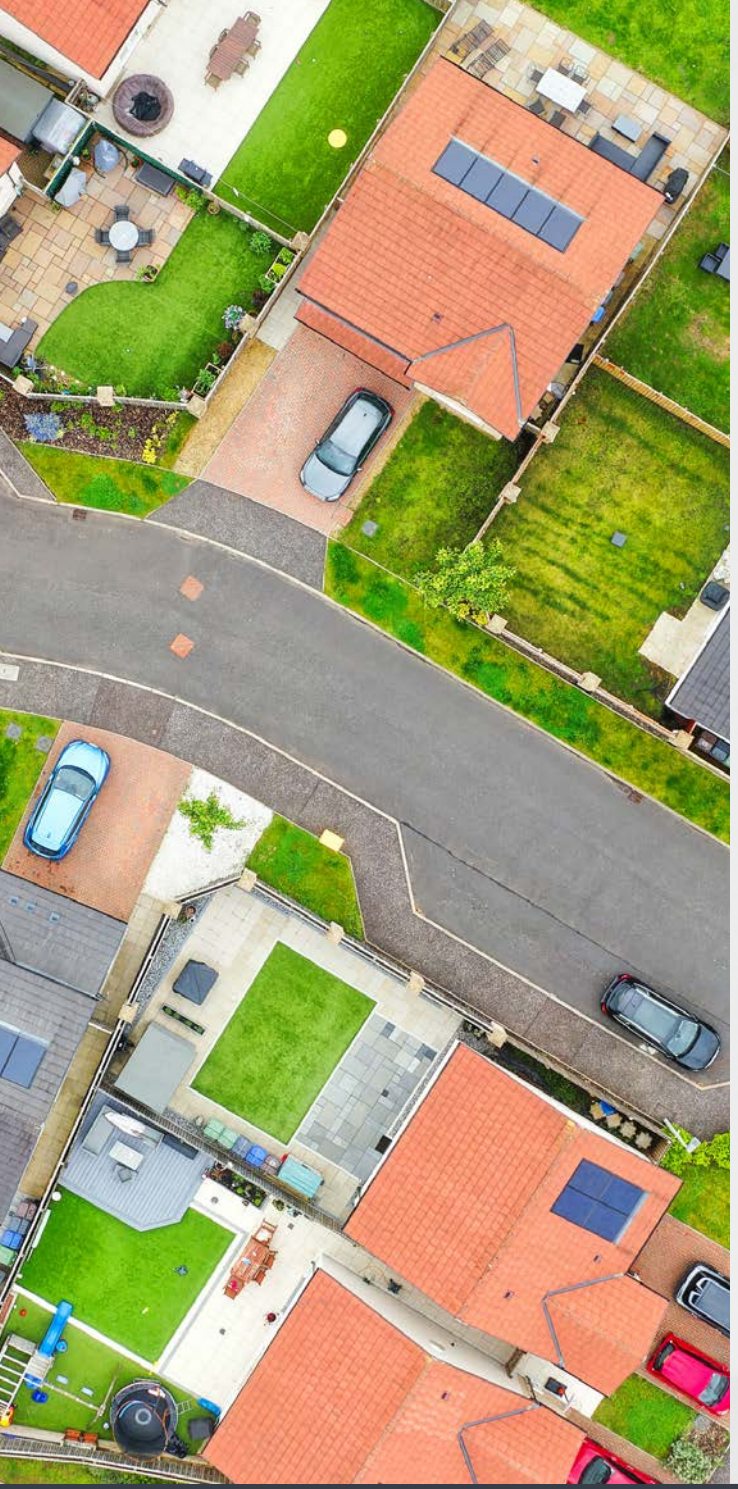
How to make homes more affordable is one of the most pressing domestic policy and political issues of our time. The high cost of housing is changing British society for the worse, making it harder and more expensive for people to live in a suitably sized home near their family, friends and job, while putting home ownership further out of the grasp of younger generations.

Governments of all colours, new and old, have attempted to solve this affordability problem. Despite those efforts, prices have continued to rise. The longer-term answer is, and always has been, to build more homes. This report shows that, within this overall solution, **the best approach to making homes more affordable is to build more higher value homes as part of a wider policy of building more homes of all types and sizes.**

Research in this report finds:

The best way to make entry level homes more affordable is to ensure that a higher number of larger homes are built each year. We estimate that a relatively small increase in the proportion of larger homes (estimated in the research as higher value homes) in the mix would make entry-level homes around £2,500 cheaper to buy. Building homes of all types increases the availability of smaller homes (estimated in the research as lower value homes), which has a positive knock-on effect on the rental market. These effects particularly help those on lower incomes.





Building higher value homes is typically better at improving affordability simply because they are larger. A large home is a bigger increase in housing than a small home - particularly if the property is rented, as rented homes rarely have spare bedrooms. A four bedroom home is literally twice the increase in supply of a two bedroom home.

Building larger homes is also more effective because it kicks off a chain of moves, freeing up the market, and ensuring greater choice at all price points - including smaller, entry level homes suitable for those wanting to get onto the housing ladder. This is particularly important as existing homes typically sell for less than new homes - freeing up an existing entry level home can be better for first time buyers than building a smaller new home.

Encouraging the building of larger homes should form part of a wider policy of building more homes of all types and sizes.

This report should encourage the Government to keep going in their pursuit of 1.5 million homes this parliament. Where there are trade-offs in government decisions, they should prioritise housebuilding. The benefits of doing so will be felt across the market through lower prices.

For local authorities, this research provides straightforward evidence that approving larger homes locally, as part of a wider policy of building more homes of all types and sizes, is the best approach, particularly for improving affordability for first time buyers.



INTRODUCTION

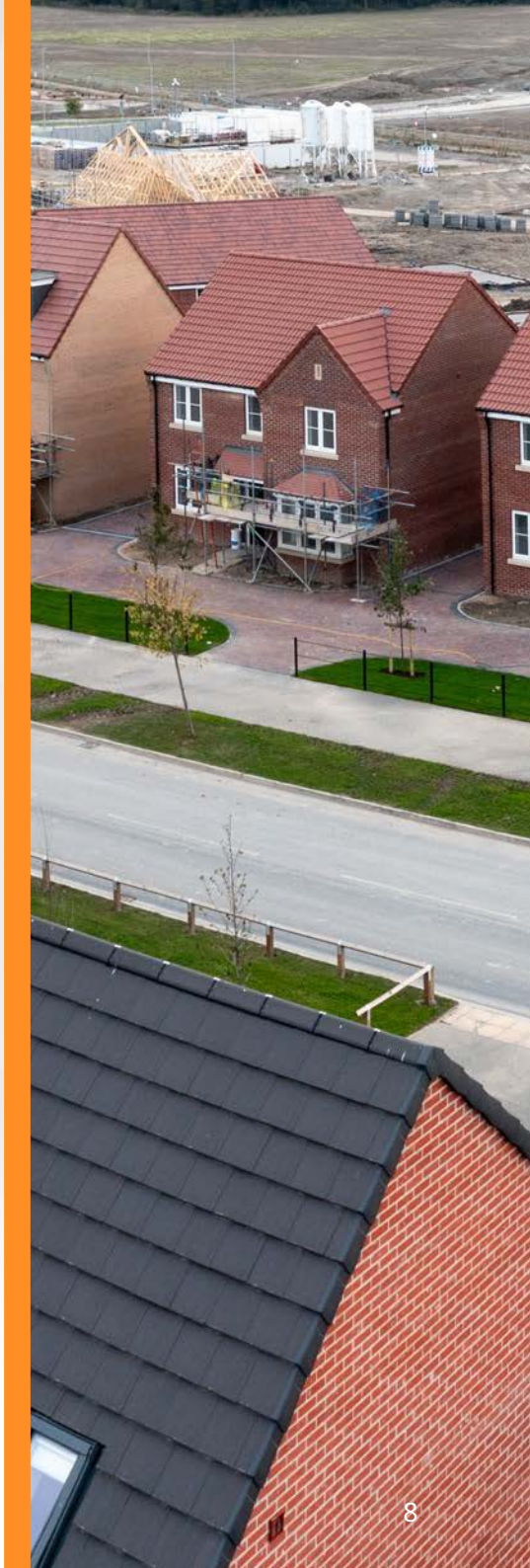
House prices in England have risen dramatically over the past two decades, rising from an average of £50,000 in 1995 to £291,000 in 2024, an increase of 578%.[1] In the same period general prices have risen by 102%,[2] and wages by 122%.[3] No matter how it is looked at, homes are more expensive than they used to be. This is true for those who buy and for those who rent, since the costs of renting are very much related to the cost of buying a home in the long run.

The bad effects of this change are found throughout society in many ways. Two aspects are particularly easy to quantify. The first is the average age of a first time buyer, which increased from 32 to 36 between 2004 and 2022.[4] The second is the proportion of young people living with their parents for longer - the age at which more than half of people do not live with their parents is now 24 years old.[5] The idea that your children grow up and leave the nest is, for many parents, a broken dream. For their children, the notion that you will be able to buy a home if you keep your head down and work hard is also ever more distant. The lack of availability of smaller, more affordable homes has a particular impact on those wanting to get onto the housing ladder, as well as increasing demand in the private rental market.

There are, however, many other bad broader societal consequences of our failure to build enough homes. The price of housing means that more families are underhoused, with 850,000 families now living in overcrowded homes. Overcrowding rates have increased from 3% of households in 1994/5 to 4% in 2022/23.[6] Housing affordability is similarly an important factor in recent rises in rough sleeping and homelessness. It is shameful that 151,000 children are living in Temporary Accommodation.[7]

Housing shortages also limit economic growth by constraining the number of people living in or near the most productive parts of the country. This makes it harder for firms to hire the people they need, limiting their capacity to grow and innovate.

1 Land Registry (2025) - UK House Price Index
2 Bank of England (2025) - Inflation calculator, using CPI inflation data from Office for National Statistics
3 Office for National Statistics (2025) - EARN01: Average weekly earnings, Office for National Statistics (2016) - New Earnings Survey 1974 - 1996
4 Office for National Statistics (2024) - Milestones: journeying through modern life
5 Office for National Statistics (2024) - Milestones: journeying through modern life
6 Resolution Foundation (2024) - Housing Outlook
7 Shelter (2024) - Children homeless in temporary accommodation hits shameful new record of 151,000 – up 15% in a year



WHAT DETERMINES HOUSING AFFORDABILITY?

In both the short and the long run, the price of housing is a function of supply and demand. Housing can be an investment as well, but investments too respond to supply and demand. If the supply of precious metals rises dramatically, the price of those metals will fall - as the old world found out when silver was found in abundance in the new world.[8]

As with most things economic, the reality is simple. If there are more homes, homes will be cheaper than would otherwise be the case. Similarly, if there are more people, demand is higher, and prices will be higher than would otherwise be the case. Price is determined by the relationship between supply and demand. Interest rates matter for demand - particularly in the short run - since homes are generally bought on credit, and interest rates determine people's ability to pay. The best estimates of the relative importance of these three factors - supply, demand, and interest rates - was produced by the National House Planning Advisory Unit, in their publication "Affordability Still Matters". Holding all else equal, they found:[9]

- If the number of households increases by **1%,** house prices will increase by about **2%**;
- A **1%** rise in real incomes would increase house prices by **2%**;
- If interest rates increase by **one percentage point** then house prices will fall by around **3%**; and
- If housing stock increases by **1%**, house prices will fall by around **2%**.



8 Irigoin, A. (2020) - The rise and decline of the global silver standard, in S. Battilossi, Y. Cassis and K. Yago (eds) Handbook of the History of Money and Currency (Springer, 2020) chapter 15 pp. 383-410.

9 NHPAU (2008) - Affordability Still Matters

THE IMPORTANCE OF LOCATION AND SIZE

Although the basic position is simple, there are of course complexities. Not all homes are the same. Two aspects stand out - location, and size. Location matters a lot - hence the well-known phrase: “location, location, location”. A home in London is not a good substitute for a home in Leicestershire or Lancashire - which is why they sell for very different prices. A home on one side of town can - in some towns at least - sell for a very different price to an apparently similar home on the other side of town.

The second important aspect is size. Quite clearly, in any given area larger homes have higher prices than smaller homes. They offer their occupants more space, flexibility and in most cases a garden. This trend is demonstrated on a regional basis in the chart. The price ratio of large to small homes within an area is largely proportionate to the size of the two properties.[10] The interested reader can also go onto any property website, and find the prices and sizes of properties in any given area. Plotting one against the other will show that size is indeed a strong predictor of price, and that the price per square foot is reasonably consistent within the area.



10 One and two bedroom properties are merged in the chart because one bedroom properties are insufficiently common in some areas to be accounted for separately.

THE MARKET FILTERING EFFECT

These two facts demonstrate something very important. They show that areas are separate, but that sizes are not. Building an abundance of homes in Leicestershire or Lancashire would have only a slight effect on the price of properties in London. These markets are not completely separate, but they are largely so. If homes in Leicester could be purchased for £50,000 each, more Londoners might choose to commute. But not many more - Leicester prices are already much lower than London prices, and there is no large-scale exodus from the capital. The same was true twenty years ago, when family homes in the Medway towns regularly sold for under £40,000.

In contrast, the fact that house prices per square foot are similar in an area shows us that **the markets for homes of different sizes are, within a given area, deeply intertwined.** The effect of additional supply of whatever type will filter through to prices of homes of all shapes and sizes in that area. This can be conceptualised qualitatively. Imagine a vast number of very small one bedroom homes are built in an area, to the point where there was almost a glut of such homes. In those circumstances, those who are currently sharing homes as renters might well move into these properties, releasing family-sized homes that were previously being shared. More one bedroom flats increases the supply of second hand family homes, and therefore lowers the price of those as well. The same would be true in reverse. If an area sees a substantial increase in the number of family homes, some of those homes will be taken by couples who might otherwise buy a flat, but are thinking ahead. Some will be taken by sharers, who might otherwise have shared smaller properties, or who might otherwise have gone for a place of their own. The result of an increase in the number of larger homes is that demand for smaller homes falls, and so the price and affordability of those smaller homes will improve.

The intuitions presented here will make sense to some people, but others will demand stronger evidence of this filtering effect.

To that end, this report will now go on to produce strong statistical evidence that shows **the best route to making smaller homes more affordable and available - to, for example, support first time buyers - is for larger homes to be built more often as part of a wider policy of building more homes of all types and sizes.**



“MORE ONE BEDROOM FLATS INCREASES THE SUPPLY OF SECOND HAND FAMILY HOMES, AND THEREFORE LOWERS THE PRICE OF THOSE AS WELL. THE SAME WOULD BE TRUE IN REVERSE.”



DATA & METHODOLOGY

The aim of this report is to establish the impact of building different types of homes on the price of entry level homes. All too often people claim that they object to developments of larger, executive-style homes on the grounds that they do nothing for first-time buyers. This report tests that proposition. It looks at whether areas that build a disproportionate amount of these sorts of homes see the price of homes for first time buyers change by more or less than areas where smaller homes are built more often.

To be clear, although some builders specialise in particular types of home, housebuilders as a whole build homes at all sizes and price points, not just larger homes. Indeed, more homes of all types and sizes are needed to address the bad societal and economic effects of the housing shortage. This report focuses on the impact of larger homes to test the proposition that their effects 'filter' through the housing market in a way that benefits those purchasing smaller homes, typically people looking to get onto the housing ladder for the first time.



DATA

The Land Registry makes data available about the sale of all homes in England, new and existing. These data, for 2001-2025 are used as the basis for this study. Only “category B” sales are excluded, such as repossessions and similar special cases, and those property sales recorded as having a price of zero. In total, more than six thousand data points are included in the analysis.

Those data points are aggregated into averages for each lower-level local authority (generally districts), for each quarter, using the home’s postcode to assign it to the relevant authority. Thus, for example, the number of homes sold in Aylesbury Vale in the second quarter of 2008, and the number sold in Tonbridge and Malling in the third quarter of 2021 etc. are included. In each case, the range of values of those properties is known. This allows consideration of changes over time - for example - what is happening to the price of smaller, lower value properties in an area, and what is driving those changes.

Critically, the data shows how many of those transactions relate to new, as opposed to existing, homes, and - as for all of the transactions - the price of each of this group of homes. This means the proportion of newly built homes in an area that are more or less expensive than the area average can be analysed, and how that changes over time.

As noted earlier, size is the single most important determinant of the price of a home, but it is not the only factor. Price also captures a more general element of desirability - whether the property has a second, or even third, bathroom. Whether the fixtures and fittings are of high standard. Whether the property offers features such as off road parking that would-be purchasers want. The price of a home is nonetheless a useful proxy for its size within a local authority area.





METHODOLOGY

Since many people are rightly concerned about young people wanting to get onto the property ladder, a specific focus is placed in the methodology on the sorts of homes this group might buy. Younger people typically have lower incomes and much less housing equity. This combination means that they will typically buy smaller homes than people a decade or generation older than them. **Two definitions of the sorts of properties that this group would be interested in are used: properties in the cheaper half of those available to buy in an area; and properties in the cheapest fifth.**

It is worth commenting a little more about these definitions. First, the prices relate to the properties that are available to be sold in that quarter, rather than to the total stock in an area. People can only buy those properties that are being offered for sale, and so sale prices, rather than stock prices, are the right prices to use.

It is possible to argue that just one of “prices in the bottom fifth”, or “prices in the bottom half”, should be considered. Or for that matter, prices in the bottom quarter, or prices in the bottom third. In truth, there is no perfect approach, and the optimal approach will vary by area. For example, very few first time buyers in London will be purchasing a property at a price approaching their local median, and in that sense “prices in the bottom half” seems ambitious. In other parts of the country, however, first time buyers with professional buyers will often buy homes that are more expensive than the bottom fifth. There is no universally correct answer, which is why both of these definitions are used. As is demonstrated later in this report, the same results are produced either way, which provides confidence in the robustness of the approach.

Specifically, the research looks at whether the price of the two chosen types of homes (as defined already) get more or less expensive in a particular quarter. The research considers, for example, whether the average price of homes in the cheaper half of the distribution sold in Aylesbury Vale in the second quarter of 2008 were cheaper

or more expensive than the average price of homes in the cheaper half of the distribution sold in Aylesbury Vale in the first quarter of 2008. Similarly, the research looks at whether the average price of a home in the cheapest fifth of those sold in Tonbridge and Malling in the third quarter of 2021 was more or less expensive than the average price of homes of that type, in that place, in the second quarter of 2021. In each case, the price of the new-builds themselves is excluded - the research focused on finding the effect of building on the price of existing homes. **This analysis was repeated quarter-by-quarter in every lower-tier local authority in England between 2001 and 2025.**

To explain these movements, the research looks at the number of cheaper and more expensive newly built homes that were sold in that local authority area, in that quarter. The research considers whether it is the case that one type is more effective at making homes more affordable, or whether all homes are equally effective at doing this.

Several other factors are included in the analysis:

- **Changes in interest rates.** As noted, a rise in interest rates is expected to lead to a fall in house prices, because a rise in interest rates reduces people's ability to afford housing.
- **Controlling for "mean reversion".** Local authorities are small, and only a limited number of homes are sold in any one quarter. In some quarters, for completely random reasons, the homes sold will be larger, or more desirable than average, and in some quarters they will be smaller or less desirable in some way. This means that if prices were particularly high in one quarter, they will probably fall back the next - a common process known to statisticians as "mean-reversion". To prevent this effect contaminating the analysis, the price of property in the previous quarter is included.
- **Seasonality.** It is also known that house prices are seasonal. Again, to prevent the generation of misleading results, the quarter in which the sale takes place is included. The research finds that prices are highest for sales that complete in the first quarter, and lowest in the last quarter.
- **Inflation.** Inflation can either increase or decrease prices. In general, inflation is expected to increase house prices - after all, when prices rise, all prices typically rise. In some circumstances inflation lowers house prices in the short run. This is because people know that a rise in inflation makes it more likely that interest rates will rise, or an expected fall in interest rates will be delayed. This will lead them to be more cautious about buying homes. In general, expected inflation will raise prices, unexpected prices will have the opposite effect, at least in the short term. For this research, inflation is included for reasons of statistical validity.

As noted, a lot of data is used in this research. Each regression is an analysis of over six thousand observations, each one the price of a particular type of housing in a particular local authority in a particular time period. It is a comprehensive basis on which to perform this analysis. It is worth noting, however, that each of those observations is in turn the average of all the individual property sales within a local authority for every quarter. **The data underlying the analysis is robust and comprehensive.**


“THE PRICE OF HOUSING MEANS THAT MORE FAMILIES ARE UNDERHOUSED, WITH 850,000 FAMILIES NOW LIVING IN OVERCROWDED HOMES.”



RESULTS

Two different methods have been devised to look at the affordability of homes for those trying to get on the housing ladder. The first is simply whether homes in the cheapest half or fifth of the local market are getting cheaper or dearer, quarter on quarter. That is a good measure, in that actual prices are what buyers care about. But it has the issue that prices in the market as a whole could be changing because of - for example - changes in Stamp Duty, or expectations of changes in Stamp Duty. For this reason the research also looks at the changes in the price of cheaper homes relative to the prices of dearer homes. This means that if something big is happening to prices in the market as a whole, it can still be seen what sort of new build housing has the biggest effect on the price of entry level housing. The research looks first at actual prices, and then at relative prices.

The primary focus of the research is the effect of building homes of a particular type over the medium term on the affordability of homes for those trying to get on the housing ladder. For that reason the variable “number of homes built” is the number built in the previous five years.

As noted earlier, **this is tested in four different ways.**



IMPACT ON THE CHEAPEST HALF OF THE LOCAL MARKET

The first assessment looks at whether the price of homes in the cheaper half of the distribution increases or falls more in local authority areas that have a larger number of larger, high value homes built in the previous five years. The result is clear: **in areas in which there are a greater number of larger, higher value homes built, prices of cheaper than average homes are lower than is otherwise the case.** The result is, in statistical terms, highly significant. It is no more likely to come about by chance than by tossing a coin and getting heads 55 times in a row.[11]

It is worth commenting on the size of the effect, since the meaning of a coefficient of -0.0013 is not immediately obvious. In order to illustrate the real world effect, imagine that those local authorities that build fewer-than-average homes at above the average price for the area mirrored a typical local authority. This is not a particularly ambitious agenda - it simply postulates that no authority is below the current average. If that were the case, the cost of entry-level homes would be around £2,700 lower. That is, of course, neither a best guess nor a limit on the size of the effect on price from building a greater number of larger, higher value homes. It is an indication of the likely order of magnitude effect on prices following from relatively small changes in what sort of homes get built. This effect is an average across the country, and is estimated as a proportion of house prices. The effect will therefore be twice as large in absolute terms in areas where prices are twice the national average, and so on.

11 T statistic of 8.4814 equates to a probability value approximately equal to 0.5^55, see https://www.omnicalculator.com/statistics/p-value





IMPACT ON THE CHEAPEST FIFTH OF THE LOCAL MARKET

The second assessment looks at whether homes in the cheapest fifth become cheaper when a higher number of larger, higher value homes are built. Again, we find that this is the case. The level of statistical significance is very similar - in fact it is slightly higher.

Again, we can estimate the magnitude of the effect. The coefficient is slightly larger, but of course the price of homes in the cheapest quintile is lower than in the cheapest half. **The net effect is to leave the order of magnitude price effect in much the same place: in this case a fall of £2,500 on average.**

RELATIVE IMPACT ON THE CHEAPEST HALF OF THE LOCAL MARKET

The third method of assessment looks at whether homes in the cheaper half of the distribution become cheaper relative to homes that are more expensive than average, when a high number of larger, high value homes are built and sold. This is a much tougher test. It would be possible for the absolute price - tests one and two - to be satisfied if building high numbers of larger, high value homes pushed down the price of all homes. This test is tougher, since cheaper homes now have to fall in price relative to more expensive ones - pushing down the price of all homes would not be sufficient in this case.

Again, we find that this test is satisfied. **In local authorities where a high number of larger, higher value homes have been built and sold in the previous five years, prices of cheaper homes are lower, relative to the price of more expensive homes, than is otherwise the case.** This test is about relative prices, and there is therefore no straightforward interpretation of the size of the effect.



RELATIVE IMPACT ON THE CHEAPEST FIFTH OF THE LOCAL MARKET

Finally, we look at the price of homes in the cheapest fifth, relative to those in the top half. **Once more we find that an increase in the number of larger, higher value homes built lowers the cost of the cheapest homes, relative to those that are priced above average.**

SUMMARY OF RESULTS

Four tests, four consistent and statistically significant results. **The best way to make entry level homes, suited to first time buyers, more affordable, is to permit developers to build a greater number of larger homes. Building more larger homes will free up existing smaller homes, increasing their availability and making them more affordable.**

The appendix includes greater detail on the statistical results.



DISCUSSION

It is at first sight surprising that the way to make small homes more affordable is to ensure that a higher number of larger homes are built each year. That is, however, exactly what all four tests find.

The reasons are likely to be twofold.

First, more expensive homes in an area are typically larger than cheaper homes. Building a greater number of such homes means building more square feet of housing. Supply is about the number of homes, but it is also about the square footage as well. Building big is building more, and building more has a bigger effect on house prices.

The second effect is by **freeing up the market**. It is not costless to move home, so people only do it when something offers them a material advantage. Bigger new homes often meet that criteria - leading people to move home who would not otherwise have done so. A large proportion of people who buy these sorts of homes do so without being compelled - their existing homes are adequate, if less than ideal. By moving home they allow onto the market their previous home, which - while not ideal for them - is ideal for someone else. The more we can free up the market, the better we can ensure the matching of families to homes. **The end result is a filtering effect: as people trade up, entry level properties become more available - so that, through the standard processes of supply and demand, such homes become more affordable.**

It is also worth commenting on the position of new build homes for first time buyers. New homes sell at a premium. That premium reflects the fact that, for example, the heating system and white goods are all new. The maintenance costs, and the costs of heating, will be lower for many years. New homes also come with a 10 year guarantee. They categorically offer a good value proposition to the buyer - indeed, they would not command a price premium otherwise. None of this cuts across the impact of new build homes on improving the affordability of housing more widely.

Many first time buyers are under a hard, short-term financial constraint. They have saved up a particular amount of money for the deposit and the associated costs of moving home such as Stamp Duty. The bank will lend them a fixed amount of money, based on their income. Their parents, perhaps, can support them to a certain extent. The fact that a new home will save them money for years to come is all very well and good, but if they can't afford the price upfront, they cannot buy the property. That is why, for generations in the past, and for generations to come, many first time buyers buy places that are rough around the edges. New builds are never cheap and tatty, and so new builds can only appeal to part of the first time buyer market. In contrast, larger new builds will always find a buyer. There are many better off people, generally middle-aged, who want and are willing to pay for the convenience of a place that is perfect - and where any defects are covered by a warranty.

By building homes for these people, as well as at other price points to cater for other parts of the market, developers enable existing homeowners to move out of other homes that are heterogeneous. Some are perfect, some are worn - but that greater variety is good news for first time buyers, who have a variety of preferences, and a variety of incomes.



CONCLUSION

The price of housing is ultimately a simple matter of supply and demand. Increasing supply - of all types - will reduce house prices. Nothing in this report speaks against that conclusion. This report finds, clearly and unambiguously, that the best way to make it easier for young people to get onto the housing ladder and own a place of their own, is for society to allow an increase in the number of larger homes to be built. These do more for affordability than the construction of smaller homes. The results are clear, statistically significant, and unambiguous: **a modest increase in the proportion of larger new build homes will cut the price of smaller, entry level homes by an average of around £2,500 across the country.**

Building bigger homes leads people to trade up, freeing up smaller and cheaper homes of a variety of types. This filtering effect is the way the housing market works. No matter what is built, the chain ends with a first time buyer, whether they buy a newly built or an existing home. This also benefits renters, by reducing competition for rental homes.

The lesson for policy makers, local and national, is clear. It is not sensible to try to dictate what type of homes should be built where, nor to buck the market. Those who are concerned about getting young people onto the ladder should allow housing developers much leeway as to what to build. Developers know the local market better than anyone else. Allowing them to build the sort of homes that will sell quickly increases build-out rates, which is the surest way to see supply increase, and is the best and most reliable way to make homes become more affordable for all.



APPENDIX

All statistical tests were performed in Python.

FIRST ESTIMATE

Explaining the change in the price of cheaper than average homes, from one quarter to the next.

```
=== Running Long Term + Controls (Half) ===

Fixed Effects Model - Long Term + Controls (Half)

                                  PanelOLS Estimation Summary
================================================================================
Dep. Variable: percentage_change_Half_1          Max Obs: 331.0
Estimator: PanelOLS                              R-squared: 0.1404
No. Observations: 18533                          R-squared (Between): -0.7361
Date: Sat, Mar 08 2025                           R-squared (Within): 0.1404
Time:  18:44:26                                  R-squared (Overall): 0.1321
Cov. Estimator: Unadjusted                       Log-likelihood: -5.023e+04

Entities: 331                                    F-statistic: 371.44
Avg Obs: 55.991                                  P-value: 0.0000
Min Obs: 53.000                                  Distribution: F(8,18194)
Max Obs: 56.000
                                                 F-statistic (robust): 371.44
Time periods: 56                                 P-value (robust): 0.0000
Avg Obs: 330.95                                  Distribution (robust): F(8,18194)
Min Obs: 330.0


                                Parameter Estimates
================================================================================
                              Parameter  Std. Err.     T-stat    P-value    Lower CI    Upper CI
--------------------------------------------------------------------------------
change_Bank_Rate_lag_1          -1.6910     0.0978    -17.297     0.0000     -1.8826     -1.4994
change_cpih_lag_1               -0.0096     0.0426    -0.2261     0.8212     -0.0931      0.0738
Half_1_NewBuild_Year_lag_0to5    0.0006     0.0003     2.1473     0.0318   5.201e-05      0.0011
Half_2_NewBuild_Year_lag_0to5   -0.0013     0.0002    -8.4814     0.0000     -0.0016     -0.0010
percentage_change_Half_1_lag_1  -0.2816     0.0071    -39.825     0.0000     -0.2955     -0.2678
Q1                               2.1294     0.0773     27.564     0.0000      1.9780      2.2808
Q2                               1.8778     0.0769     24.426     0.0000      1.7271      2.0284
Q3                               1.3909     0.0765     18.181     0.0000      1.2410      1.5409
const                            0.2005     0.0584     3.4310     0.0006      0.0859      0.3150
================================================================================

F-test for Poolability: 1.0206
P-value: 0.3877
Distribution: F(330,18194)

Included effects: Entity
```

SECOND ESTIMATE

Explaining the relative change in the price of the cheapest homes, from one quarter to the next.

```
=== Running Long Term + Controls (Half) ===

Fixed Effects Model - Long Term + Controls (Half)

                                  PanelOLS Estimation Summary
================================================================================
Dep Variable: percentage_change_Quintile_1      R-squared: 0.1869
Estimator: PanelOLS                            R-squared (Between): -0.9440
No. Observations: 18533                        R-squared (Within): 0.1869
Date: Sat, Mar 08 2025                         R-squared (Overall): 0.1786
Time:  18:47:55                                Log-likelihood: -5.325e+04
Cov. Estimator: Unadjusted

                                               F-statistic: 522.81
Entities: 331                                  P-value: 0.0000
Avg Obs: 55.991                                Distribution: F(8,18194)
Min Obs: 53.000
Max Obs: 56.000                                F-statistic (robust): 522.81
                                               P-value (robust): 0.0000
Time periods: 56                               Distribution (robust): F(8,18194)
Avg Obs: 330.95
Min Obs: 330.0
Max Obs: 331.0

                             Parameter Estimates
================================================================================
                              Parameter  Std. Err.     T-stat    P-value    Lower CI    Upper CI
--------------------------------------------------------------------------------
change_Bank_Rate_lag_1          -1.6258     0.1151    -14.127          0     -1.8514     -1.4002
change_cpih_lag_1               -0.3312     0.0501    -6.6088          0     -0.4295      -0.233
Half_1_NewBuild_Year_lag_0to5    0.001     0.0003     2.9404     0.0033     0.0003      0.0016
Half_2_NewBuild_Year_lag_0to5   -0.0016     0.0002    -8.5863          0     -0.002     -0.0012
percentage_change_Half_1_lag_1  -0.3427      0.007    -49.223          0     -0.3563      -0.329
Q1                               3.0874     0.0905      34.13          0      2.9101      3.2647
Q2                               1.6979     0.0918     18.494          0       1.518      1.8779
Q3                               0.7511     0.0901     8.3393          0      0.5746      0.9277
const                            0.1851     0.0682     2.7128     0.0067      0.0514      0.3188
================================================================================

F-test for Poolability: 0.9451
P-value: 0.7540
Distribution: F(330,18194)

Included effects: Entity
```

THIRD ESTIMATE

Explaining the change in the relative price of cheaper than average homes, from one quarter to the next.

```
=== Running Long Term + Controls (Half) ===

Fixed Effects Model - Long Term + Controls (Half)

                                  PanelOLS Estimation Summary
================================================================================
Dep. Variable: percentage_change_price_ratio_cheap_all_half
Estimator: PanelOLS
No. Observations: 18533
Date: Sat, Mar 08 2025
Time:  19:03:07
Cov. Estimator: Unadjusted

Entities: 331
Avg Obs: 55.991
Min Obs: 53.000
Max Obs: 56.000

Time periods: 56
Avg Obs: 330.95
Min Obs: 330.0
Max Obs: 331.0

R-squared: 0.2944
R-squared (Between): -1.0622
R-squared (Within): 0.2944
R-squared (Overall): 0.2909
Log-likelihood: -5.681e+04

F-statistic: 948.91
P-value: 0.0000
Distribution: F(8,18194)

F-statistic (robust): 948.91
P-value (robust): 0.0000
Distribution (robust): F(8,18194)

                             Parameter Estimates
================================================================================
                              Parameter  Std. Err.     T-stat    P-value    Lower CI    Upper CI
--------------------------------------------------------------------------------
change_Bank_Rate_lag_1           0.7927     0.1391      5.697          0        0.52      1.0655
change_cpih_lag_1               -0.1144     0.0608     -1.8812       0.06     -0.2336      0.0048
Half_1_NewBuild_Year_lag_0to5    0.0004     0.0004      1.1231     0.2614     -0.0003      0.0012
Half_2_NewBuild_Year_lag_0to5   -0.0005     0.0002     -2.2019     0.0277     -0.0009  -5.421e-05
percentage_change_Half_1_lag_1  -0.4605     0.0066     -69.764          0     -0.4735     -0.4476
Q1                               3.7086     0.1115      33.254          0        3.49      3.9272
Q2                               1.2664      0.115          11          0      1.0409      1.4919
Q3                              -2.2986       0.11     -20.901          0     -2.5141      -2.083
const                           -0.4708     0.0841      -5.601          0     -0.6356     -0.3061
================================================================================

F-test for Poolability: 0.4166
P-value: 1.0000
Distribution: F(330,18194)

Included effects: Entity
```

FOURTH ESTIMATE

Explaining the relative change in the price of cheapest homes, from one quarter to the next.

```
=== Running Long Term + Controls (Half) ===

Fixed Effects Model - Long Term + Controls (Half)

                                  PanelOLS Estimation Summary
================================================================================
Dep Variable: percentage_change_price_ratio_cheap_all  R-squared: 0.2878
Estimator: PanelOLS                                    R-squared (Between): -1.1414
No. Observations: 18533                                R-squared (Within): 0.2878
Date: Wed, Mar 12 2025                                 R-squared (Overall): 0.2846
Time:  11:32:06                                        Log-likelihood: -5.931E+04
Cov. Estimator: Unadjusted

                                                       F-statistic: 919.16
Entities: 331                                          P-value: 0.0000
Avg Obs: 55.991                                        Distribution: F(8,18194)
Min Obs: 53.000
Max Obs: 56.000                                        F-statistic (robust): 919.16
                                                       P-value (robust): 0.0000
Time periods: 56                                       Distribution (robust): F(8,18194)
Avg Obs: 330.95
Min Obs: 330.0
Max Obs: 331.0

                                Parameter Estimates
================================================================================
                              Parameter  Std. Err.     T-stat    P-value    Lower CI    Upper CI
--------------------------------------------------------------------------------
change_Bank_Rate_lag_1           0.9785     0.1593      6.144          0      0.6664      1.2907
change_cpih_lag_1               -0.4511     0.0696     -6.4794          0     -0.5876     -0.3147
Half_1_NewBuild_Year_lag_0to5    0.0008     0.0005      1.817     0.0692  -0.489e-05      0.0017
Half_2_NewBuild_Year_lag_0to5   -0.0007     0.0003     -2.7599     0.0058     -0.0012     -0.0002
percentage_change_Half_1_lag_1  -0.4246     0.0067     -62.977          0     -0.4378     -0.4114
Q1                               4.6645     0.1278      36.504          0      4.4141       4.915
Q2                               0.9598     0.1333      7.1992          0      0.6985      1.2212
Q3                              -2.9643     0.1256     -23.608          0     -3.2104     -2.7182
const                           -0.5015     0.0964     -5.2006          0     -0.6905     -0.3125
================================================================================

F-test for Poolability: 0.3613
P-value: 1.0000
Distribution: F(330,18194)

Included effects: Entity
```







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