

naea
propertymark



Bricks Campaign

A report for NAEA Propertymark

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Key findings

- With the exception of a few years during and immediately following the financial crisis, UK house prices have been increasing constantly over the past decade.
- While house prices are impacted by numerous macroeconomic factors, more fundamentally they are driven by the supply of housing units and the demand for the same.
- In the 2006-2016 period UK household growth has outstripped increases in the dwelling stock by over 264,000 housing units. This has led to sharp price appreciation and prevented many families from getting onto the property ladder.
- Among the difficulties with tackling underbuilding are both shortages in bricks and skill shortages in the construction sector. Brick stocks steadily declined in the 2008-2013 period and only partially recovered in 2014 and 2015.
- A number of factors are contributing to the skill shortages in the construction industry. Firstly, during the recession housebuilding slowed down drastically prompting many workers to find alternate careers. Additionally, fewer young people are obtaining the training necessary to fill roles in the field. In fact, in the 2009/10-2013/14 period the number of construction apprenticeship framework achievements has consistently declined.
- Due to affordability issues a number of households have had to settle for smaller-than-ideal homes. Just 10 years ago, in 2006, the average new UK home was 91 m² in size – 8 m² larger than in 2016.
- If we assume that all outer walls of the home are made out of standard house bricks, then in 2006 an average new UK home would have required a total of 5,408 bricks. Due to the decreasing size of average UK homes in 2016 the average home requires 5,180 bricks.
- This means that in the decade between 2006 and 2016, the average new UK home shrunk by 8 m², 9.3% or 228 bricks.
- Keeping in mind that in 2016 the average UK home is made up of 5,180 bricks and that the building shortfall in the 2006-2016 period has resulted in a shortage of 264,000 housing units, resolving the UK housing shortage would require 1.4 billion bricks.

Property size over time

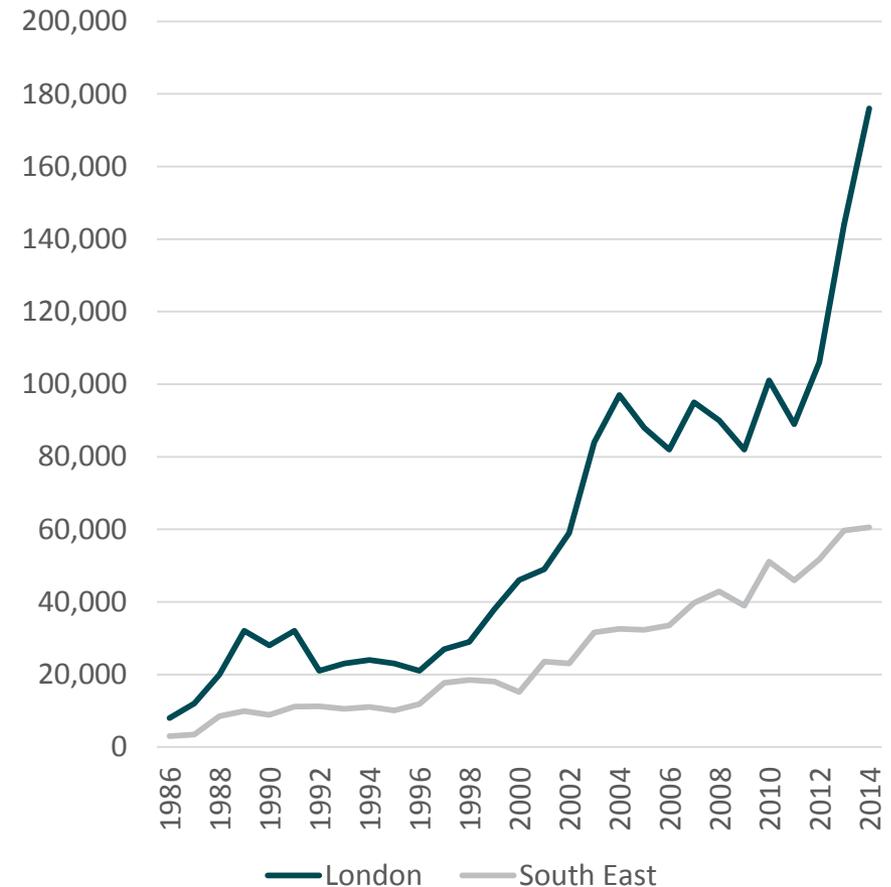
Housing shortfall

Brick shortages

The cost of moving up keeps families in smaller homes for longer

- Over the past century, the average UK home has been shrinking. In the 1920s the average dwelling was 153 m². In 2016 the average home is approximately half as big at 83 m².
- A part of this change can be explained by demographic trends. The average number of children in a household has been steadily declining, meaning that many families do not need as much space. Additionally, over the past century strong economic growth in urban centres has meant that many households have left larger houses in rural areas in favour of flat living in bigger cities. The number of single person households has been on the rise as well.
- However, a part of the decrease is also explained by financial restrictions. Home affordability has been worsening in recent years and many are forced to buy smaller than ideal properties.
- Some families may also choose to remain in their smaller 'starter' home for longer as they cannot afford to move up the property ladder after they have children, especially in more expensive regions. As shown in the graph to the right, the cost of moving up the property ladder has been on the rise.

Price gap between a terraced house and a purpose-built flat, £

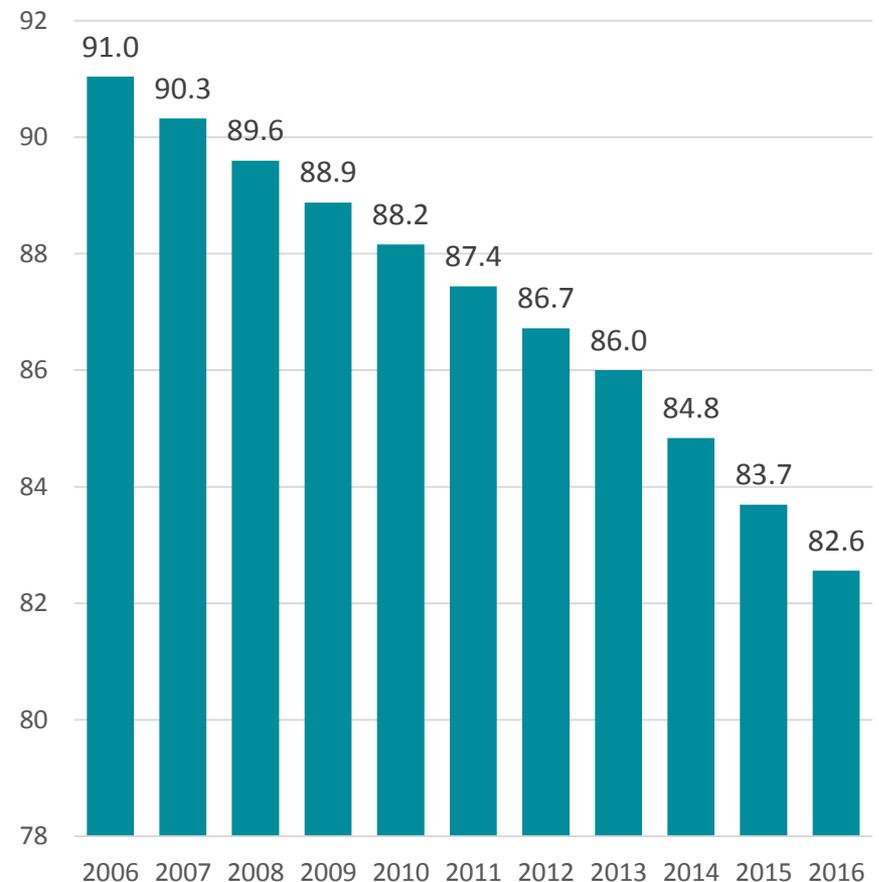


Source: Office for National Statistics

The average UK home shrinks by 8 m² in the past decade

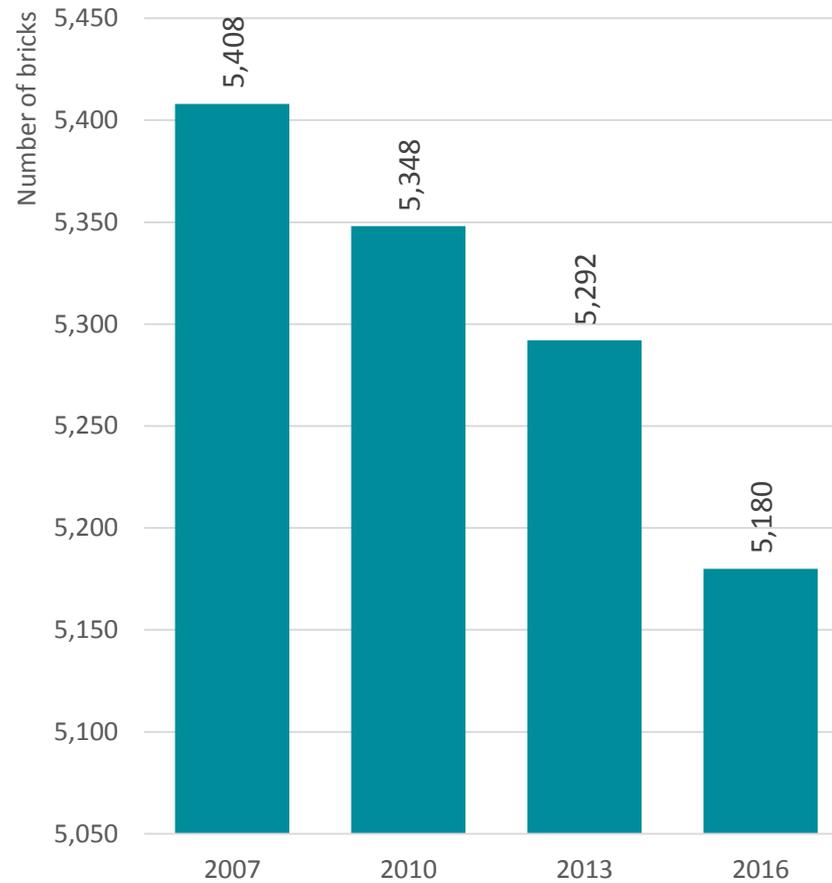
- Just 10 years ago, in 2006, the average new UK home was 91 m² in size – 8 m² larger than in 2016.
- If we assume that all outer walls of the home are made out of standard house bricks (215 l x 65 h mm) with a 10 mm mortar joint (a mortar joint is the space between bricks that is filled with mortar or grout), then in 2006 an average new UK home would have required a total of 5,408 bricks. This is shown in the graph on the following page. The calculations assume that non-brick materials are used for most of the interior construction.
- Due to the decreasing size of average UK homes in 2016, the average home requires 5,180 bricks.
- This means that in the decade between 2006 and 2016, the average new UK home shrunk by 8 m², 9.3% or 228 bricks.
- While living in a smaller home entails certain advantages e.g. lower utility bills, less time required to maintain the property there is a point at which living in too small of a space becomes uncomfortable.
- For example, multiple children having to share a bedroom can lead to a distracting learning environment which may adversely impact school performance.

Average floor area of a new dwelling, UK, m²



Source: Royal Institute of British Architects, Cebr Analysis

Number of bricks needed to build an average-sized home, UK

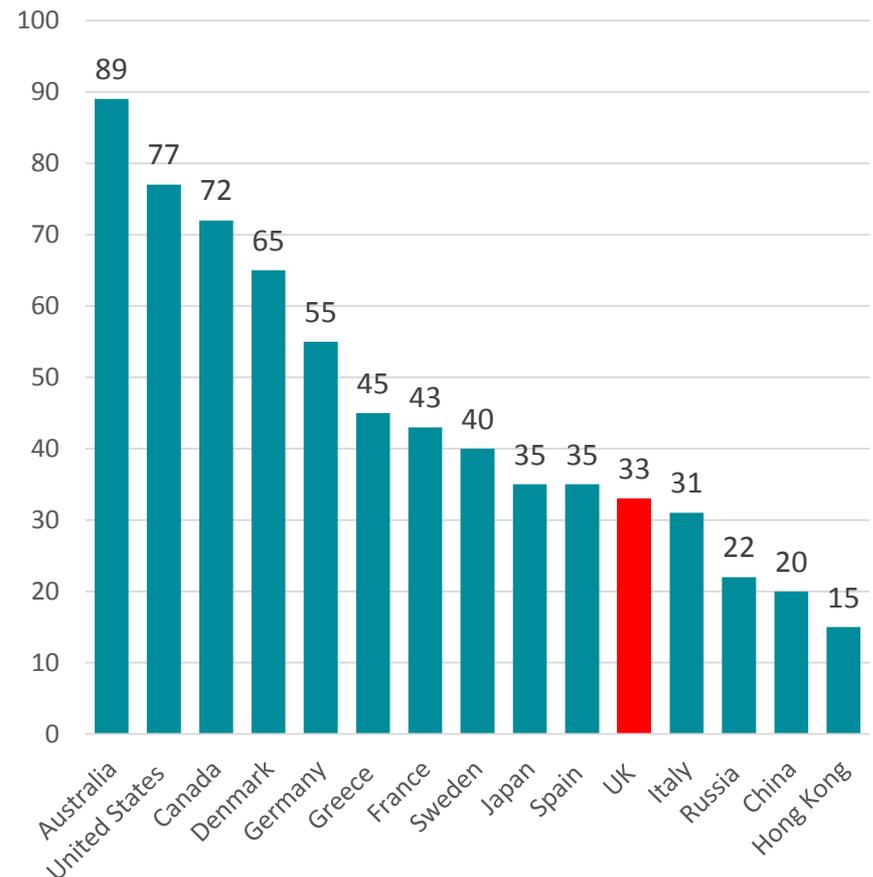


Source: Royal Institute of British Architects, Jewson Bricks Calculator, Cebr Analysis

Homes in the UK smaller than in the other parts of the world

- Shrinking homes in the UK seem like a greater concern when considered in an international context.
- Based on 2009 data, UK residents have less floor space to themselves than people living in numerous other developed countries.
- It is worth noting that those countries towards the top of the list such as Australia, US and Canada tend to be much bigger geographically than the UK and therefore may allow for construction of larger homes.
- It is also interesting that the UK trend of shrinking homes is not a global one. For example, in the US the exact opposite has been observed. The average home size in 2013 was 241 m² compared to 216 m² in 2009, 195 m² in 1993 and 160 m² in 1983.
- In the UK, the 'shrinking house' trend may continue as property prices continue to rise and homebuyers must settle for less and less space. However, it is also possible that regulatory forces will intervene through changes in the standard space requirements.
- For instance, the London Plan sets minimum space requirements for new builds. A new single occupancy one bedroom must be at least 37 m² in size, which increases to 50 m² for two people sharing a 1 bedroom property.

Average residential floor space per capita, m²



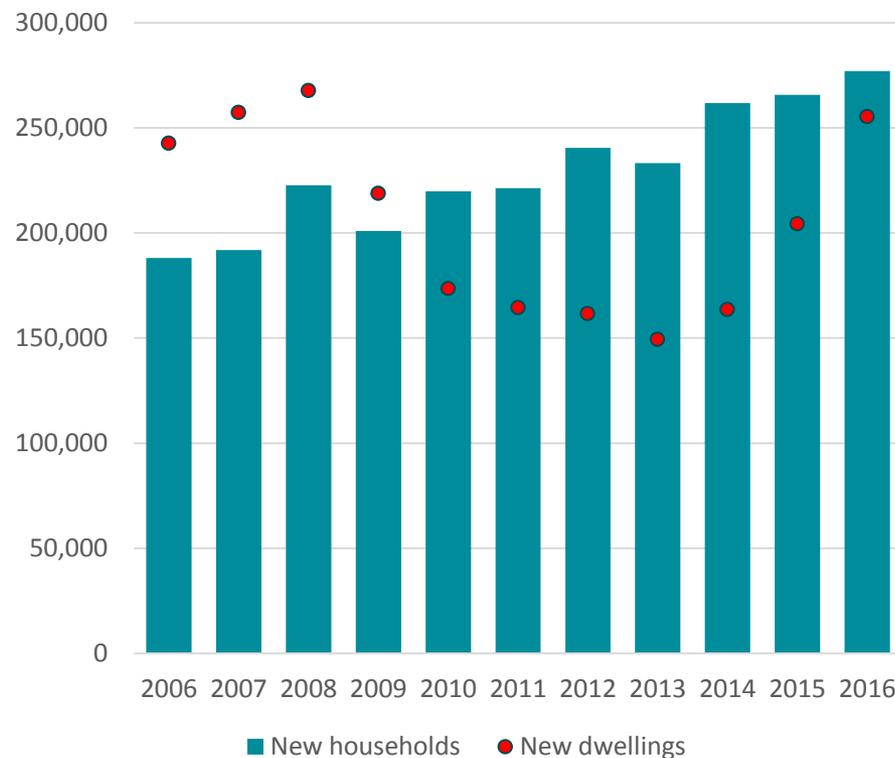
Source: CommSec, RBA, UN, US Census, compiled by Shrink That Footprint

Property size over time
Housing shortfall
Brick shortages

UK housing demand continuously outstrips supply

- With the exception of a few years during and immediately following the financial crisis, UK house prices have been increasing constantly over the past decade.
- House prices are impacted by numerous macroeconomic factors, for example the global investment appetite. However, more fundamentally prices are driven by the supply of housing units and the demand for the same.
- One way to compare housing demand to supply is to analyse annual increases in the number of households (an indicator of demand) with changes in the dwelling stock (a measure of supply). This is shown in the graph on the right.
- The bars represent the number of new households living in the UK in a given year while the red dots show the increase in the dwelling stock in the same year.
- Hence, for every year in which the red dot stands below the bar level there is a shortfall in supply, while if the red dot is above the bar homebuilding in that year exceeded population growth.

Annual increases in UK households and the dwelling stock

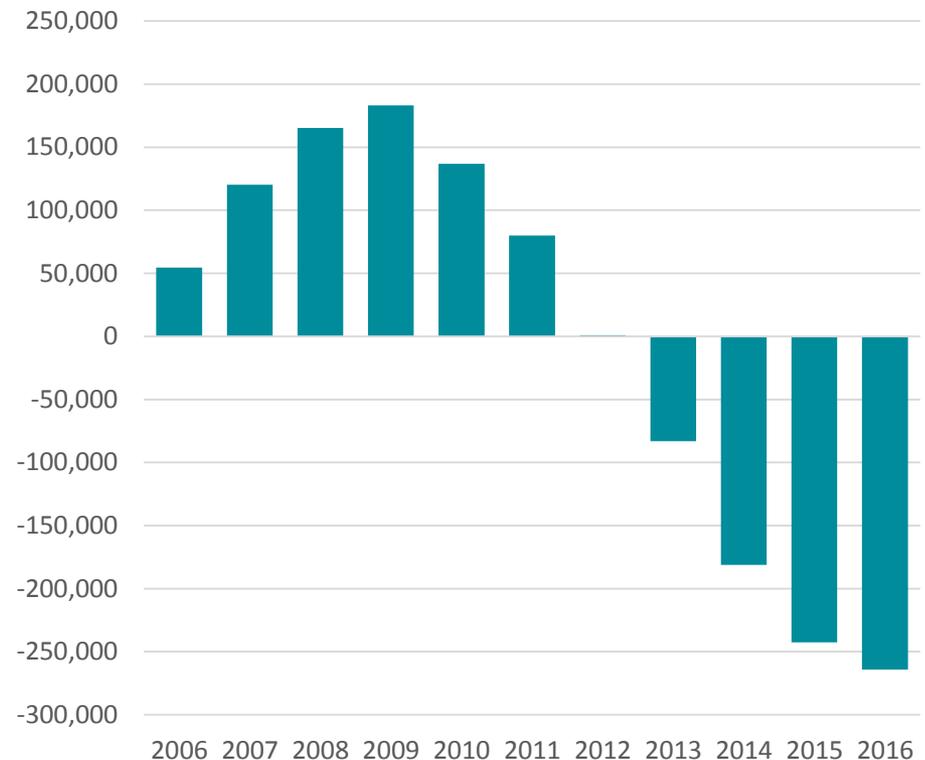


Source: DCLG, Cebr analysis

Solving the UK housing shortage would require 1.4 billion bricks

- The graph on the right shows the housebuilding surplus or shortfall since 2006. Although supply and demand are not the only factors determining average housing prices, continuous building shortfalls have drastically contributed to strong house price growth across the country.
- In the 2006-2016 period UK household growth has outstripped increases in the dwelling stock by over 264,000 housing units.
- Given that in 2016, the average UK home is made up of 5,180 bricks, resolving the housing shortage would require 1.4 billion bricks.
- This figure only takes into account the housing shortage that has accumulated in the 2006-2016 period. As the current rate of housebuilding is not keeping up with households growth, in each year that passes the housing shortage worsens and more bricks and other resources become necessary to address the issue.

Shortfall or surplus in housebuilding since 2006, UK



Source: DCLG, Cebr analysis

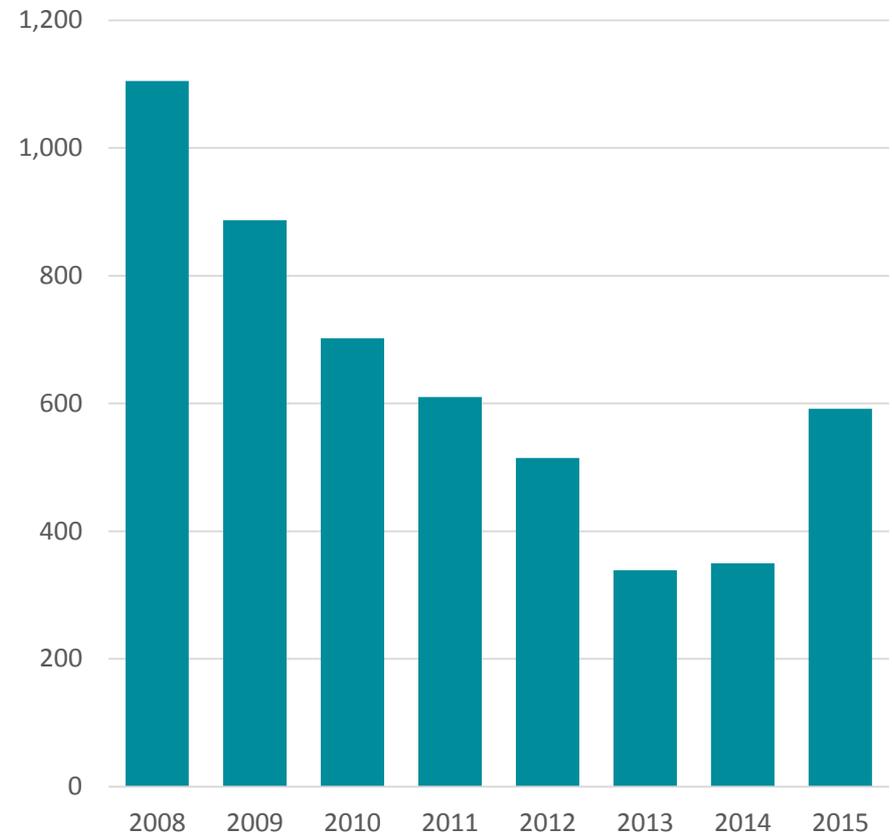
NB A positive figure indicates a housing surplus in a given year i.e. the housing stock increased by more than the population. A negative figure indicates a housing shortfall i.e. the housing stock increased by less than the population.

Property size over time
Housing shortfall
Brick shortages

Bricks stocks begin to recover after years of sharp declines

- Among the difficulties with tackling underbuilding are both shortages in bricks and skill shortages in the construction sector.
- In an April 2015 report, the Federation of Master Builders (FMB) warned that a worsening bricks shortage was hindering housebuilding projects.
- In fact brick stocks steadily declined in the 2008-2013 period and only partially recovered in 2014 and 2015.
- Further research by FMB in April 2015 found that almost two-thirds of small and medium-sized construction businesses (SMEs) faced a two-month wait for new brick orders, with almost a quarter waiting for up to four months and 1 in 6 (16%) waiting six to eight months.
- Moreover, half of all of construction SMEs were experiencing difficulties recruiting bricklayers.
- A decline in the stock of bricks is partially explained by the slowdown in building following the recession. SMEs may find it especially difficult to acquire bricks as producers are often busy fulfilling bigger orders for large builders.

Stocks of bricks, millions of bricks end of period, Great Britain

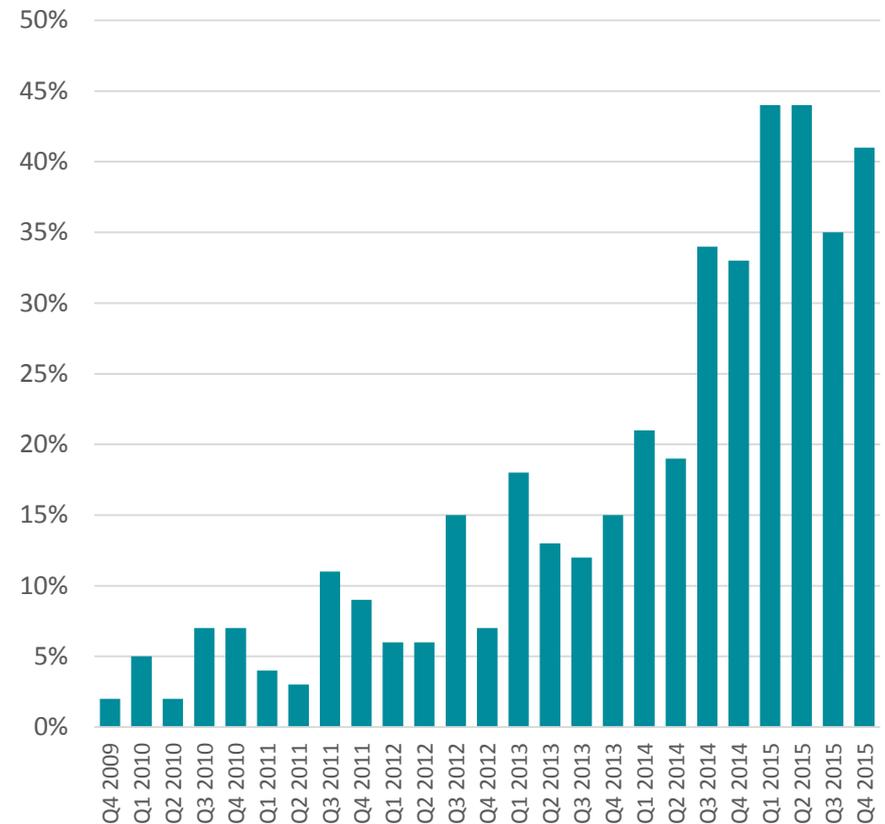


Source: DCLG

Housebuilding levels threatened by skill shortages

- Alongside brick underproduction, skill shortages have also stood in the way of boosting housebuilding.
- As the graph to the right shows, an increasing share of construction companies is reporting non-management skills to be a greater challenge than a year ago.
- A number of factors are contributing to the skill shortages in the industry. Firstly, during the recession housebuilding slowed down drastically prompting many workers to find alternate careers. As the housing market recovered, many of these workers chose not to return to their former line of work.
- Additionally, as is evidenced by the apprenticeship data on the following slide fewer young people are obtaining the training necessary to fill roles in the field. This has led to some trade bodies calling for additional government incentives which would make it more attractive for construction firms to offer apprenticeships.

% of construction companies reporting non-management skills to be a greater challenge than a year ago

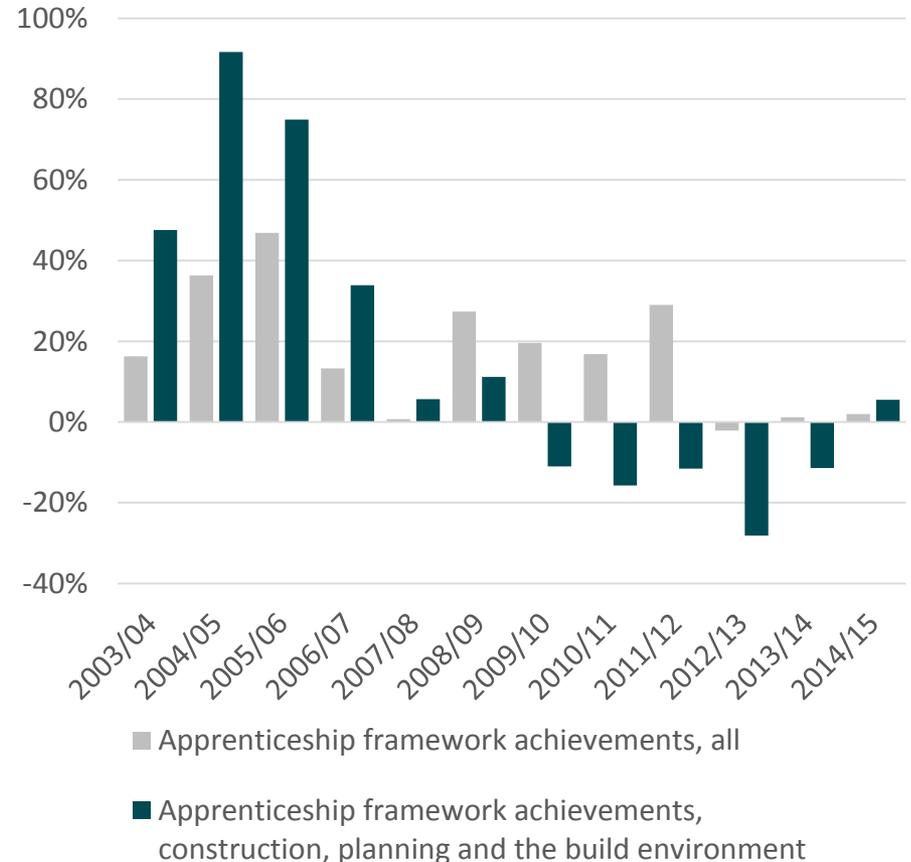


Source: ICAEW/Grant Thornton Business Confidence Monitor

Housebuilding levels threatened by skill shortages

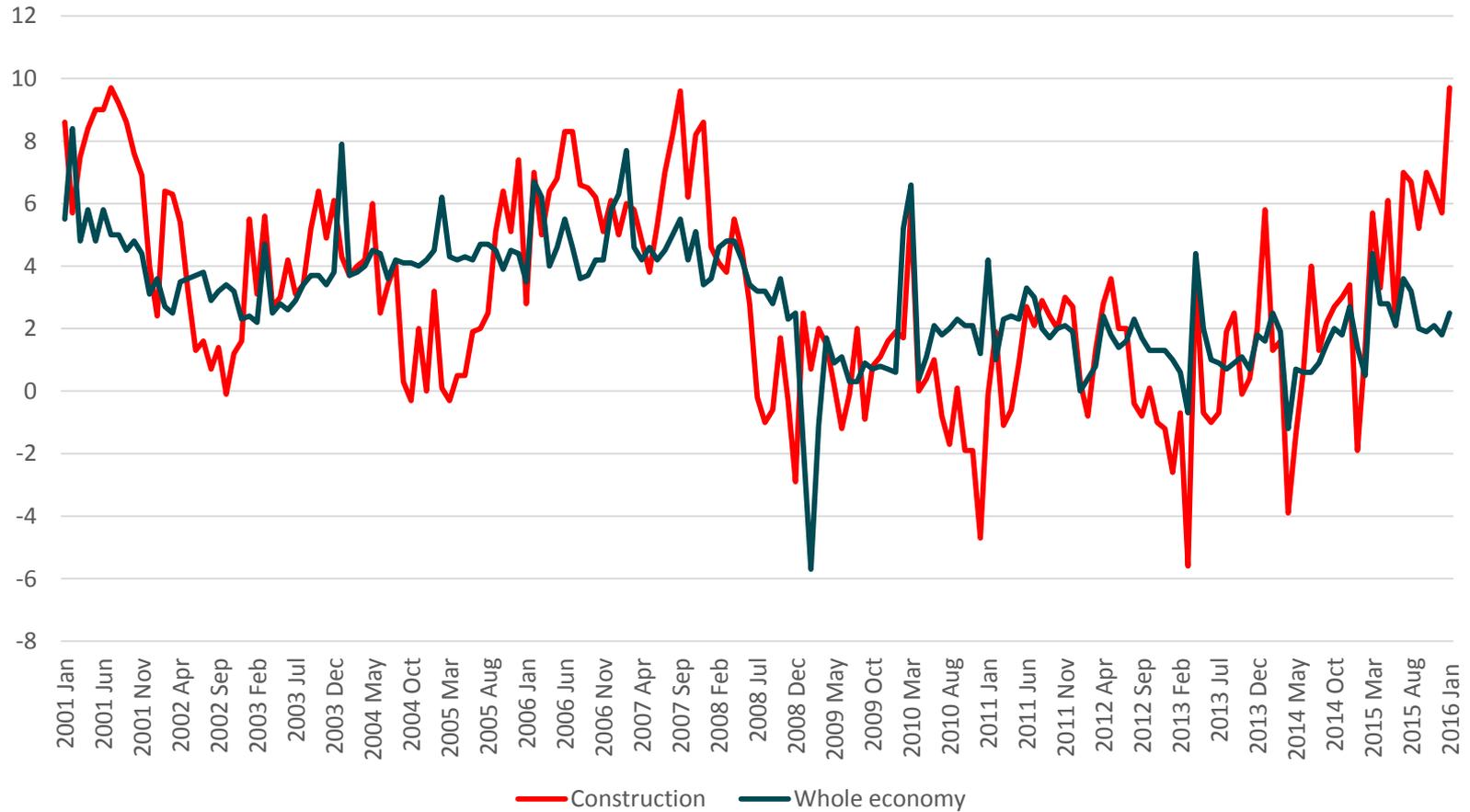
- As the graph to the right shows, in the 2003/04-2004/05 period year-on-year growth in construction apprenticeship achievements outpaced growth across apprenticeships overall.
- However, in nearly every year since the opposite has been true. In fact, in the 2009/10-2013/14 period the number of construction apprenticeship framework achievements has consistently declined.
- One of the reasons that fewer people are finding construction jobs a less attractive option is that fluctuations in building demand mean that companies prefer to hire workers on temporary contracts while most workers look for more secure roles.
- There is some hope that the construction industry will draw more talent in the coming years as skill shortages have placed upward pressure on wages in the sector. This is shown on the following slide.
- In the short term, higher wages may draw more skilled foreign construction workers to the UK to fill the available roles, while in the long term it can inspire more UK students to obtain training in the field.

Apprenticeship framework achievements, England, year-on-year change



Source: Skills Funding Agency

Average weekly earning including bonuses, year-on-year change, %



Source: Office for National Statistics



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