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# Spatial Economics Research Centre

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## Fear of Fracking: house price reactions to fracking in Britain

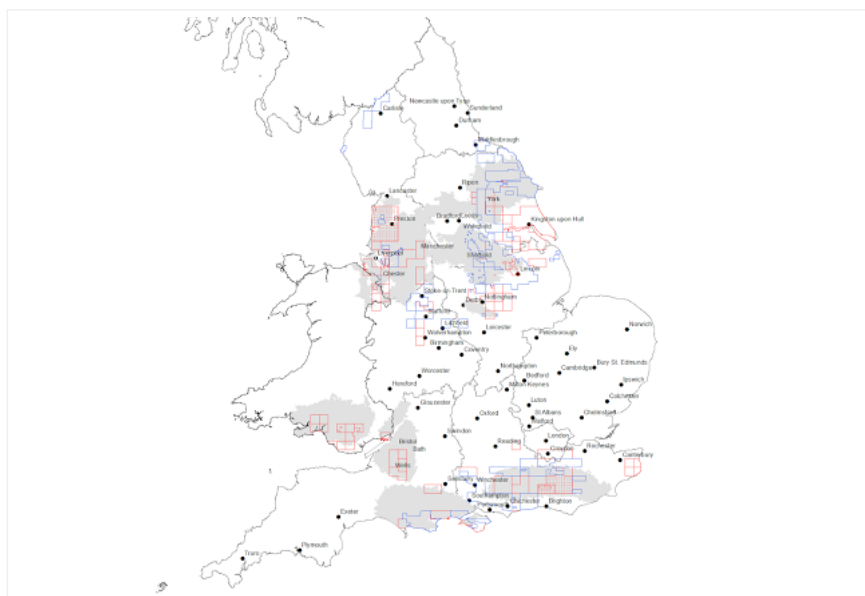
Posted by **Steve Gibbons (LSE, SERC)**; **Stephan Heblich (University of Bristol, SERC)**; **Esther Lho (Duke University)**; **Christopher Timmins (Duke University, National Bureau of Economic Research)**

Earlier this month, the government gave approval for exploratory drilling and hydraulic fracturing – ‘fracking’ – for shale gas at [two sites in Lancashire](#). This follows a similar decision for [North Yorkshire](#) earlier in the year.

Some will see these as landmark planning decisions marking the way to a low-cost energy future for the UK, with shale gas becoming a major new source of energy in countries across the globe. For others, particularly those who live locally, they will be seen as leading to potential environmental catastrophe. These fears are fuelled by many reports from the United States about the risks associated with shale gas extraction by fracking – water contamination, earthquakes – plus concerns about the local impact of traffic and extraction infrastructure.

Our [recent research](#) investigates whether these fears affect what people are prepared to pay to live in areas affected by fracking, by tracing out the impacts of shale gas licensing and exploration on house prices in England and Wales.

Although commercial shale gas development has not yet taken place in the U.K., exploration licenses have been offered since 2008 and many exploration wells have been drilled. Our findings suggest that this licensing and exploration in itself had little or no impact on house prices throughout most of England and Wales. See the map below for licensed areas.



*Note: The map shows blocks that were licensed for gas exploration in the 13th round in 2008 (red) and previous rounds (blue). Grey shaded areas have shale gas potential according to the British Geological Survey (BGS).*

The one exception is the one site in the UK where exploratory fracking for shale gas has taken place (shown as a red dotted area in the North West on the map). Here we find that prices fell by up to 5% after fracking commenced. A specific trigger for this was the occurrence of two highly publicised earthquakes in 2011 which were linked to the fracking.

What happened is illustrated succinctly in the Figure below, which plots the trend in adjusted house prices at quarterly intervals up to and after the earthquake event in 2011. The solid line represents the earthquake zone, while the dashed lines show trends in other licensed areas and where licenses specifically mention shale gas. In this picture, prices are scaled relative to the beginning of 2011. Clearly there was quite a marked fall in transaction prices in the months after the fracking and earthquake event.



These earthquakes were minor and would not have caused personal injury or damage to property. So the most likely explanation for any impact on house prices is that the earthquakes reminded people of the potential risks, and so reduced demand for homes in the vicinity.

The implication is that there are 'psychological costs' associated with fracking, which should be compensated. An existing industry Community Engagement Charter already recommends payments to local communities by drilling and exploration companies, of around £100,000 for exploration, plus 1% of revenues during extraction. The government has recently consulted on a new Shale Gas Wealth fund that proposes using 10% of revenues from shale gas to fund payments with a maximum of £10 million per site, [to communities and individuals affected by extraction](#). But aggregate costs per site implied by the house price reductions are far in excess of these – over £100 million!

Compensation to communities could prove to be very costly, if local objections to fracking are to be overcome by those who see fracking as the answer at least in the short term – to securing Britain's energy.

Posted by [Neil Lee](#) on [Thursday, November 03, 2016](#)

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