



Which House Price? Finding the Right Measure of House Price Inflation for Housing Policy

This research was funded by ODPM under the New Horizons Programme. This programme encourages cross-cutting, new and innovative approaches to issues and research. This research project was done by Gwilym Pryce and Philip Mason at the University of Glasgow.

Context

This research project was motivated by the recommendations of the Barker Review (2003, 2004) and the New Horizons report 'The Micro and Macro Effects of the Location of New Housing Supply', by Pryce (2004). This research project arose out of concern that the usefulness of house price growth as a signal for planners could potentially be undermined by the nature of house price index collection in the UK. All major price indices in the UK are based entirely on the transactions of new and second-hand properties. Those properties which do not come onto the market in a given year will not be included in any of the price indices currently available. As such, house price measures and estimates of house price growth could yield a distorted picture of the true value of the total stock of housing. The result: misleading signals for land planning.

The two most important aims of the project were:

1. to examine measurement bias issues in existing measures of house price change, particularly bias arising from differences in the frequency of sale of different types/locations of property.
2. to find practical ways of correcting transactions bias in English regions using existing data sources.

Details of the findings are presented in the *Which House Price? Technical Report*. The purpose of the main policy report is to present a brief summary of the findings, to draw out the main policy implications and to offer appropriate recommendations.

Summary

The researchers found significant evidence that the proportion of the housing stock which trades in a given period varies non-randomly across space. They also found evidence that this distortion can cause bias to emerge in house price index calculation due largely to the fact that low-density areas not only have lower rates of turnover but have also been appreciating at a faster rate.

In the policy report the researchers also explained how a policy that encourages high-density development may inadvertently increase the disparity in price accumulation between low- and high-density areas, and further exacerbate transactions bias. Since this bias is likely to lead to an over-inflated estimate of the role new-build has played in reducing price inflation, the researchers may falsely conclude that the policy has been successful. Transactions bias also poses particular problems for planners trying to use local house price inflation estimates to identify the areas with the greatest supply shortages. This is because differences in measured house price growth may simply reflect the different proportions of low- and high-density housing in the areas being considered.

The researchers also looked at the implications of transactions bias for the greenfield/brownfield debate. They noted that, if their calculation of the relative benefits of greenfield development relies on house price indices that only include those properties which have traded, then their estimates are likely to understate the benefits of greenfield housing. This is because untraded properties are likely to have increased in value at a faster rate and are more likely to be low-density/greenfield developments (or adjacent to such sites).

The researchers also attempted to explore the implications of transactions bias for elasticity estimation. They concluded that the omission of untraded properties from price index calculations is likely to lead to an overestimation of both the price elasticity of demand and the price elasticity of supply. Moreover, if transactions bias is set to increase (partly due to the promotion of high-density development) then supply may appear to have become more responsive (“elastic”), when in actual fact, it is only the bias in our price measure that has increased.

Finally, the researchers speculated on the long-term implications of transactions bias (and the associated

distortion of policy decisions) for equity and race. Evidence from previous research suggested that house prices may already have polarised. There are clearly far-reaching implications in using house price measures that potentially encourage policy decisions that inadvertently exacerbate housing wealth inequality. There is therefore an imperative to develop methods of correcting house price measures so that they accurately reflect changes in the value of the whole stock, not just in those that frequently trade, and to understand more fully the spatial pattern of house price appreciation in the South East and elsewhere.

Recommendations

Recommendation 1

The researchers recommend that the investigation of transactions bias be extended to examine other house price series (such as those based on mortgage lender data), and that a variety of index computation methods be investigated to assess the extent to which sample selection bias persists under different sampling regimes and computation methods.

Recommendation 2

The researchers recommend that sample selection correction variables for the South East be made freely available to other housing economists and providers of house price information so that they can conduct their own analysis of the impact of including this correction term.

Recommendation 3

The researchers recommend that more research be done on alternative correction terms. For example, the probability of non-selection could be predicted from Fractional Logit regression methods, and combined with duration-based methods (applied to survey data) to provide a comprehensive measure of the probability of non-selection.

Recommendation 4

The researchers argue that the main report provides a compelling case for sample selection correction in house price calculation. They recommend that analysis of sample selection bias be extended to all other UK regions. By developing corrected price indices for all regions, it would be possible to estimate the extent to which transactions bias

distorts existing estimates of differences between regions.

Recommendation 5

The researchers recommend further investigation into the nature of spatial variation in house price inflation using “inflation surfaces” rather than indices for administrative areas. Such approaches could help avoid some of the misleading effects of transactions bias. They suggest more work also needs to be done on the *causes* of diverging price trajectories, particularly between low- and high-density areas.

Recommendation 6

The researchers have put forward the hypothesis that transactions bias could lead to distortions in price elasticity measurement. They recommend empirical investigation of the magnitude of these distortions in elasticities estimated at regional and national levels.

Although this summary and reports were commissioned by the Office, the findings and recommendations are those of the authors and DO NOT necessarily represent the views of the Office of the Deputy Prime Minister. This summary and the main reports will form part of our evidence base when tackling future issues and policies.

The Technical report and Policy Summary, *Which House Price? Finding the Right Measure of House Price Inflation for Housing Policy* are available on the ODPM website:
www.odpm.gov.uk/researchandstatistics

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