

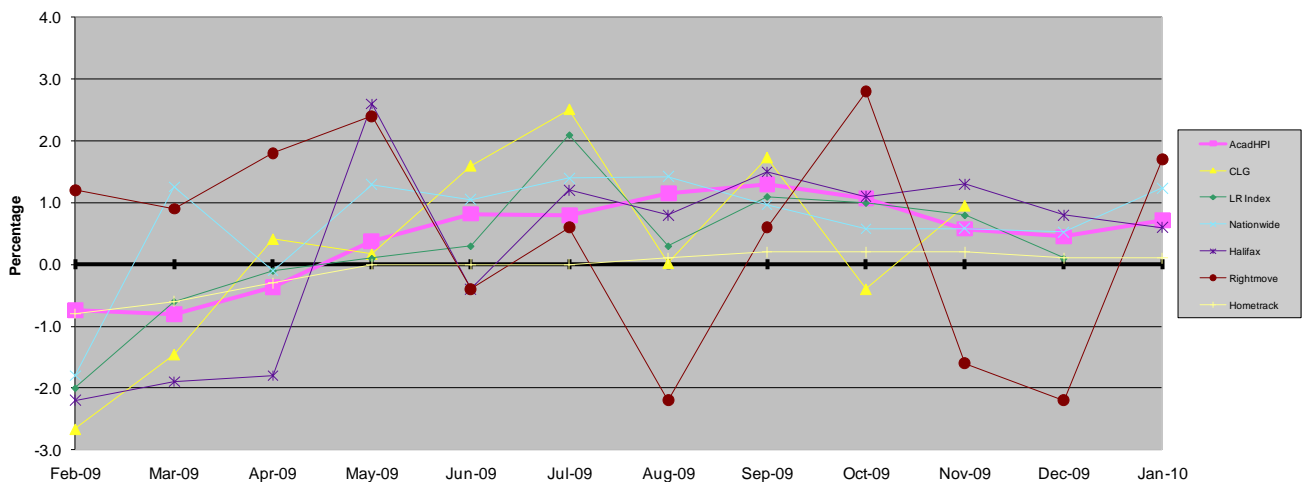
SEVEN HOUSE PRICE INDICES - BUT NOT ONE AGREED HOUSE PRICE

Index Monitor

Did prices rise in 2009 by 1.1% (Halifax) or by 5.9% (Nationwide); or did they fall by 1.9% (Hometrack)? Twelve years ago Mervyn King was puzzled by an “unfortunate” divergence of the lender indices; the Bank of England now employs an average of the lenders results, as do many in the financial sector. This paper notes a number of ways in which this can be calculated. It compares indices with the monthly price movements shown by the Land Registry prices, smoothed, seasonally and mix adjusted.

The methodologies behind the lender indices are not in question. But the results rely on data samples which reflect the monthly loans which the lenders are making. In today’s shrunken markets, do these reflect the national book? Government provides two official indices and three different house price measures, none of which are supported by the Bank. Monthly indices report within a +3% and -2% band as we show below. What do the public make of this?

MONTHLY CHANGE IN HOUSE PRICES - COMPARISON OF INDICES CHART



Not only inflation results, but also measures of the average house price, are hugely at variance. In December 2009, Hometrack’s average estimated price was £156,900 whilst Rightmove’s average asking price was £221,463. What would Florence Nightingale have said of our inability in 2010 to agree upon key metrics?

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OVERVIEW

In the UK, we are in an unholy rush to read news of footballers, celebrities, politicians and house prices. Seven varieties of the latter are published. Rightmove tells us about asking prices shortly after the start of each month. CLG reports mortgage completion prices, 6 weeks in arrears. Five additional indices, released at intervals, keep house prices in the public eye.

Americans have more patience. Whilst a number of indices are prepared, the S&P/Case-Shiller Home Price Index is regarded as definitive and is published 2 months in arrears of each month end. Since the USA lacks a national equivalent of the Land Registry, the S&P/Case-Shiller index employs data for metropolitan districts and prepares results for each city, together with a national result on a composite basis.

In the UK, movements in the valuations of the properties upon which Halifax and Nationwide make mortgage offers are widely regarded as representative of the movement of the prices at which houses are being sold. This is despite the fact that a valuation index is not the same as a transaction index, and that mortgage samples can be very small and may be unrepresentative. An index based upon a monthly loan book, if comprising upmarket properties upon which a lender regards it as safe to make loans, may reflect e.g. price rises resulting from lack of supply, rather than price trends, nationally. Nevertheless, share prices, optimism or pessimism about the economy and much else is moved by the Nationwide index, published at month end.

The Nationwide is an excellent index, as is the Halifax. All indices are, indeed, valuable. This paper draws attention to the differences between the indices and touches upon their values. But it behoves serious users of house price index data to pay close attention to the variations between indices and to look, not only forward as to what the results of a newly published index might mean, but also back, to check whether any reliance on a particular result was misplaced. In this paper, we describe our:

Index Monitor which measures, every month, how well the various indices foreshadow the factual house price movements based upon Land Registry transacted prices. We provide a link to our website where Index Monitor is updated monthly.

In regard to our own Acadametrics House Price Index (AcadHPI), we emphasise that this is an index of Land Registry data. Prior to the launch of the Land Registry's own index, ours was the only one such. Both indices use the same data and users have the choice of our mix adjustment procedure and the Land Registry's repeat sales regression methodology (RSR) upon which we touch herein.

Pursuing the issue of the rush to the press, we draw attention to our:

- **AcadHPI “forecast”** which Index Monitor shows to provide the most accurate early guidance
- **AcadHPI “updated”** published 5/6 weeks in arrears showing house price inflation, **based on c.85% of the entire Land Registry transactions for each month.**

Finally, for users of house price indices at regional, local authority, county and London borough level, we draw attention to the constraints caused by lack of volume in property sales and, hence, of data at these levels.

The Acadametrics House Price Index is freely available and will be sent monthly upon [request](#)

Footnote

Florence Nightingale noted that soldiers in a London military hospital were more likely to die of typhoid than were the population at large. Statistics enabled her to decide how far apart beds should be placed, in order to minimise contagion. She became the first woman elected to the Royal Statistical Society.

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1. INTRODUCTION

1.1 Land Registry house prices

Whilst Land Registry (LR) data tell us nothing about prices for 4 bedroom, in contrast to 2 bedroom, houses, the Land Registry is the **only** source of the **actual** price paid in respect of **every** residential property transaction in England and Wales including those for **cash**. Sources which provide additional information, albeit important for particular purposes, do so, in every case, at the expense of all three fundamental data items highlighted above.

1.2 What do indices tell us?

Each index provides a valuable window (4.3) into what is happening to prices as seen from e.g. a mortgage lender, estate agent or surveyor perspective. However important the perspective may be, a perspective is not the whole picture. The whole picture is built only by use of the complete LR data as in AcadHPI “ultimate” (1.3).

1.3 Revision of macroeconomic factors

GDP growth is always revised by the Office for National Statistics from an initial result. Acadametrics likewise measures house price growth, also an important macroeconomic factor, in stages, according to the availability of data. Since the Land Registry progressively add transactions for any given month to their data, every month for up to a year, we progressively update our index until any further data from LR make no change to the results. We then entitle the index AcadHPI “ultimate”. Because LR initially have only c.35% of the transactions for each current month available at the month end, we start the process with an AcadHPI “forecast” (2.1) which we follow with AcadHPI “updated” (3.5.1), the first update employing c.85% of the data which LR ultimately make available.

1.4 The house purchase timeline

Indices which are measured early in the house purchase timeline are viewed as lead indicators. Are they lead indicators of the factual price movements recorded at LR? Is our own AcadHPI “forecast” a good lead indicator? Our Index Monitor (2.) investigates.

1.5 About the CLG and Acadametrics indices

Production of an index is costly and the cost is justified by the free publicity which media commentary provides. However, both Communities and Local Government (CLG) and Acadametrics launched indices with no PR department involvement and no business with the general public. Both indices were launched in 2003, following the 1998 statement by Mervyn King that the Bank of England found “the recent divergence between the rate of house price inflation implied by the Halifax and the Nationwide indices ... both puzzling and unfortunate”. Both indices were designed to provide the “true measure of house price inflation” for which he called.

1.6 Best “true measures”

Indices employing transaction data are likely to be the most closely related to an LR-based benchmark. Thus, Index Monitor shows the best such measures to be AcadHPI “forecast”, CLG and the LR index. The CLG index lacks cash sales and uses mortgage completion prices but the latter are close to LR’s transaction prices. The LR index uses an RSR methodology, designed by USA academics and available on the web. *It is noteworthy that, despite the fact that all three indices use entirely different methodologies (4.8), both the CLG and the LR indices largely follow the trend line for annual house price inflation shown by AcadHPI “forecast” and AcadHPI “updated”.*

From each month end, these “best ‘true measures’” become available after circa:

- 10 days (AcadHPI “forecast”)
- 4 weeks (LR 1st published)
- **5/6 weeks (AcadHPI “updated”)**
- 6 weeks (CLG)
- 8 weeks (LR Latest)

We discuss AcadHPI “updated” and LR Latest in 3.5.2.

1.7 Averaging the lender house price inflation measures

We identify some of the many different ways in which this may be done (4.7).

1.8 Index methodology

For readers interested in e.g. regional, county and London borough data, we provide further detail in 4.8.

2. INDEX MONITOR

2.1 Why an Index Monitor?

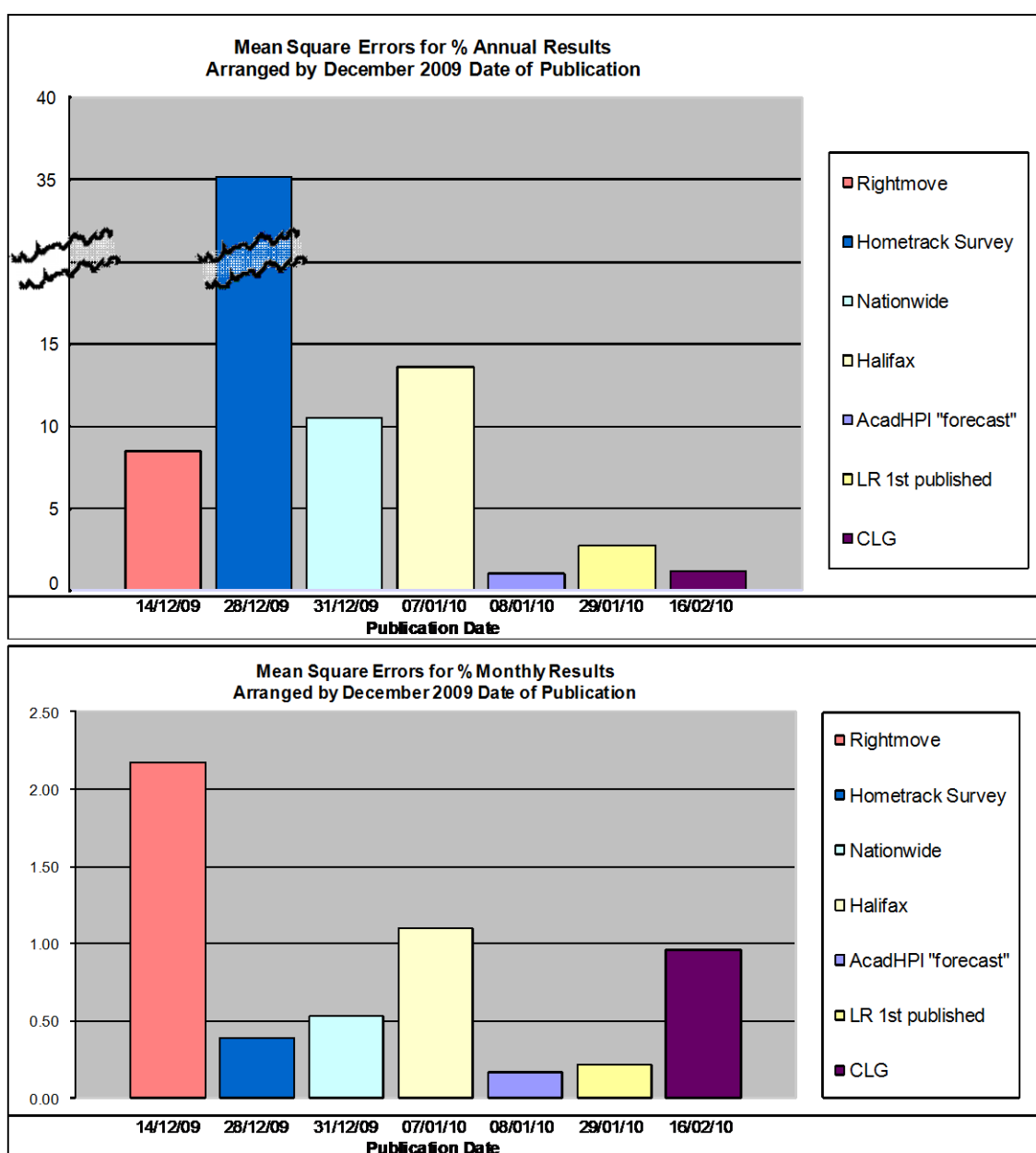
Index Monitor was designed to provide a monthly check on the accuracy of the AcadHPI "forecast". As noted this forecast employs the c. 35% of transactions initially available from LR; it also employs an "index of indices" model using the lender and CLG indices as lead indicators. The methodology is described on our website [Meissner Satchell](#). Since other indices may have lead indicator value for the index of indices model, Index Monitor tests all leading indices. Each index and (since it is reported as an index), the Hometrack survey, is compared monthly with what we regard as the factual benchmark measure. [Index Monitor](#) is updated monthly on our website.

2.2 The factual benchmark measure

The benchmark is provided by the complete LR house price dataset for the month, when every¹ transaction has been reported, smoothed, seasonally and mix adjusted. As noted, we describe this as AcadHPI "ultimate".

2.3 "Mean Square Error" Charts

The procedure and charts below are explained in 3. We emphasise that we test index annual and monthly house price inflation measures only at national level.



¹ LR does not include commercial transactions such as repossessed properties which, being sold by a lender or agent, are categorised as commercial sales. Upmarket properties are often bought by companies and, if so, these, too, will be excluded from the LR data. LR provides a list of exclusions on their website.

3. INDEX MONITOR EXPLAINED

3.1 The benchmark

Index Monitor has no relevance for those users of e.g. the lender indices for whom mortgage prices provide the entire information required. Index Monitor is a tool for those using indices to assess house price inflation, as measured by LR prices. Both LR "Latest" (3.5) and AcadHPI "ultimate" provide final LR prices, but AcadHPI "ultimate" is used as the benchmark, since the LR index employs only c. 30% of the entire LR data (4.8) and does not use every transaction.

3.2 Average prices

As noted, AcadHPI "ultimate" provides the factual average LR prices, smoothed to minimise volatility, and seasonally and mix adjusted. Seasonal adjustment accounts for price rises which are not due to inflation but are normal in the spring and summer. Mix adjustment is explained in 4.8. The AcadHPI "forecast" house price is a forecast of the statistically adjusted factual average LR prices.

3.3 Mean Square Error

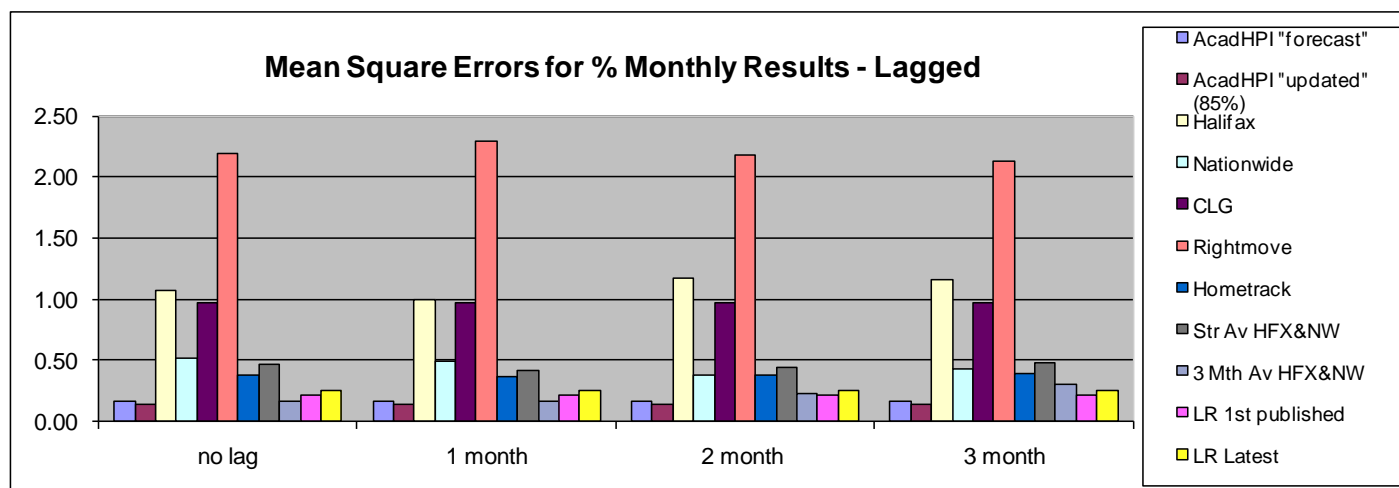
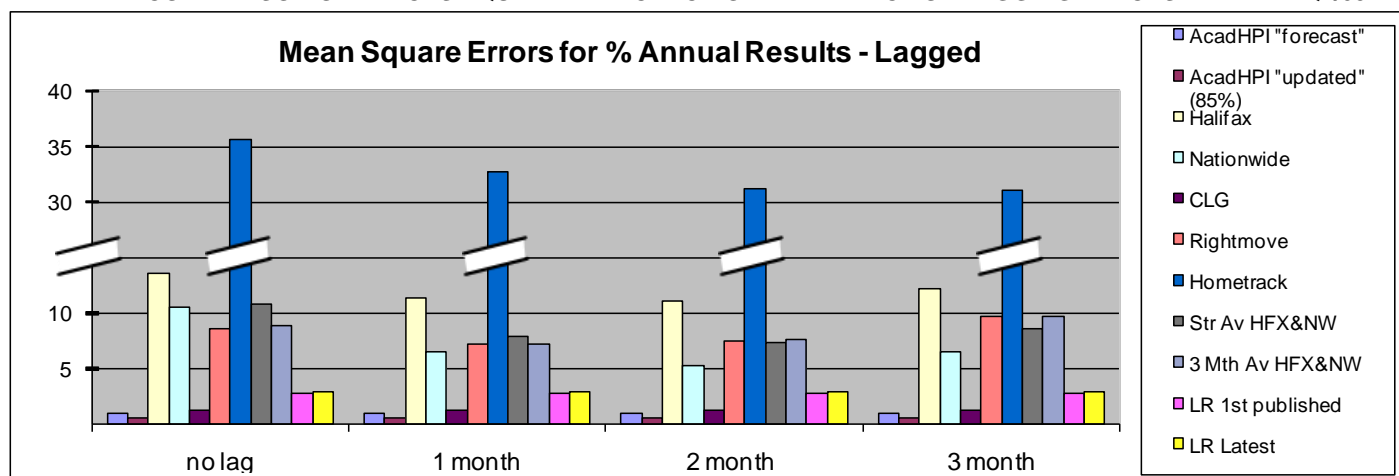
In Index Monitor, we calculate the difference between each index and the benchmark at each month end and square the result, in order not to differentiate between a positive or negative outcome. We total and average the squared differences² for the whole period. The results³ for e.g. December 2009 are depicted in 2.3 and show how each index monthly and annual inflation result accords with the benchmark. We place the indices in the order in which they are released.

3.4 Timelines

The different points in the house purchase timeline at which indices take their data are sometimes quoted as material to the different results. Hence, we adjust our above results for anticipated lags, on a quarterly basis, (see the charts below) and show the results on our website⁴. Lagging the Nationwide % Annual results two months halves the mean square error results whilst those of other indices appear little affected.

COMPARISON OF INDICES - QUARTERLY CHECK ON THE EFFECT OF LAGGING INDICES

Q4/09



² to provide a "mean square difference" for each of the indices

³ The detailed [Index Monitor with interactive charts](#) is available on the Acadametrics website

⁴ The [Quarterly Comparison of indices tables with lagging](#) table is available from the Acadametrics website

3.5 AcadHPI “updated” and LR “Latest”

3.5.1 AcadHPI updating Supposing a February AcadHPI “forecast”, partially employing 35% factual data, has been published; the following sequence of updates will occur:

- In the March AcadHPI “forecast”, we show a *February AcadHPI “updated”* using 85% factual LR data
- In the April AcadHPI “forecast” we show a *February AcadHPI “updated”* using 90% factual LR data
- In the May AcadHPI “forecast” we show a *February AcadHPI “final”* using 95% factual LR data

These updates will move progressively closer to the *February AcadHPI “ultimate”*, when every transaction has been reported. AcadHPI “ultimate” may not be reached for as much as 12 months.

AcadHPI “updated” comprises a close guide for practical purposes.

3.5.2 LRHPI updating Like AcadHPI, LRHPI employs a progressive updating procedure.

How AcadHPI “updated” and LR Latest compare with AcadHPI “ultimate” is shown in the ‘Comparison with Leading Indices’ tab within [“Index Monitor”](#).

3.6 Development of Forecasts

Our monthly [Development of Forecasts](#) shows how the % Annual and % Monthly AcadHPI results, for any given month, progress month by month, from the initial AcadHPI “forecast”, through two AcadHPI “updated” and an AcadHPI “final”, to an eventual AcadHPI “ultimate”. Users may, thereby, judge independently at which date an annual or a monthly inflation result may be regarded as fully updated for practical purposes.

4. SEVEN HOUSE PRICE INDICES

4.1 The objective

A house price index is designed to measure the movement in the price of a typical, average, house. There is no such thing as a typical, average, house. Nor do the perfect data exist.

4.2 LR data

LR does not provide data for Scotland or Northern Ireland and does not collect data on property characteristics such as number of bedrooms. Hence hedonic mix adjustment of LR data is not possible. LR data were little employed, due to lack of timeliness, until Acadametrics developed the forecasting and updating procedure used in the AcadHPI. But only LR provides factual transacted prices including those of properties bought with cash.

4.3 Different house price data; different windows

Indices measure different prices, based upon different data, but each provides an important window into a particular facet of the housing market. Thus:

- **Rightmove** provides *asking prices* for a large sample of properties offered on their website. In telling us the prices at which the public and the estate agents would like to sell the properties on offer, the index might be thought of as a confidence measure. It reports market sentiment, often before buyers reach the mortgage lenders
- **Hometrack** provides *estimated values*, collected by survey. The index tells us what their panel of c.6,000 estate agents thinks is the “achievable price for each of the four property types in every postcode district”. These prices are weighted according to the housing stock. The results suggest that the index reflects a degree of caution. The contrast between the Rightmove and Hometrack prices e.g. as at December 2009 is of interest
- **Halifax and Nationwide** report surveyor *mortgage offer valuations* taken from the monthly sample of properties upon which they are offering loans. The lender indices can act as lead indicators but, as noted by the Bank of England, are most useful when they move together. We note that the lenders agreed as to trends on only 4 of the 12 months depicted on our % Monthly front cover chart. When loan levels are low, small data samples make the lender indices subject to volatility. Nevertheless, when both move in the same direction, an important inflation trend is likely to be indicated
- **CLG** provides *mortgage completion prices* based upon a sample of circa 60% of mortgages. The index takes the longest to market but does not require significant updating. Employing some 60% of mortgage completion prices, it uses a final price data set second only in size to that of Acadametrics. CLG is the primary source of detailed housing and house price data
- **The LR index** employs a repeat sales sample of LR *transacted prices*. The LR 1st published % Annual result normally tracks AcadHPI “forecast” % Annual at national level, based on c. 30% of c. 35% of c. 60,000 = c. 6,300 sales (4.8).
- **Acadametrics** ultimately employs *every transacted price* from LR, but the first AcadHPI result is forecast. Like the S&P/Case-Shiller index, AcadHPI at all geographic levels, is smoothed over three monthly periods, such as to treble the data employed and minimise volatility

4.4 Different price calculations

Not only do index providers use different price data, they calculate an “average” price differently. Halifax, Nationwide, CLG and LR all employ the concept of a standardised price (see 4.6), being the past price of a “standard” house (assessed in the case of the Halifax in 1983) which is updated according to the index. Note that different results from Halifax are sometimes attributed to a northern loan base. However, this is no longer likely to be the case and any such bias could be the result of the 1983 basis for the hedonic attributes, when a northern emphasis would have existed.

With the exception of CLG, which uses value weights and is more influenced by the prices of higher value properties, this price bears little relationship to the average calculated by e.g. Rightmove and Acadametrics, and raises questions as to the use of a standardised price for calculating e.g. affordability and price to income ratios. A UK price is likely to be lower than a price for England and Wales because of the effect of lower property values in Scotland and Northern Ireland.

4.5 Different house prices set at different dates

Different average house prices at December 2009 (not all applicable to the UK) are offered at different dates. Thus:

Rightmove	£221,463	14.12.09	England& Wales
Hometrack	£156,900	28.12.09	England & Wales
Nationwide	£162,103	31.12.09	UK
Halifax	£169,042	07.01.10	UK
Acadametrics	£214,283	08.01.10	England & Wales
Land Registry index	£161,783	29.01.10	England & Wales
Communities and Local Government	£200,307	16.02.10	UK

Not all indices employ a full set of data for the month. Supposing that it takes, say, a week in which to prepare and publish an index, the above dates indicate at which date in December providers decided that sufficient data were available to produce a reliable December price.

4.6 Different % Annual house price inflation

December % Annual house price inflation results were offered at different dates and not all of them were in respect of the UK.

Rightmove	1.7%	14.12.09	England & Wales
Hometrack	-1.9%	28.12.09	England & Wales
Nationwide	5.9%	31.12.09	UK
Halifax	1.0%	07.01.10	UK
Acadametrics	4.2%	08.01.10	England & Wales
Land Registry index	2.5%	29.01.10	England & Wales
Communities and Local Government	2.9%	16.02.10	UK

4.7 Averaging Halifax and Nationwide

It must be noted that the Halifax % Annual result was calculated as Q4/09 cf. Q4/08, whilst the Nationwide was calculated as Dec/09 cf. Dec/08. Most users of an average of the lenders are likely to take a simple average of these (such as in our Index Monitor). This results in an annual inflation of 3.5%. But, if an average of Halifax and Nationwide is calculated, with both lenders on a Q4/09 cf. Q4/08 footing, the result is 2.2% inflation.

An average of both Halifax and Nationwide, on a Dec/09 cf. Dec/08 footing, results in an inflation of 5.8%. An average of the Halifax November, December and January results might be thought of as more closely related to a Nationwide December outcome than the Halifax Q4/09 average. A number of alternatives exist.

Users may well be employing, in good faith, almost any house price inflation figure at December 2009, ranging from -1.9% (Hometrack) to 5.9% (Nationwide), or one of a number of lender averages, in between.

As first pointed out by the Bank of England and shown in Index Monitor, an average of the rolling three month averages of the lender indices provides an excellent guide to % Monthly house price inflation.

4.8 Index methodology

The methodology employed is largely dictated by the available data.

Methodologies endeavour to minimise the bias resulting from the use of data samples.

- *simple mix adjustment* is employed in AcadHPI to ensure that the index takes a constant proportion of property types, from a constant mix of geographic areas, and is not distorted by the sale, in any particular month, of e.g. an abnormally high proportion of expensive detached houses or of low-priced apartments.
- *hedonic mix adjustment* is employed only by the lenders and CLG which hold the necessary property characteristic data and can distinguish between e.g. two, three or four bedroom homes. A hedonic index measures a "standardised" house price. In the case of the lenders, this is the value of a house measured by its hedonic characteristics (bedrooms, bathrooms, garages etc). A hedonic index can ensure that an increase in the number of homes in a monthly sample with, say, five bedrooms and three bathrooms does not result in a rise in the index value.
- *repeat sales regression (RSR)* was designed to measure change when only small data volumes are available and is used for the S&P/Case-Shiller and the LR index. RSR employs prices for only those properties sold more than once since a starting date. In the case of the LR index, this is 1995 and the repeat sales data comprises some 30% of all transactions. LR calculates a "standardised" price, updated monthly by the index value. The lack of property characteristics in LR data means that the LR index is not hedonically adjusted and the standardised LR value is an average value at 2000, updated by the index. An LR index "like for like" house price inflation calculation is based upon the assumption that the characteristics

of the properties selected have been unchanged during the period between the two dates at which price are known.

4.8.1 Index weighting

Indices are weighted to minimise/eliminate bias. In transaction weighting, data are weighted in accordance with the historic distribution of transactions⁵. Stock weighting adjusts for the degree to which the sample is representative of the population as a whole⁶.

4.8.2 Regional and county/London borough indices

Whilst national results provide headlines for the national media, regional (and ideally lower level) data are required for loan portfolio revaluation. County and London borough prices are of most interest to local media and their readers. Index accuracy at geographic levels below national is bedevilled by a lack of data. The lender indices provide results only at national and regional level. The latter are calculated and published on a quarterly basis.

Only AcadHPI and the LR index are provided on a monthly basis at regional level. Whilst AcadHPI "forecast" is so named because the current month results at national level are forecast, the regional results (together with county/London borough results) are also shown but are one month in arrears. This ensures that they include the c.85% data available after a one month delay and exclude forecast data.

4.8.3 Regional data

Average national sales are currently at c. 60,000 per month, implying an average c. 6,000 sales, for each of ten regions. Bearing in mind that LR initially provide only c. 35% of all transactions, this leads to the following approximate regional data volumes for the LR index and for AcadHPI:

- **LR "1st published"** 35% of c. 6,000 = 2,100 x 30% = c. 630 sales
- **LR "latest"** 85% of c. 6,000 = 5,100 x 30% = c. 1,530 sales
- **AcadHPI "forecast"** 85% of c. 6,000 = 5,100 x 3 = 15,300 sales but this is published one month after the LR result

4.8.4 County/London borough data

LRHPI combines four months data at county/London borough level and uses an "end month smoothed" procedure. AcadHPI combines three months data at all levels and uses a "centre month smoothed" procedure.

- **The LR index** averages sales for say November/December/January/February in a February LR 1st published to provide a February result. Thus, a county/London borough February index is published simultaneously with the national index. However, the bulk of the sales measured occurred in December. The county/London borough data are calculated differently for the regional and national data.
- **The Acadametrics index** averages sales for say January/February/March in a March AcadHPI "forecast" to provide a February index. Thus, the bulk of the sales measured occurred in February and the county/London borough data are calculated in the same way as for the regional and national data and are fully related. However, Acadametrics publishes e.g. February county/London borough (and regional) results only in March.

The Acadametrics index methodology is described in the footnotes to each month's release and on the website. Likewise, other index suppliers provide full methodology descriptions. These methodologies are necessarily described only briefly in a paper of this nature and we apologise for any errors and omissions. We would value any comments. Please email information@acadametrics.co.uk

⁵ an index based on transaction weighting represents the price of a house with "typical" characteristics; all the properties in the set have an equal weight in determining what is "typical", irrespective of their price. This method is used when the index is constructed to represent the value of a typical member of the reference set

⁶ using expenditure weighting, an index embodies the price of a representative set of properties, and the more expensive houses have a higher weighting. This method is used when the price index is constructed to reflect the value of the housing stock

Appendix 1

Summary of Indices

A SUMMARY OF UK HOUSE PRICE INDICES AND HOUSE PRICE SURVEYS								
INDEX/SURVEY	AcadHPI	CLG	LRHPI	Halifax	Nationw ide	Rightmove	Hometrack	RICS
FEATURE								
DATA SOURCE	Land Registry	Regulated Mortgage Survey	Land Registry	own mortgage offers	own mortgage offers	own website	survey of estate agents	survey of RICS surveyors
PRICE	final transacted price	mortgage completion price	final transacted price	surveyor valuation for mortgage offer	surveyor valuation for mortgage offer	website asking price	estimated price	price change expectations
SAMPLE (% ALL PROPERTY TRANSACTIONS)	progressively to 100%	60% of all mortgages	progressively to 100%	no. monthly loans not known	no. monthly loans not known	"c. 90% newly marketed property"	not applicable	not applicable
NUMBER OF MONTHLY TRANSACTIONS/ RESPONDENTS	forecast progressively updated to c.60,000 inc. cash sales	c. 29,000 (no cash sales) in 2nd half 2009	c. 30% of 21,000 progressively updated to c. 30% of 60,000 (repeat sales only)	unknown share of c. 48,000 mortgages	unknown share of c. 48,000 mortgages	"over 90,000 new listings"	6,000 estimates	not applicable
COVERAGE	England and Wales	UK	England and Wales	UK	UK	England and Wales	England and Wales	UK
INDEXING METHODOLOGY	mix adjusted	hedonic regression	repeat sales regression	hedonic regression	hedonic regression	averaging	mix adjusted	not applicable
OTHER WEIGHTING OR ADJUSTMENT	transaction weights	expenditure weights	none	transaction weights	transaction weights	none	stock weighted	not applicable
SEASONAL ADJUSTMENT	yes	yes	yes	yes	yes	no	not applicable	not applicable
LOWEST LEVEL OF DETAIL AVAILABLE AS STANDARD	monthly county and London borough	quarterly regional and buyer type	monthly county and London borough	quarterly regional and buyer type	quarterly regional and buyer type	monthly London borough and property type	monthly national	not comparable

Appendix 2

History of Indices

A BRIEF HISTORY OF UK HOUSE PRICE INDICES	
Year	Event
1952	Nationwide Building Society publish annual house price data based on their own mortgage offer data
1968	DoE (later incarnations being DETR, DTLR, ODPM and CLG) publish a quarterly house price index based on mortgage completion data from the Survey of Mortgage Lenders (SML)
1974	Nationwide publish their first quarterly data series
1978	Royal Institution of Chartered Surveyors (RICS) begin collecting survey data on property prices
1984	Halifax Building Society (later incarnation HBOS) publish a monthly house price index using their own mortgage offer data and employing hedonic regression methodology
1989	Nationwide prepare their own monthly hedonic index
1992	Nationwide upgrade their hedonic methodology to address their smaller sample size
1995	Land Registry publish Residential Property Price Reports - quarterly average prices based upon all registered sales transactions in England and Wales
1996	First OTC trades in residential property derivatives based on the Halifax index.
1998	Mervyn King, then Deputy Governor of Bank of England, highlights a "puzzling and unfortunate divergence in the lender indices"
2000	The House Price Working Group (HPWG) is established by the Office for National Statistics (ONS) to address Bank and Treasury concerns
2000	Hometrack publish a stock weighted index for England and Wales based upon a respondent sample survey of Estate Agents
2002	Rightmove publish a stock weighted index based on sample survey data collected through their Estate Agency web portals
2003	The Financial Times publishes the initial FTHPI based upon an index of indices model. ODPM (now CLG) publish an experimental index using SML data and latest hedonic methods to bridge the gap "until a definitive index, including cash purchases, has been devised" The Financial Times publishes the current FTHPI covering England and Wales using every transaction (including cash purchases) from the Land Registry and overcoming a timeliness issue by employing forecasting techniques employing the Land Registry data and the other indices
2006	Land Registry replace their Residential Property Price Reports (from 1995) with a house price index (from 2000) prepared by Calnea using regression upon the sample of repeat sales within their database
2007	Trading volume in OTC derivatives based on UK house price indices reaches £2 billion
2008	Land Registry provide back data for their "price paid dataset" to 1995, reflected in updates to the Land Registry index
2009	FTHPI (with county/London borough as well as regional indices) exceeds the space available in the FT
2010	FTHPI renamed AcadHPI

ABOUT ACADAMETRICS

Acadametrics is a consultancy focussed on mortgage risk. We assess capital requirements; conduct research (led by Dr Stephen Satchell, Economics Fellow, Trinity College Cambridge); develop products at our own expense designed to assist lenders; are expert in the measurement of house prices, preparing our own house price index AcadHPI (formerly FTHPI when it was then chosen by the Chicago Mercantile Exchange for their proposed future residential house price derivative).

Our past work has included the analysis of pre-payment risk, the pricing of mortgage books and the assessment of the performance of credit score models for mortgages, credit cards and unsecured loans under changing macroeconomic scenarios. Much of our early work involved forecasting the mortgage and MIG losses arising from the 1989-1991 housing crisis. As a result, we hold what we believe to be the largest available downturn default database which enables our hazard rate stress testing methodologies, developed by Dr Satchell.

During 2009, we have worked closely with MIAC Analytics from New York in a joint [MIAC ACADAMETRICS](#) venture, enabling lenders to download our data and models from the MIAC platform, placed on a UK server, for desktop work. Using MIAC expertise, our models will additionally assist those involved in securitisations and the sale and purchase of loan portfolios. We offer:

- **Collateral Valuation** comprising our Acadametrics Prices and Transactions (APAT) data and Confidence Interval tables for use by clients or as in our Property Portfolio Revaluation service.
- **Loan Level Stress and Scenario Testing** comprising our:
 - UK Arrears and Possessions Forecasting (UKAPF) which employs Bayesian techniques to model the UK mortgage book
 - Stress and Scenario Testing (SST) with optional APAT or AVM revaluation to provide forecasts of loan by loan mortgage possessions and losses under alternative scenarios. SST can employ any AVM or indexation values. Where an AVM is to be employed, we can offer a Zoopla valuation
 - Predictive Mortgage Analytics (PMA) which forecasts arrears and cash flow at LTV or risk bucket level with limited past data and can be provided within an interactive desktop model
- **Custom Data and Model Development** which includes the provision of loss data from our downturn default database for client LGD benchmarking, model validation and model development, by Dr Satchell, bespoke to customers' needs. We have considerable expertise in index construction, available for clients.
- **The MIAC DataRaptor** database management software and **WinOAS** cash flow engine with specific tools for securitisation modelling (both RMBS and CMBS) and asset management

Our website includes our House Price Calculator, which uses APAT data to update a property value, and includes a full explanation of the procedures and standard deviations.

Acadametrics services have an academic foundation in econometrics, statistics and decision theory and are developed from our own resources under a "research first" policy. Further detail is provided on our website www.acadametrics.co.uk.

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