



Office for
National Statistics

Developments in the United Kingdom's House Price Index

UNECE-ILO meeting on Consumer
Price Indices – 30th May 2012

Introduction

- Joint paper submitted:
- Chris Jenkins – Head of House Price Indices and Purchasing Power Parities – UK ONS
- Jim O'Donoghue – ONS Methodology

Introduction

- Department for Communities and Local Government previously produced House Price Index
- Quarterly series from 1968 to 2002
 - Based on a 5% sample of mortgage lenders data as collected via the Regulated Mortgage Survey
- Monthly from 2002 onwards
 - Mortgage providers able to provide 100% of data due to technological advances

Introduction

- Announcement in December 2011 that DCLG HPI to transfer to ONS
- Transfer successfully completed in March 2012 with ONS publishing HPI on 17th April 2012
- HPI compliments other measures of inflation produced by ONS and provides a good foundation for further development

ONS HPI

- Monthly price index published at UK, country and regional level
- Also publish monthly UK estimates for
 - Type of buyer (first time buyer v former owner occupier)
 - Type of dwelling (new v pre-owned)
- Seasonally adjusted series also published at UK levels

ONS HPI Methodology

- Price concept based on completions
- Price index is an annual chain linked Laspeyres-type index
- House price index is mix-adjusted to reflect the fact different houses are sold in different periods
- Weights updated annually based on the average of the previous three years transactions

ONS Methodology

- House prices modelled each month for every 'Cell' by running a main effects regression model
- A cell is created for every combination of explanatory variables that has a non-zero weight
 - Location of property (local authority district)
 - Cluster (an ONS classification of local authorities)
 - Type of neighbourhood
 - Dwelling type (flat, detached, semi-detached etc.)
 - Number of rooms
 - Old or new
 - First time buyer or former owner occupier

ONS Methodology

- Full details of the ONS regression model can be found at:
<http://www.communities.gov.uk/documents/housing/pdf/141410.pdf>
- Monthly price estimate for each cell determined by model and combined with appropriate weight to produce mix-adjusted price
- Chain linked in January

Algebraically.....

$$I_m^y = \frac{\sum_c w_c^0 * P_c^m}{\sum_c w_c^0 * P_c^{Jcm}}$$

- where w and p are the weight and average price respectively for cell c , and the weight in the base period 0 is calculated as:

$$w_c^0 = \frac{q_c^0}{\sum_c q_c^0}$$

- where q is the number of transactions.

ONS HPI - limitations

- Does not include cash sales – estimated to account for 25% share of market (growth over last few years)
- Lack of sub-regional analysis
- Timeliness – second Tuesday of the second month after reference period (so April data published mid June)

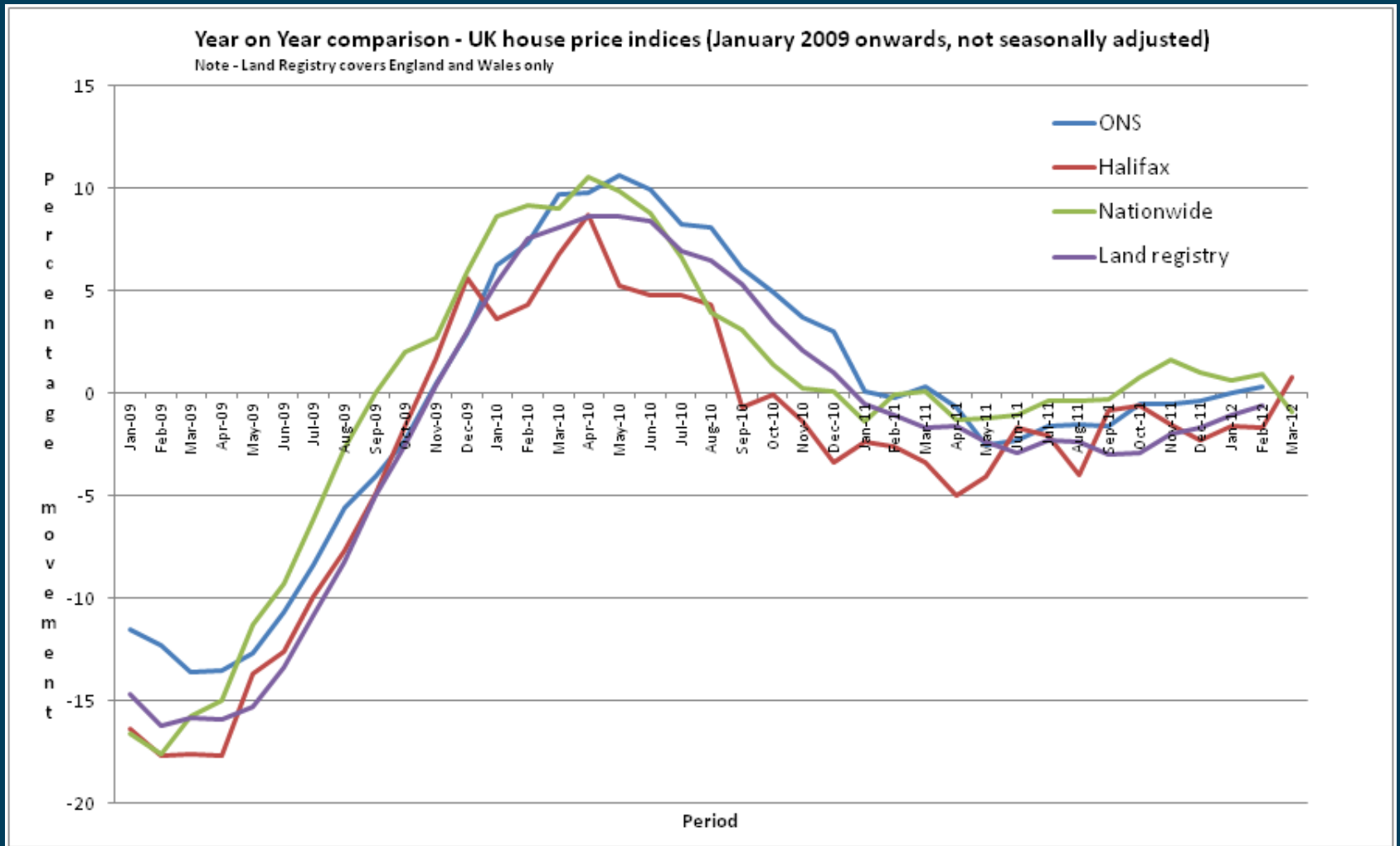
Other UK measures

- A number of other measures produced in the UK each month. Can lead to confusion.....
- Why are they different, what are they measuring, which is the best !!?
- Focusing on the other three main measures:
 - Nationwide HPI
 - Halifax HPI
 - Land Registry HPI

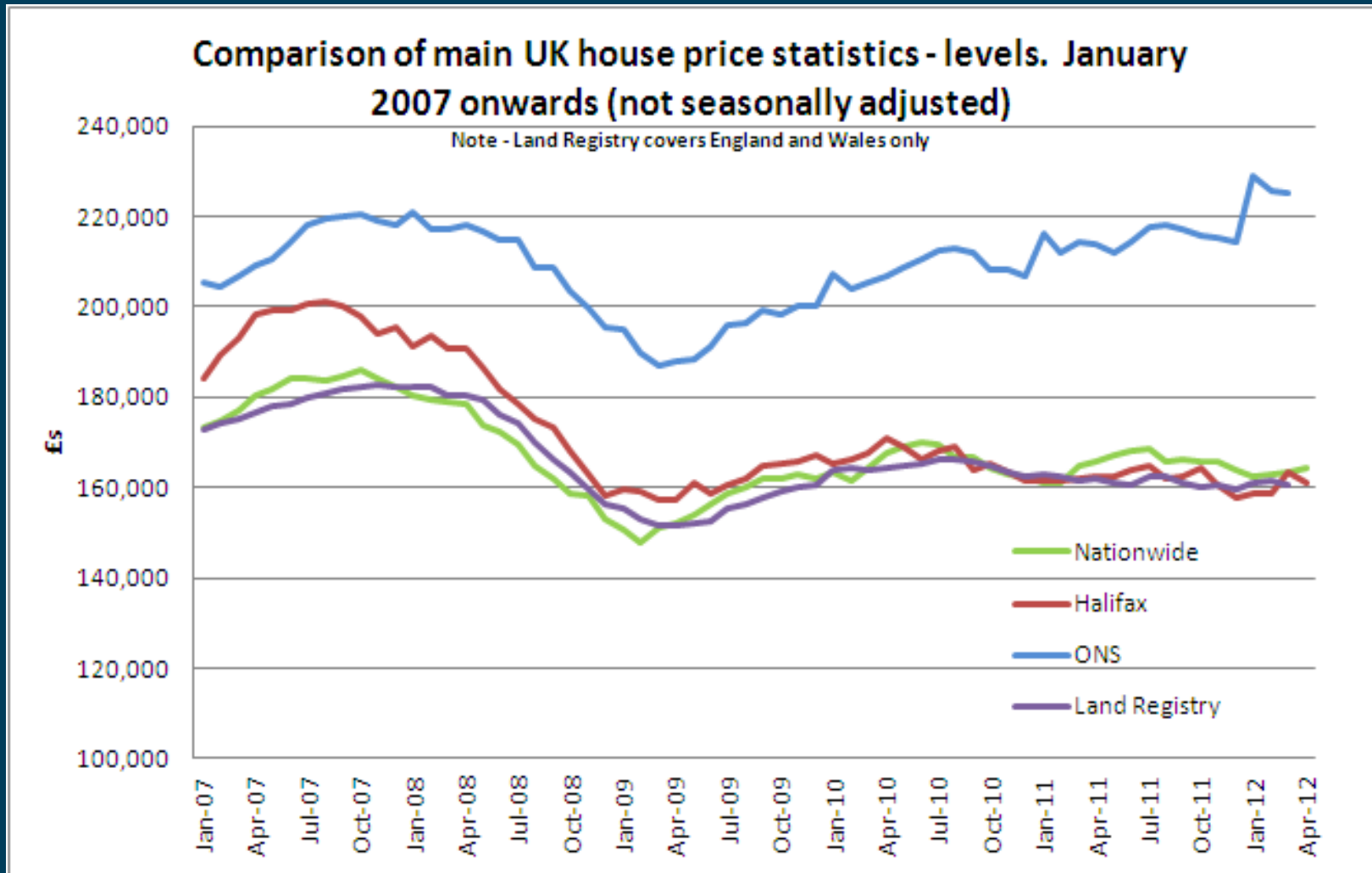
Comparisons

Index	Time in house sale cycle	Geographic coverage	Coverage	Timeliness	methodology	Time series	Seasonal adjustment	Smallest geography published
Halifax	Mortgage offer	UK	Mortgage offers by Halifax only (excludes cash sales)	Three weeks after second Tuesday in reference month	Hedonic regression	1983	Yes	Region
Nationwide	Mortgage offer	UK	Mortgage offers by Nationwide only (excludes cash sales)	1 to 1.5 weeks after the cut-off date (21 st of the reference month)	Hedonic regression	Monthly since 1991, quarterly back to 1973	Yes	Sub-region on a quarterly basis
HM Land Registry	Registration of sale with Land Registry	England and Wales	Excludes properties that have not sold twice since 1995 and new builds	20 working days after reference period	Repeat sales regression	1995	Yes	London Borough, Unitary Authority and County

Year on Year change comparison



But ONS price levels are different.....



National Statistician review

- UK National Statistician identified the confusion for users. Review of UK house price statistics published December 2009
- Recommended:
 - improve the explanation of current methods and comparisons between official measures and other non-official sources
 - to investigate how a single definitive house price index could be produced by the official statistics producer community.

What is a 'definitive' HPI?

- Review defined key criteria based on user requirements:
 - i. represent the prevailing market price of residential property at completion of sale ONS YES
 - ii. measure both house prices and house price inflation based on the price paid for transacted properties ONS PARTLY MEET – MISS CASH SALES
 - iii. have UK coverage ONS YES
 - iv. generate estimates (at least) monthly ONS YES
 - v. be timely with minimal revisions ONS NO TO TIMELY
 - vi. be available as a seasonally adjusted and an unadjusted series ONS YES
 - vii. provide a consistent index series to enable trend analysis ONS YES
 - viii. provide robust sub-regional estimates and estimates for user defined areas ONS NO
 - ix. provide comparable estimates for sub-sets of transactions or properties ONS YES

How do we take this forward?

- ONS agreed to take lead and develop the ONS HPI to become definitive measure
- Will need to
 - Incorporate cash sales data – but missing attributes from recommended source
 - Produced sub-regional estimates – ensure robust estimates are available
 - investigate timeliness or better explain current limitations
 - Better present the data – bringing together the other measures

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- Thank you for listening
 - Further details:
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