I.   Generic template for national reports providing information on quality, sources and methods, together with information on the statistical processes used for the compilation of the statistics underlying the MIP indicators (including concrete specifications for housing price statistics) – 2020 update

Reporting institution: United Kingdom

Selected principles					Some specific examples for indicators and related questions (Response options, unless indicated otherwise: not implemented; partially implemented; fully implemented)	Statistical domain specifications	Country response
European Code of Practice principles	Public Commitment on European Statistics by the ESCB	Selected elements					
Institutional Environment	*Institutional Environment*	*CoP/PC*	*IMF DQAF*	*SIMS*	*Question(s)*	*Housing price statistics*	*Housing price statistics*
CoP1 Professional Independence	PC1 Professional Independence	1.1/1.1	1.1.1 1.1.2		The independence of [name of reporting institution], from political and other external	*Legal basis:* Pls specify the statutory basis for ensuring independent	The UK Code of Practice for Official Statistics Edition 2.0 adopted by the National Statistics Authority in 2018 (superseding the former UK Code of Practice Edition 1.0) has a section delineating on the principle of professional independence and integrity in relation with the production, management, and dissemination of official statistics, which covers the house price index (HPI). In addition, the UK Statistics and Registration Service Act 2007 requires compliance with the Code of Practice by all

					interference in developing, producing and disseminating official statistics is guaranteed by law. *Legal basis: Pls confirm the independence by referring to the relevant national and EU legal act(s) and the formulation used in the legal act.*	professional authority in all statistical decision making and activities at the institutional level. This legal authority provides the ground to exercise professional integrity to the fullest extent and is conducive to embedding a professional culture in the statistical office.	producers of official statistics.
		1.4/1.5			The [name of reporting institution] has an annual statistical work programme which is made public. *Statistics work programme: Pls confirm the existence of a statistics work programme and specify where to find it (or similar*	*Statistics work programme: Pls confirm the existence of a statistics*	The UK Office for National Statistics (ONS) prepares/updates and releases a statistical work program for price statistics, of which house prices are an important element. The work program generally covers key priorities and other on-going efforts aimed at quality improvement and development of statistics. The work program is available on www.**ons**.gov.**uk/ons**/.../**cpi**.../**work-programme**-for-con**s**umer-price- statistics.

					document), if available.	work programme covering housing price statistics and specify where to find it, if available.	
CoP2 Mandate for data collection	PC2 Mandate for data collection	2.1/2.1	0.1.1	S 7.1	The mandate(s) of the [name of the institution(s)] to collect information for the development, production and dissemination of European Statistics is specified in law. *Allocation of responsibilities: Pls explain the allocation of responsibilities in producing the relevant statistics.* *Legal basis: Pls confirm the*	*Allocation of responsibilities: Pls explain the allocation of responsibilities for the production of housing price statistics.* *Legal basis: Pls confirm the mandate for the production of housing price*	The ONS has the main responsibility for the production of national house price statistics in the UK, with dissemination responsibility sitting with the UK Land Registry via the central Government website GOV.UK. Formal contracts are in place between these departments for the sharing of data to produce and published house price data. There is no specific UK legislation for the production of house price indices *per se*. However, the UK house price index is an important input into the housing cost component of the retail price index (RPI). The RPI is governed by the Statistics and Registration Services Act 2007, which means that the UK is legally obliged to produce this statistic each period.

					mandate by referring to the relevant legal act(s) and any other kind of formal agreements.	statistics by referring to the relevant legal act(s) and/or any other kind of formal agreements.	
CoP6 Impartiality and objectivity	PC6 Impartiality and objectivity	6.6/6.6	1.2.4		S9.1 + S9.2 S.20.1	Advance notice is given on release calendars and on major revisions or changes in methodologies, source data and techniques. *Advance release calendar: Pls confirm the existence of an advance release calendar and provide a link to it.* *Revision policy: Pls explain succinctly the revision policy and provide a link to material on the revision policy, if existent.*	*1.3.1 Advance release calendar:* Pls confirm the existence of an advance release calendar for housing price statistics and provide a link to it. *1.3.2 Revision policy:* Pls explain succinctly the revision	The release dates for the UK HPI are announced in public 12 months in advance on the on-line release calendar, https://www.gov.uk/government/statistics/announcements The UK HPI revision policy, which is aligned with the UK Code of Practice (See http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/hpi/official-house-price-statistics-explained.pdf), is to show significant revisions, but to suppress minor changes to avoid unnecessary inconvenience to users. In all cases, the revised figures are labelled with an 'R' and the reason for the revision explained fully in the monthly, national publication. The UK HPI has a regular schedule of revisions to ensure the most up to date transaction data is used in the calculation process. Each monthly estimate will have a 12-month revision window to account for the late return of transaction data. The first publication of the HPI estimate will be provisional and will be based on approximately 40% of transactions. The following month, the estimate will be revised to account for additional transactions (the second estimate will be based on approximately 80% of transactions). In the third month the estimate will be finalised, and will be based on 85%+ of available transactions.

Statistical Processes	Statistical Processes	CoP/PC	IMF DQAF	SIMS	Question(s)	Housing price statistics	
						policy for housing price statistics and provide a link to material on the revision policy, if existent.	
CoP7 Sound methodology	PC7 Sound methodology	7.1/7.1	2.1 2.2 2.3 2.4	S4.3 S4.4 S4.5 S4.6 S 6 S12.1	Pls specify the relevant statistical standards to which the statistics abide. *Links/references to existing comprehensive methodological documentation on specific aspects of the national sources and methods can also be provided*	*2.1.1 General remarks*: Specify if housing price statistics follow the methodological recommendations in the Technical Manual and the RPPI Handbook.	Concepts and rules applied for the production of the HPI are in close alignment with methodological recommendations and international standards (e.g., collection of actual transaction prices, chain-linked indexation, and weighting and weight updating procedures) as detailed, amongst other places, in the Eurostat Residential Property Price Indices handbook. Further details regarding the methodology can be found on the ONS website: https://www.gov.uk/government/publications/about-the-uk-house-price-index/about-the-uk-house-price-index And via the background notes accompanying the national release of the data: https://www.gov.uk/government/collections/uk-house-price-index-reports

| | | | | | Pls specify adherence or deviations from concepts and rules according to international standards and highlight coverage gaps that are of material relevance for the statistics. Pls indicate whether actions to address the deviations and coverage gaps are envisaged. | Deviations from concepts, rules, and coverage gaps specific to housing prices statistics with material impact should be identified. . | The UK HPI now provides full coverage of the UK housing market addressing the omission of cash sales. The UK HPI headlines on national estimates (i.e for the UK) but can be broken down by type of sale (cash or mortgage), type of property, country, region or Local Authority as well as by property type (new or old) and buyer type (first time buyer v existing owner). An interactive tool is available for users to download the data as needed: http://landregistry.data.gov.uk/app/ukhpi |
| CoP8 Appropriate Statistical procedures | PC8 Appropriate Statistical procedures | 8.2/8.2 | 3.1 3.3 3.4 | S12.1 S21.1 S21.3 S 21.5 -6 | Pls provide a succinct assessment of the robustness of the statistics by elaborating briefly on the relevant sources of information, statistical methods and procedures used across the various frequencies. *Pls provide links/references to* | *Main features*: For *housing price statistics,* this description should start by assessing the soundness of sources of information, procedures | Several comprehensive and robust administrative data sources are used in the production of UK housing price statistics, both in the monthly update of prices and the annual update of index weights. Full details can be found in the methodological paper published on the ONS website: https://www.gov.uk/government/publications/about-the-uk-house-price-index/about-the-uk-house-price-index In summary: Data sources The main sources of price paid data used in the UK HPI are the Land Registry for England and Wales, Registers of Scotland and Her Majesty's Revenue and Customs Stamp Duty Land Tax data for the Northern Ireland Residential property prices index (RPPI). Land Registry for England and Wales - Information on residential property transactions for England and Wales, collected as part of the official registration process, will be provided by Land Registry for properties that are sold for full market value. The dataset contains the sale |

					existing comprehensive methodological documentation on specific aspects of the national statistical procedures. The objective should be to get an overview on how much the statistical output are anchored in actual collected data rather than on estimation methods or similar judgemental inputs.	and methods used in data compilation of the most relevant frequency (quarterly), e.g. price concept, index formula, weights, and adjustments. *Country specific aspects*: Present succinctly information on the collection methods of specific material relevance for house price data. A link could be provided to the national	price of the property, the date when the sale was completed, full address details, the type of property (i.e. detached, semi-detached, terraced or flat), if it is a newly built property or an established residential building and a variable to indicate if the property has been purchased as a financed transaction (for example using a mortgage) or as a non-financed transaction (cash purchase). Registers of Scotland (RoS) provides residential property sales for Scotland in the calculation of the new UK House Price Index (HPI). The Scotland data follows a similar process to the Price Paid Data (PPD) where the data provided for the HPI is a by-product of the Scottish property registration process, whereby property sales are submitted to RoS on completion of a sale. Data is gathered from these applications and entered into the RoS Land Registration System (LRS). Northern Ireland data - The Land & Property Services Northern Ireland (LSPNI) house price index will continue to be calculated and published quarterly. Northern Ireland data will be provided to Office for National Statistics (ONS) quarterly, and will be combined with the Great Britain data to give overall figures for the UK. The overall UK figure will be calculated by keeping the house prices in Northern Ireland constant for each month in a quarter. In the two months following the end of a quarter, when Northern Ireland results for the most recent quarter are not yet available, indices and house prices for Northern Ireland will be carried forward from the previous quarter. They will then be revised when the quarter is complete. Council of Mortgage Lenders – Regulated Mortgage Survey (RMS) is the Council of Mortgage Lender's version of the Mortgage Product Sales Data (PSD) that all regulated lenders report to the Financial Conduct Authority (FCA). This is detailed transaction level data on mortgage completions. Starting in April 2005, the RMS now contains over 12 million individual mortgage sale records. Property attributes data - There is comprehensive data available on the price of transacted property across the UK; however, this price data is limited in terms of details regarding the physical characteristics of the property. The use of price data alone is insufficient for the calculation of an inflationary index for house prices due to the fact the composition and type of property sold can differ vastly between periods. Therefore, in line with recognised international best practice, hedonic regression and mix-adjustment is used to account for the

| | | | | | | provisions in this respect, if existent. | change in composition.

Valuation Office Agency Council Tax Valuation list - The main source of property attributes data that will be used to supplement Price Paid Data (PPD) for England and Wales is administrative data taken from the Council Tax Valuation list maintained by the Valuation Office Agency (VOA).

Land and Property Services Northern Ireland maintains the list of Northern Ireland properties which are valued for rating purposes. The data are maintained and validated similarly to the VOA data described above. The Valuation List database contains all the property attributes required for the hedonic regression used in the production of the Northern Ireland Residential property prices index (NI RPPI).

Energy Performance Certificates Scotland (EPC) is used to provide the floor area of the property and the number of habitable rooms required for calculation of the new HPI. This will be matched against the price paid data provided by RoS (using the address details of the property).

ACORN classification - A key determinant of house prices is the demographic characteristics of the area in which the property is located, such as the affluence of those people living in the area. A well-established geo-demographic segmentation of the UK is available through the ACORN dataset, produced and licensed by CACI Ltd. ACORN segments postcodes into categories and groups by analysing significant social factors and behaviours.

Calculating the UK HPI

The UK HPI applies a hedonic regression model that utilises the various sources of data on property price and attributes to produce up-to-date estimates of the change in house prices each period. Mathematically, a semi-log model is used to produce the modelled estimates, with the amount of variation in price (R squared) captured by the model around 80%. Average prices are geometrically averaged together to produce higher level aggregates. Full details of the methodology can be found here: https://www.gov.uk/government/publications/about-the-uk-house-price-index/about-the-uk-house-price-index |

Statistical Output	Statistical Output	CoP/PC	IMF DQAF	SIMS	Question(s)	Housing price statistics	
CoP11 Relevance	PC11 Relevance	11.1-11.3	0.3	S.14	Pls specify briefly why the statistics are relevant by referring to the multiple purposes for which the statistics are used at (i) international, (ii) EU and (iii) national level. References to the statistical legislation and other formal or informal commitments could be sufficient. In addition, if applicable, the outcome of user consultation processes could also be given.	A variety of potential uses of HPIs are provided for consideration: - to assess housing affordability over time - a measure of specific price trends - for inflation targeting - to monitor economic imbalances and financial stability - an input for national accounts	As a very useful indicator for monitoring macro- and micro-economic performance and decision making, HPI has a wide spectrum of user groups: the Central Government (a key user that use data for monitoring economic performance, policy/decision making and regulation), Local Governments (key users who use data to develop policy and understand the market), Devolved administrations (who use the data to support policy making, monitor changes and making comparisons), Banks & Building Societies (key users who need data to analyse the market, assist in decision making on setting interest rates and lending), House builders (who use data to analyse demand for new homes and understanding the level of potential return on investment), Estate Agents (key users who are interested in analysing price to help in valuations/selling price and market performance), Housing Associations (who use data to assist in decision making), Academics, economists and researchers (who use data to monitor the market performance) and the General Public (who use the data to understand the market). Ad-hoc user feedback is requested in each National publication of the HPI, where users are asked to contact the UK HPI team via e-mail (hpi@ons.gov.uk) to provide feedback on the data produced.

							purposes - an input to economic forecasting and analysis - an input for decision making in respect to the housing market	
CoP12 Accuracy and reliability	PC12 Accuracy and reliability (including stability)	12.1/12.1	3.5	S 15.1 S 15.2 S15.3 S.18.2 S 20.2	The analysis should be based on the following indicators (to be compiled by the ECB/Eurostat on a common data vintage) on the reliability of first releases for the relevant series (selected for their material impact and to avoid compensatory effects in the case of balancing items): - Directional reliability	The accuracy of housing price statistics can be monitored by assessing the methodological soundness of price and weight sources and adherence to the methodological recommenda	Estimates from the HPI are subject to potential sources of statistical error. The total error consists of the non-sampling error only (no sample data is used, so sampling error is not possible). Non-sampling errors in the UK house price index are not easy to quantify and could include errors of coverage, measurement processing and non-response. Various procedures are in place to ensure that these errors are minimised in the production: • validation checks on data, based on extreme values within a cell are conducted to highlight potential unusual prices (the combination of each property size and region forms a cell for which an average price is collected); • data cleaning is carried out to remove potential duplicate cases, or cases with missing data and erroneous data; • the minimum and maximum values for house prices and associated variables are investigated and if they are deemed to be suspect, they are removed from the dataset; • the top and bottom 10 house price outliers (by region) are validated against external sources; and • ratio analysis (comparing house price to total income and mortgage value to total income) is then carried out to check for consistency. Another aspect of quality is reliability. Assessing the difference between the first

					indicators; - Revisions indicators (e.g. MAPE, MACE or RMSRE depending on the indicator). and provide a succinct assessment of the accuracy and reliability of the statistics on the basis of the results, with an attempt to provide a relative objective measure, explaining also the main reasons for revisions.	tions. Pls also provide a detailed description on the data sources for both weights and prices, and price collection methods.	published estimate and the final revised figure provides an indication of reliability. The UK HPI revision policy, which is aligned with the UK Code of Practice, is to show significant revisions, but to suppress minor changes to avoid unnecessary inconvenience to users. In all cases, the revised figures are labelled with an 'R' and the reason for the revision explained in the national monthly publication. The UK HPI has a regular schedule of revisions to ensure the most up to date transaction data is used in the calculation process. Each monthly estimate will have a 12-month revision window to account for the late return of transaction data. The first publication of the HPI estimate will be provisional and will be based on approximately 40% of transactions. The following month, the estimate will be revised to account for additional transactions (the second estimate will be based on approximately 80% of transactions). In the third month the estimate will be finalised, and will be based on 85%+ of available transactions. The data used to calculate the HPI weights is the previous year's complete set of transactions – as provided by the respective Land Registry's across the UK. This provides an up-to-date and accurate set of data to derive a weighting structure reflective of the latest market situation. In reality, these weights are calculated at a granular level – what is referred to as a 'cell'. Each cell represents a combination of characteristics in the HPI model (typically there will be over 100k cells). The cells are combined to provide aggregated H11 and H12 weights for delivery to Eurostat. The annual value of transaction data provided to Eurostat alongside UK HPI weights comes from the annual Revenues and Customs UK Property Transaction statistics dataset: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/438630/2015_AUKPTS_circ.xls This dataset contains all residential property transactions (above £40k) in the UK and full methodological details can be found in the above link.

					Pls provide a succinct assessment of the level of the statistical discrepancies ("*internal consistency*")		The HPI is produced by calculating monthly prices using a hedonic regression model. The regression model produces prices at a cell level, where a cell is a combination of property size, type, buyer and location. These cells are then aggregated together using transaction based weights to produce aggregated indices. Therefore, the overall aggregate indices are fully consistent with their component indices.
CoP13 Timeliness and punctuality	PC13 Timeliness (including punctuality)	13.1 13.4	4.1	S.16	Pls specify the timeliness requirements for international and EU purposes and the national target publication dates. Pls specify punctuality defined as deviations in relation to the timeliness requirements and target dates specified above.	*3.3.1 National requirements: HPIs may be required at national level at different frequencies and timeliness.* *3.3.2 EU and other international requirements: HPIs are released after 100 days from the end of the reference quarter. The*	The following HPI datasets are provided to Eurostat each quarter: H.1. Purchases of all dwellings H.1.1. Purchases of new dwellings H.1.2. Purchases of existing dwellings. These quarterly UK indices are provided to Eurostat within 85 days from the end of the reference period. The HPI is compiled and published nationally in the UK each month. The monthly index is lagged by two months, mainly due to the time it takes to collect the necessary input data, hence the UK HPI is usually published on the second Tuesday of the second month after the reference period (so April house price estimates are published mid-June). The national monthly price data is averaged to produce a quarterly series for delivery to Eurostat (so Q1 will be the three month average of January, February and March estimates). The National UK HPI is published on a 2015=100 basis (from June 2016) so the data is manually re-referenced to a 2010=100 basis for Eurostat delivery. The UK House Price Index published by the Office for National Statistics references from January, however the data delivered to Eurostat is re-referenced to Q4 of each year.

							release schedule has significantly improved and close to T+1Q at present, which is the target timeliness for this indicator	
CoP14 Coherence and comparability	PC14 Consistency and comparability	14.1/14.1	4.2.1 4.2.2 4.2.3	S17.2 S 18.1	Pls provide a succinct assessment of the results of the consistency check of the statistics with other related domains or data sets with which the statistics must show coherence ("*external consistency*"). The results should provide a relative objective measure to facilitate cross-country comparability, e.g.	*3.4.1 Consistency with related statistics*: Housing price estimates may be confronted with other indicators available at the national level, e.g., price valuation by a national appraisal	Currently, there are at least three different sources of house price statistics published in the UK in addition to the ONS house price index (namely the private sector HPIS produced by Nationwide, Halifax and Acadata). There are differences in the data published by each source, as there are differences in both the data and methodology used. Therefore, the HPI is not directly comparable with these other indicators and this was described in detail in the UK National Statistician review of UK House Price Statistics (see report https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/images-national-statisticians-review-of-house-price-statistics_tcm97-35564-1.pdf). The background notes of the UK HPI release provides an overview of the additional HPI data available for the UK: https://www.gov.uk/government/publications/about-the-uk-house-price-index/about-the-uk-house-price-index The main differences between the aforementioned HPIS and the UK HPI is as follows: Nationwide HPI – this only covers those houses purchased using a mortgage funded by Nationwide and uses the mortgage approval price in the calculation (as opposed to the full coverage and transaction price measured by the UK HPI).

						be presented as a ratio of the inconsistency between compared statistics, as a percentage of GDP, where appropriate.	board.	Halifax HPI – this only covers those houses purchased using a mortgage funded by Halfiax and uses the mortgage approval price in the calculation (as opposed to the full coverage and transaction price measured by the UK HPI). Acadata HPI – uses similar data sources to the UK HPI but calculates the average price using an arithmetic average, as opposed to the geometric average used in the UK HPI.
						Pls provide a succinct assessment of the time series consistency, specifying (i) whether the time series presents breaks and if so explaining the reasons for the breaks; (ii) the length of the series for which back data are consistent; and (iii) whether the statistics are consistent across the various frequencies (monthly/quarterly/ annual) where relevant.	*3.4.2 "Time" and back data consistency*: In the housing price statistics context, specify the following: - breaks in time series and reasons (whether they relate to methodological or other changes) - time periods for which data are	The HPI provides a monthly estimate of the price of current property relative to its price in 2015 and is made up of component data from the constituent countries of the UK. The data for England and Wales is available from 1995, with Scotland available from 2004 and Northern Ireland from 2005. To create a continuous and historic time series for the UK back to 1969, historic data is derived using the previously published ONS House Price Index. https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/march2016 The historic data is linked on to produce a full time series. Monthly release of house price statistics; this includes the main tables covering national, regional and Local Authority data. Additional supplementary analyses are published on a quarterly or annual basis. HPI data of different dissemination cycles are fully consistent with each other. A seasonally adjusted house price series is also produced and published monthly but this only covers regional and national estimates.

						consistent - availability of back data and back calculations performed.	
CoP15 Accessibility and Clarity	PC15 Accessibility and Clarity	15.1/15.1	5.1.1 5.2.1	S9.3 S 11 S12.1	Pls provide a brief description of the dissemination policy and dissemination means, including links to the data and respective metadata.	Pls provide a brief description of the dissemination policy and dissemination means, including links to the data and respective metadata.	The HPI is publically disseminated to all users at 9.30am on the publication date (available via GOV.UK), via the GOV.UK website. A high-level summary is also published on the ONS website. The HPI is disseminated via various channels: the monthly HPI reports (and accompanying briefing: https://www.gov.uk/government/collections/uk-house-price-index-reports), regular publications, and data downloads (https://www.gov.uk/government/statistical-data-sets/uk-house-price-index-data-downloads-april-2016) posted on the official GOV.UK website. An interactive user tool is also now available for users to download and access the data as they see fit: http://landregistry.data.gov.uk/app/ukhpi No microdata access is currently available.