Level 3 national report on quality of statistics underlying the MIP indicators

Statistical domain: Housing Price statistics

Country: Luxembourg

Institution: STATEC

Reference year: 2024

Date of update: 03/2025

National report 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) - 2025 version

Reporting institution: STATEC

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 interference in developing, producing and disseminating official statistics is guaranteed by law. *Legal basis: Please confirm the independence*	*Legal basis: Please. specify the statutory basis for ensuring independent professional authority in all statistical decision making and activities at the institutional level.*	The statistical law of 10 July 2011 states that "in exercising its duties defined in Article 2 and Article 4, paragraphs 2 and 4, STATEC has scientific and professional independence. The director of STATEC determines the methods, standards and statistical procedures and the content and the date of statistical releases. It may carry out any other investigation, study or urgent search not included in the work program within the limits of available resources. The compilation of statistics and the choice of sources and statistical techniques are based statistical considerations. The statistical methods and procedures used are documented and take into

					by referring to the relevant national and EU legal act(s) and the formulation used in the legal act.	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.	account the scientific standards recognized at European and international level. The documentation concerning the methods and statistical procedures is available to the public. STATEC provides a Code of Practice complies with the requirements and European quality standards and international. This code is publicly available.
		1.4/1.5			The [name of reporting institution] has an annual statistical work programme which is made public. *Statistics work programme: Please confirm the existence of a statistics work programme and specify where to find it (or similar document), if available.*	*Statistics work programme:* Please confirm the existence of a statistics work programme covering housing price statistics and specify where to find it, if available.	Currently, there is no annual statistical work program published.
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	*Allocation of responsibilities:* Please explain the allocation of responsibilities for the production	STATEC is the unique national agency responsible for the compilation and dissemination of the Luxembourg HPI. The mandate for the production of house price statistics is laid down in the Commission Regulation (EU) No 93/2013 of 1 February 2013, which specifies detailed rules for the implementation of Council Regulation (EC) No 2494/95 concerning

					Statistics is specified in law. *Allocation of responsibilities: Please explain the allocation of responsibilities in producing the relevant statistics.* *Legal basis: Please confirm the mandate by referring to the relevant legal act(s) and any other kind of formal agreements.*	of housing price statistics. *Legal basis:* Please confirm the mandate for the production of housing price statistics by referring to the relevant legal act(s) and/or any other kind of formal agreements.	harmonised indices of consumer prices, as regards establishing owner-occupied housing price indices.
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: Please confirm the existence of an advance release calendar and provide a link to it.* *Revision policy: Please explain succinctly the revision policy and provide*	*1.3.1 Advance release calendar:* Please confirm the existence of an advance release calendar for housing price statistics and provide a link to it. *1.3.2 Revision policy:* Please explain succinctly	The release calendar can be found on the Statistics Portal: https://statistiques.public.lu/fr/donnees/calendrier-diffusion.html HPI releases, each quarter, are provisional and subject to revision when new information is available in the following quarter. Final indices relating to the previous quarter are published in the following quarter. Users are informed of the revisions.

Statistical Processes	Statistical Processes	CoP/PC	IMF DQAF	SIMS	Question(s)	Housing price statistics	
					a link to material on the revision policy, if existent.	the revision 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	Please 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.	The HPI compilation follows methodological standards set out in the Technical Manual on Owner-Occupied Housing for HICP provided by Eurostat to ensure comparability of HPI indices across Member States. Conceptually, HPI measures the evolution of market prices of all dwellings purchased in monetary transactions. In practice, for the moment, the HPI only covers apartments' and existing single-family houses (new single-family houses are not covered yet). It includes both new and existing dwellings, regardless of whether the purchase is for own-occupancy or investment. Land price is included in prices and weights. House price statistics are based on final market prices paid by households (VAT included), while non-market prices (e.g., self-building) are ruled out from the scope of the HPI. Methodological details of the price indices are published on the STATEC's website. In particular the following documents discuss methodological aspects of the HPI (in French only):

							https://statistiques.public.lu/fr/donnees/methodologie/methodes/economie-totale-prix/prix-logements.html https://statistiques.public.lu/dam-assets/catalogue-publications/economie-statistiques/2015/working-paper-79-15.pdf https://statistiques.public.lu/dam-assets/catalogue-publications/economie-statistiques/2010/44-2010.pdf
						Please specify adherence or deviations from concepts and rules according to international standards and highlight coverage gaps that are of material relevance for the statistics. Please 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 geographical coverage of house price index is the entire national territory.
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			Please provide a succinct assessment of the robustness of the statistics by elaborating briefly on the relevant sources of information, statistical methods and procedures	*Main features*: For *housing price statistics,* this description should start by assessing the soundness of sources of information,	The production of HPI statistics is based on administrative data; in particular, prices of dwellings gathered from notarial deeds of sales data provided by the *Administration de L'Enregistrement et des Domaines* (AED). Data transmission between the *Administration de L'Enregistrement et des Domaines* and STATEC is done on a monthly basis. The day taken into account for pricing is that of the notary act, which is included in the dataset. Each transaction is then allocated to the quarter including that day.

| | | | | | | used across the various frequencies. *Please provide links/references to 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.* | procedures 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 provisions in this respect, if existent. | The completeness of the data is checked beforehand by the AED. Therefore, the data transmitted to the STATEC are complete, without missing transactions.

The data collected can have missing values, whose treatment depends on the variable. When the surface of the dwelling is missing, the transaction is excluded, as that variable is too important to be imputed. Imputations are carried out for the other variables that may have missing values.

A survey on house characteristics *Enquête sur les caractéristiques des maisons* (ECM) is run on a quarterly basis among the households who purchased existing houses.

The HPI produced by STATEC is a Laspeyres-type index, chained annually. Prices in the current quarter of year y are compared to prices of the 4th quarter of year y-1.

The administrative data file has first to be pre-processed before arriving to a list of transactions that will enter the price index. The pre-processing involves in particular the following steps:

Identification of the relevant transactions
Data editing of the selected transactions
Detection of outliers

A price index is compiled for new apartments for owner-occupation, new apartments made for other purposes than own-occupation, existing apartments, as well as for existing single-family houses. The global index is a linear combination of these indices. The weights are updated once a year and remain constant for an entire year. They are established according to commission regulation (EC) 1114/2010 (expenditure weights of year y-1 that are price-updated to the 4th quarter of year y-1). |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |

						Housing price statistics	
							The base period is the 4th quarter of the preceding year. Price indices are annually chained using the results from the 4th quarter. As the prices used for the calculation of the indices are the actual, recorded, transaction ones, the data source is perfectly suitable to the price concept. For new dwellings, the prices include non-deductible VAT. Quality adjustment is performed using the hedonic re-pricing method. Two hedonic models are estimated, for apartments and single-family houses. This method consists of a ratio of geometric averages of the apartments sold during the current and the base period, adjusted by a coefficient based on a hedonic function. The transactions of year y are adjusted using the hedonic model estimated with all the transactions of year y-1. Hence the hedonic function is updated every year.
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	Please 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.	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	Housing is an important sector of the economy which warrants a close monitoring of its movement in terms of overall performance, soundness, vulnerability, and risks. The HPI is a handy measure, although a broad one, to identify housing market shifts and assess its impacts on micro- and macro-economy and decision making at various levels. As such, it is a component of the IMF's Financial Soundness Indicators and of the European Commission's Macroeconomic Imbalances Procedure headline indicators. Nationally, the HPI responds to the needs of a wide range of user groups interested in the behaviour of the domestic housing market, including government policy makers, the financial sector, the construction sector, households, related associations, and researchers. User Consultation: there is not a formal user consultation process. Users are free to interact and to provide feedback and suggestion trough the usual

					In addition, if applicable, the outcome of user consultation processes could also be given.	- to monitor economic imbalances and financial stability - an input for national accounts purposes - an input to economic forecasting and analysis- an input for decision making in respect to the housing market	channels: on line on the STATEC web site or directly contacting the reference persons.
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 indicators;	The accuracy of housing price statistics can be monitored by assessing the methodological soundness of price and weight sources and adherence to the methodological recommendations. Please also provide a detailed description on the	HPI is perceived to be accurate and to reflect adequately the overall performance of the housing market. Methodological rules and guidelines prescribed in the official manual are closely followed in the processes of data collection, modelling, weighting, and estimation. The data sources, which are administrative data supplied by the AED, are monitored on a routine basis for accuracy, reliability, stability, and exhaustiveness. HPIs are revisable. There is a strict revision policy. In particular, HPIs released each quarter are provisional and they are revised and published in the following quarter. Users are informed of the revisions policy on the release. Revision is due to incompleteness of quarterly database at the time of the first release; a higher coverage will be achieved in the following quarter. As a consequence HPIs released each quarter are provisional and they are subject to revision with new information available the following quarter;

					- 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.	data sources for both weights and prices, and price collection methods.	final indices relating to the previous quarter will be published in the following quarter.
						Please provide a succinct assessment of the level of the statistical discrepancies ("*internal consistency*")		Internal consistency is ensured through the hierarchical estimation steps from elementary indices to two sub-indices (new and existing dwellings) and then to the final aggregated index.
CoP13 Timeliness and punctuality	PC13 Timeliness (including punctuality)	13.1 13.4	4.1	S.16	Please specify the timeliness requirements for international and EU purposes and the national target publication dates. Please 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*	House price statistics are released within the timeliness limits set internally and externally. At the national level, the indices are published at the latest 85 days after the end of the reference period. At the EU level, provisional indices are transmitted to Eurostat 85 days after the end of reference period, and final estimates are provided in the following quarter.

						requirements: HPIs are released after 100 days from the end of the reference quarter. The 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	Please 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. be presented as a ratio of the inconsistency between compared statistics, as a	*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 board.	'The series produced by the STATEC are now fully coherent with the average prices published by the Luxembourgish Observatory of Housing, since the two institutions have cooperated to develop a common approach for the processing of the data provided by the AED. The first common publication was for the 2nd quarter of 2013, with a revision of the series going back to the 1st quarter of 2007.

					percentage of GDP, where appropriate.		
					Please 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 consistent - availability of back data and back calculations performed.	At the moment the series start from 2007 and are produced consistently over time regarding methodology and definitions. A break in the time series can be found in the first quarter 2013 due to the introduction of the single-family houses in the coverage.
CoP15 Accessibility and Clarity	PC15 Accessibility and Clarity	15.1/15.1	5.1.1 5.2.1	S9.3 S 11 S12.1	Please provide a brief description of the dissemination policy and dissemination means,	Please provide a brief description of the dissemination policy and	HPI is published as *"Indicateur à court terme - C"* and disseminated on-line. https://statistiques.public.lu/dam-assets/fr/donnees-autres-formats/indicateurs-court-terme/economie-totale-prix/D4011.xls

| | | | | | including links to the data and respective metadata. | dissemination means, including links to the data and respective metadata. | https://statistiques.public.lu/dam-assets/fr/donnees-autres-formats/economie-totale-prix/prix/d4016.xlsx

Twice a year HPI statistics are discussed in a dedicated on-line report ("Logement en chiffres").

Microdata are not released. |