Luxembourg Consumption Study (LCS) Database – Beta Launch

Technical Documentation and Research Framework

June 2026

1. Introduction and Motivation

After four decades of harmonising income microdata through the *Luxembourg Income Study (LIS)* and two decades of harmonising wealth microdata through the *Luxembourg Wealth Study (LWS)*, LIS is now establishing a third pillar of its data infrastructure: the Luxembourg Consumption Study (LCS). This initiative responds to a long-standing gap in comparative household research and is grounded in the landmark Stiglitz–Sen–Fitoussi Commission Report of 2009, which identified income, consumption, and wealth as three core, complementary dimensions of household economic well-being.

Historically, cross-national research on household living standards has relied predominantly on income as a proxy for welfare. Yet income captures only one dimension of a household's economic position. Consumption is argued by many scholars to be a more direct and stable measure of material well-being, particularly at the lower end of the distribution. At the same time, consumption data introduce their own definitional ambiguities and comparability challenges, which have so far prevented the emergence of a harmonised international micro-database comparable to LIS.

The *Luxembourg Consumption Study (LCS)* addresses this gap directly, aiming to produce a harmonised, cross-national micro-database of household consumption. It draws on household budget survey data from countries at all income levels, using a consistent framework broadly aligned with the international COICOP 2018 classification, while accounting for both monetary and non-monetary components of consumption.

The ICW Framework and LCS Positioning

The concept of joint income–consumption–wealth (ICW) measurement provides the overarching intellectual framework within which the LCS is positioned. Prompted by the Stiglitz–Sen–Fitoussi Report, two major expert groups have shaped the methodological agenda: the OECD Expert Group on the Joint Distribution of Income, Consumption, and Wealth (EG ICW) and the OECD–Eurostat Expert Group on Disparities in National Accounts (EG DNA). These groups have worked to develop guidelines and experimental results for measuring household well-being in a coherent, multi-dimensional manner.

LIS extends this agenda at the micro level. Whereas the ICW framework as developed by the OECD focuses primarily on linking macro-level national accounts data with micro distributional information, the LCS provides a fully harmonised micro-database enabling direct household-level analysis. The LCS complements LIS and LWS by adding the missing consumption dimension, enabling researchers to study the joint distribution of income, consumption, and wealth for the first time in a harmonised cross-national setting.

2. Research Motivation and Conceptual Background

The case for a harmonised consumption database rests on multiple complementary arguments. First, consumption provides a more direct measure of current living standards than income, particularly in contexts where income is volatile, underreported, or smoothed through savings and borrowing. Consumption expenditure is less sensitive to transitory income shocks and tends to track permanent income more closely. Second, in many lower-income countries, household budget surveys recording consumption are the primary instrument for measuring household welfare. Excluding these countries from comparative welfare databases creates a serious blind spot. Third, a rapidly expanding research agenda on inflation inequality, carbon footprints, distributional effects of indirect taxation, and energy poverty requires consumption microdata at the level of detail that LCS provides.

The literature has long recognised the limitations of relying exclusively on income for welfare analysis. Atkinson et al. (1995) and Smeeding et al. (1990) established LIS as the gold standard for income comparisons. Deaton and Zaidi (2002), Mancini and Vecchi (2022), and Garner et al. (2025) have laid out the methodological foundations for constructing comparable consumption aggregates across countries. The LCS draws directly on this body of work, operationalising its insights into a practical harmonisation framework.

Consumption vs. Expenditure vs. Welfare

A central conceptual distinction runs through the entire LCS framework: the difference between expenditure, consumption, and welfare. These three concepts, while related, are not interchangeable.

Expenditure refers to what households actually pay in cash for goods and services. This is the most readily available measure in survey data, but it diverges from consumption in important ways. Durable goods are purchased at a point in time but consumed over many years, so acquisition prices overstate consumption in the purchase year and understate it in subsequent years. Health and education expenditure may reflect public provision differences and only weakly relate to actual welfare. Non-monetary items, such as own production, in-kind transfers, employer benefits are missed entirely.

Consumption refers to the flow of goods and services actually available to and used by the household. This includes purchased goods and services, items produced at home (notably own-produced food and owner-occupied housing services), items received in kind from employers, the state, private organisations or other households, and ideally the service flow from durables rather than their acquisition price.

Welfare reflects a broader set of living standards and capabilities than any single metric can capture, with consumption serving as an informative but partial approximation. The LCS Expert Workshop in January 2026 emphasized that no single indicator fully represents welfare, noting that consumption is especially useful for poverty analysis but less suited to measuring top-end inequality.

The LCS adopts a modular approach: rather than prescribing a single definitive measure, it provides clearly labelled building blocks from which users can construct the aggregate most appropriate to their research purpose.

3. The LCS Project: From Feasibility Studies to Launch

The development of the LCS has followed a staged, evidence-based trajectory spanning several years. Each phase has contributed substantively to the methodological design and operational framework now reflected in the May 2026 variable list.

Feasibility Studies

Two foundational feasibility studies have shaped the LCS framework:

Mancini and Vecchi (2023) – The first LCS feasibility study confirmed the viability and value of developing a comparable consumption micro-database. The study recommended a specific definition of the consumption aggregate comparable across countries, operationalised the conceptual framework into a LCS-specific technical harmonisation template, and conducted pilot harmonisation across four countries. Key findings included that the impact of including or excluding durable flows was less pronounced than expected, but that imputed rent plays a critical role in cross-country comparability.

Garner et al. (2025) – The second feasibility study extended the analysis across nine countries (Mali, Laos, Palestine, Peru, Georgia, Italy, France, the United Kingdom, and the United States), covering the full spectrum from low- to high-income contexts. The study established the COICOP 2018 classification as the structural backbone for the LCS variable list, further refining the LCS consumption aggregate. The study documented equivalence scale sensitivity, analysed the drivers of consumption inequality by income level, and demonstrated the critical importance of housing and imputed rent for cross-country comparability. The study confirmed that treating the LCS as a flexible, modular system rather than a rigid single-measure approach is the most defensible path forward.

Both studies are published as Working Papers in the LIS WP Series and are publicly available: Mancini and Vecchi (2023) The Luxembourg Consumption Study (LCS): Feasibility and First Steps (LIS WP No. 911) and Garner et al. (2025) Building a Comparable Measure of Consumption: Concepts and Measurement Challenges Faced by Emerging and Advanced Economies (LIS WP No. 912).

Expert Workshop, January 2026

A two-day LCS Expert Workshop held on 14–15 January 2026 brought together leading scholars and institutional partners, including representatives from the OECD and the World Bank to review the methodological priorities and research agenda for the LCS. The workshop generated a rich body of substantive discussion, the key conclusions of which are summarised here.

Emerging Consensus

Across both days, several strong areas of consensus emerged:

- No single consumption aggregate is appropriate for all research purposes. The LCS should provide components and let users construct the aggregate most suited to their question.
- Modularity is the defining design principle: a core consumption aggregate should be complemented by clearly flagged optional extensions (imputed rent and non-monetary consumption, durable flows, health and education, social transfers in kind).
- Social transfers in kind (STiK) cannot be excluded from the overall theoretical framework, even if imperfect imputation is required. Their omission biases welfare state comparisons.
- Comparability should be operational rather than doctrinal. Respecting national survey practices while documenting differences is more valuable than forcing artificial standardisation.
- Consumption is purpose-dependent. Poverty analysis, inequality measurement, environmental research, and fiscal incidence studies require different lenses and different aggregate definitions.

Health and Education

Health and education were the most extensively debated components. The workshop reaffirmed the tentative LCS position on health: out-of-pocket health expenses are excluded from the core well-being measure because they are often involuntary and do not straightforwardly increase welfare, and because the absence of data on freely provided health services prevents meaningful cross-country comparison. Following the exchange of the expert discussions out-of-pocket education expenses are also excluded from the core LCS well-being measure in the beta launch variable list, despite some participants arguing for its retention as current consumption. Both categories remain available as separate variables and are included in the COICOP expenditure aggregate.

Durables and Service Flows

The workshop confirmed broad support for the LCS treatment of durables: expenditure on durables is recorded and available in the COICOP aggregates (*hc_coicop_t/_p/_n*), but excluded from the core LCS well-being measure (*hc_lcs*). Service flow estimates, where available from national data providers, are collected in a separate module (*hf05–hf09*) and can be added to form the extended consumption aggregate (*hc_lcs_ext*).

Imputed Rent

Imputed rent was identified as a high-priority investment area. Its unavailability in some countries (notably Laos, Poland and the United Kingdom) represents a major limitation for cross-country comparability, particularly for comparisons involving homeowners.

Deflation

The workshop also prioritised temporal deflation. Spatial deflation was considered valuable but more context-dependent, given that spatial price differences may partly reflect amenities rather than cost differentials.

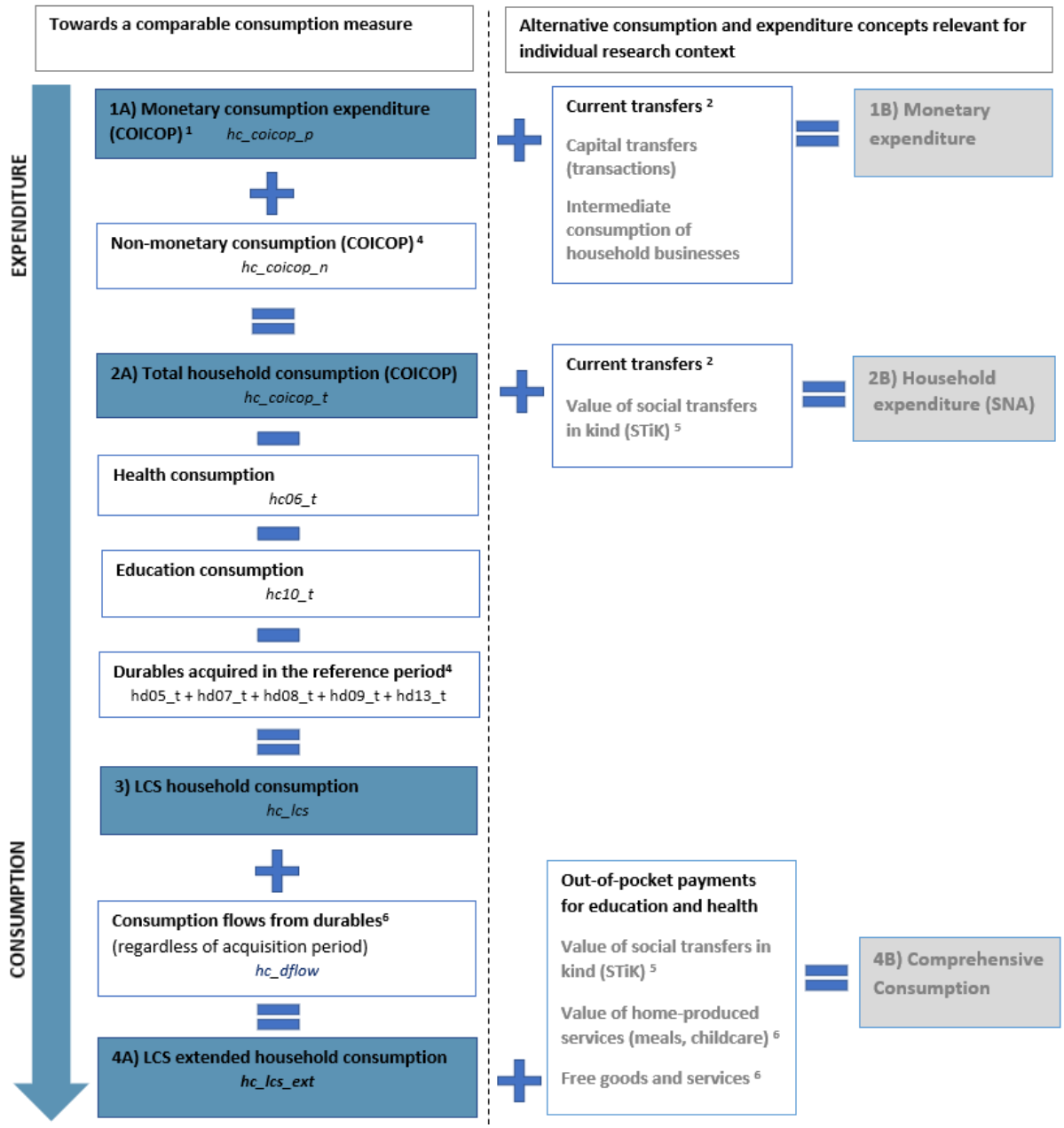
Internal Discussions and Variable List Development

Alongside the formal feasibility studies and the expert workshop, the LIS team engaged in various internal discussions and shaped the variable list and harmonisation priorities. Key decisions reached through this process include:

- Adoption of the COICOP 2018 revision as the structural framework for consumption categories, operating at 2-digit level;
- The deliberate distinction between the LCS well-being measure and the COICOP expenditure aggregate, reflecting different research purposes and user communities;
- The decision to exclude durable goods from the core consumption aggregates (except COICOP consumption aggregate), tracking them separately through a parallel durable goods module and, where available, service flow estimates.
- The design of a suffix convention (*_t* for total, *_p* for purchased, *_n* for non-monetary) enabling reconstruction of either aggregate from the same underlying observations.
- The decision to exclude out-of-pocket health and education expenditure from the core LCS well-being measure while retaining it in the COICOP expenditure aggregate.
- The inclusion of imputed rent as a mandatory component of the LCS well-being measure, reflecting the primacy of housing as the largest consumption category in many countries.
- The design of non-core country-specific files for durable goods ownership details, enabling future modelling of service flows as data availability improves.

4. The LCS Conceptual Schema: LCS vs. COICOP

The Schema Structure



* Components marked in grey fall outside the current LCS operational framework because they rely on modelling and simulation and cannot be constructed consistently from the available microdata.

[1] Monetary consumption expenditure include: purchased goods (including durables) & services, including out-of-pocket expenses for health and education.

[2] Current transfers include taxes on income and wealth, other direct taxes, and social contributions paid, interhousehold transfers (remittances, alimony payments, child support, etc.), interest payments on loans, net insurance premiums for health insurance, unemployment insurance, and life insurance; donations and contributions to charitable organisations.

[3] Non-monetary consumption expenditure include: value of goods & services own produced (including owner equivalent rent), in-kind payments from employers, in-kind benefits from the State, in-kind donations from private institutions, and gifts and in-kind transfers from other households.

[4] In order to enhance cross-country comparability, the LCS consumption framework excludes out-of-pocket expenditures on education (e.g., tutoring and fees for public and private schooling) and health services. This adjustment effectively normalizes differences in public provision across countries but, in doing so, abstracts from potentially substantial household expenditures that are directly linked to well-being and inequality.

[5] STiK stands for **S**ocial **T**ransfers in **K**ind, which are *"goods and services provided by government and non-profit institutions that benefit individuals but are provided free or at subsidised prices"* (Canberra Group Handbook, 2011). The value of STiK, home-produced services (e.g. meals and childcare), and free goods and services is not readily available in the LCS data and requires modelling by researchers.

[6] A consumption flow from a durable (or its service flow) represents the economic utility or benefit that a consumer derives from using a long-lasting good over the reference period. Modelling the service flow of durables is not feasible for all countries in the LCS Database. The necessary information on durables ownership, purchase prices, and year of acquisition is available only for a subset of countries and, within those countries, only for selected durable items.

The schema contrasts four families of aggregates along two dimensions: the scope of what is included (from narrow monetary expenditure to extended consumption including non-monetary items and STiK) and the purpose served (expenditure accounting vs. welfare measurement).

Aggregate	Label	Key Components	Research Use
1A	**Monetary consumption expenditure**	**Purchased goods & services (including durables) + out-of-pocket health and education expenditure**	**Expenditure accounting**
2A	**Total household consumption (COICOP)**	**Aggregate 1A + non-monetary consumption (own-produced and received in-kind)**	**SNA-aligned micro-macro linking**
3	**LCS household consumption**	**Aggregate 2A – durables - health consumption - education consumption**	**Cross-country welfare comparison**
4A	**LCS extended household consumption**	**Aggregate 3 + service flows from durables**	**Preferred welfare measure when data permit**
4B	Comprehensive consumption	**Aggregate 4A +** value of social transfers in kind (STiK)	**Welfare state comparison; fiscal incidence**

* Components marked in grey fall outside the current LCS operational framework because they rely on modelling and simulation and cannot be constructed consistently from the available microdata.

Key Definitional Choices

Exclusion of Durable Goods from the Core Aggregate

Durable goods are defined as goods used repeatedly over a period longer than one year at a higher purchase price, following COICOP 2018 and SNA 2025. The annualised expenditure on durable is recorded in a parallel module and included in the COICOP-aligned aggregate (1A/2A), but excluded from the LCS well-being measures (3 and 4A). The rationale is that including annualised expenditure on durable overstates consumption for the households in the year of purchase and understates it in all subsequent years. Ideally, an annualised service flow would enter the consumption measure (extended household consumption *hc_lcs_ext)*, but this is not feasible for any of the harmonised countries so far.

Housing: The Centrality of Imputed Rent

Housing is the largest single consumption category in most high-income countries and a major component in many middle-income contexts. The LCS framework requires imputed rent – the rental equivalent value of owner-occupied housing as part of the LCS well-being measure. Ideally LCS housing includes also the housing services provided in kind, including subsidised housing. In case only the latter components are not provided, but rental equivalent values for owner-occupiers are available, *hchous* and *hc_lcs* are still constructed. A note in the documentation will warn users about limitations in comparability.

Health and Education

Health out-of-pocket expenses are excluded from the core LCS well-being measure *hc_lcs* on two grounds: they often represent an involuntary response to illness rather than a welfare-enhancing consumption choice, and they are systematically incomparable across countries with different regimes of public health provision. Education out-of-pocket expenses, though conceptually debatable (education can be viewed as investment in human capital or as current consumption), are also excluded from the final LCS well-being aggregate for similar reasons related to cross-country heterogeneity in public provision. Both components are provided separately as variables (*hc06* for health and *hc10* for education) and included in the COICOP expenditure aggregates *hc_coicop_t/_p/_n.*

Non-Monetary Consumption

A defining feature of the LCS well-being measure is its systematic treatment of non-monetary consumption. Every consumption category is broken down by source of acquisition: purchased (*_p*), own-produced (*_o*), and received in kind (*_i*), with the latter further disaggregated by source (employer, state, private institution, other household). This disaggregation is especially important for lower-income country contexts where non-market consumption constitutes a significant share of household welfare. Whereas the three major building blocks of the LCS aggregate (*hcfood*, *hcnfnd*, and *hchous*) foresee a distinction in own-produced (*_o*), and received in kind (*_i*), the more detailed variables in LCS and COICOP combine *_o* and *_i* to consumption expenditure not paid for (*_n*).

5. The LCS Variable List (June 2026)

The LCS variable list, consolidated in its June 2026 version, operationalises the conceptual schema into a concrete harmonisation template. It presents the two parallel measurement frameworks COICOP and LCS side by side, enabling users to work with either or both depending on their research purpose.

5.1 Structure of the Variable List

The variable list is organised into the following major sections:

- LCS Well-Being Measure – Breakdown by Source of Consumption: *hc_p* (purchased), *hc_o* (own-produced), *hc_i* (received in-kind, with sub-sources), and *hc_m* (unknown type).
- LCS Well-Being Measure – Breakdown by Major Consumption Category: food (*hcfood*), housing (*hchous*), and other non-durables and services (*hcnfnd*).
- LCS Well-Being Measure – Breakdown by Detailed Categoryfor all non-durable goods and services consumption (except education and health): *hcalcto, hccloth, hcequip, hctrans, hcinco, hcrsc, hcrest, hcaccs, hcins, hcpers, hcsoc, hcmisc*, each with *_t/_p/_n* suffixes.
- Consumption Flows from Durables: *hf05–hf09* covering furniture and appliances, health assistive products, vehicles, ICT equipment, and recreational durables. Populated where national data permit.
- COICOP Expenditure Aggregates – Major Categories: *hc_coicop* and *hc01–hc13* plus *hc99* (miscellaneous consumption expenditure n.e.c.), including health (*hc06*) and education (*hc10*) and durables (*hd05–hd13*), each with *_t/_p/_n* suffixes.
- COICOP Expenditure – Detailed Categories: 2-digit sub-categories for all COICOP 2018 divisions.
- Durables Excluded from LCS Core: *hd05–hd13* (furniture, health assistive products, vehicles, ICT, recreation, jewellery), with *_t/_p/_n* suffixes.
- Non-Consumption Expenditure: taxes and social security contributions (p/*hxitax*, p/*hxscont*, *hxotax* and sub-items), voluntary contributions (p/*hxvcont* and sub-items), loans and mortgage instalments (*hxmort*, *hxloan*), inter-household transfers (*hxiht* and sub-items), donations to charitable organisations and contributions to other institutions (*hxdon* and sub-items), penalties / fines (*hxopf*), third party compensation paid (*hxothird*), major repairs and improvements to owned dwelling (*xmrep*), extraordinary expenditure (*xinfreq*), and other non-consumption expenditure (*hxother*).
- Geography and Housing Characteristics: region, locality size, area type, dwelling type, tenure status, number of rooms, dwelling value, construction materials, utilities and amenities (water, electricity, sewage, heating, air conditioning, garbage collection, toilet facility, energy sources), and accessibility and connectivity (access to water, transport, schooling, health facilities, and internet and TV subscription).
- Subjective Well-Being and Economic Vulnerability: adequacy of / satisfaction with consumption of housing, food, and clothing and footwear, quality of residential area, financial satisfaction and

expectations, ability to save, dissaving behaviour, exposure to unexpected expenses, poverty ranking, and exposure to shocks.

- Health Module: country-specific health variables.

Additionally, all the variables from LIS data base are also created in LCS (see LIS variable list).

5.2 The Suffix Convention

A defining technical feature of the LCS variable list is its systematic use of suffixes to track the mode of acquisition across all consumption categories. The convention is consistent across both the LCS well-being measure and the COICOP aggregate:

Suffix	Meaning	Examples
_t	Total (all sources combined)	hcfood_t, hc01_t
_p	Purchased (market transactions)	hcfood_p, hc03_p
_n	Non-monetary (own-produced + in-kind)	hcfood_n, hchous_n
_o	Own-produced	hcfood_o, hchous_o
_i	Received in-kind (all sources)	hcfood_i, hcnfnd_i
_ie	In-kind from employer	hcfood_ie
_is	In-kind from state	hcfood_is, hcnfnd_is
_ip	In-kind from private institution	hcfood_ip
_ih	In-kind from other households	hcfood_ih

5.3 What is Excluded from Both Frameworks

The variable list makes explicit a set of expenditures that fall outside both the LCS well-being measure and the COICOP consumption aggregate. These are non-consumption expenditures in the strict sense: income taxes and social contributions, voluntary pension contributions and health, unemployment and other voluntary insurance contributions, mortgage instalments and loan repayments, inter-household transfers (alimony, remittances, other transfers and gifts), donations to charitable institutions, fines and penalties, third party compensations , major home repairs and improvements by owner-occupiers, extraordinary expenditures such as those for weddings or funerals, and other non-consumption expenditure. These items are provided as separate variables to support fiscal and distributional research but are not part of any consumption aggregate.

6. Country Coverage for the Beta Launch

The beta release will cover the countries listed in the table below. Country selection is guided by the principle of operational comparability, with priority given to completeness of main consumption categories, availability of scarce components (imputed rent, own consumption), and potential for integrated ICW analysis where the country is also present in LIS and LWS.

Country	Wave VI ~2004	Wave VII ~2007	Wave VIII ~2010	Wave IX ~2013	Wave X ~2016	Wave XI ~2019	Wave XII ~2022	Wave XIII ~2025
Belgium				BE12 BE14	BE16	BE18 BE20	BE22	BE24
Finland				FI10	FI15		FI20	
France		FR05	FR10		FR17			
Georgia*								
Israel							IL22	
Italy				IT12 IT14	IT15 IT16 IT17	IT18 IT19 IT20	IT21 IT22 IT23	IT24
Laos	LA02	LA07		LA12				
Luxembourg						LU19		LU24
Mali			ML11	ML13 ML14	ML15 ML16 ML17	ML18 ML19 ML20	ML21 ML22 ML23	ML24
Mexico				MX12 MX14	MX16	MX18 MX20	MX22	MX24
Palestine					PS17		PS23	
Peru*								
Philippines				PH12	PH15	PH18	PH21 PH23	
Poland				PL13 PL14	PL15 PL16 PL17	PL18 PL19 PL20	PL21 PL22 PL23	
South Africa		ZA06	ZA11				ZA23	
Spain		ES06 ES07 ES08	ES09 ES10 ES11	ES12 ES13 ES14	ES15 ES16 ES17	ES18 ES19 ES20	ES21 ES22 ES23	ES24
Switzerland		CH07	CH10	CH13	CH16	CH19	CH21	
United Kingdom		UK08	UK09 UK10 UK11	UK12 UK13 UK14	UK15 UK16 UK17	UK18 UK19 UK20	UK21 UK22 UK23	UK24*
United States*								

**These new countries and new datasets will not be available in beta launch of 2026, they are scheduled for the LCS official launch in 2027.*

Following the official launch in September 2027, expansion scenarios include annualising existing country coverage, completing OECD country representation, and diversifying into geographically underrepresented regions, particularly emerging and developing economies with consumption-based welfare measurement traditions.

9. Documentation, Access, and Research Infrastructure

9.1 Metadata and Documentation Tools

The LCS will be fully integrated into two LIS documentation tools:

- METIS: the LIS online documentation platform, which provides comparability remarks, survey-level metadata, and variable definitions for all LIS and LWS datasets. LCS datasets will be incorporated with full documentation of reference periods, valuation methods, treatment of durables, imputed rent availability, and survey design characteristics.
- Compare.It: the LIS comparability explorer, enabling users to identify which countries and years are comparable on specific variables or concepts before conducting analysis.

In addition, CPIs, PPPs, and spatial price indices will be provided in accompanying documentation pages, with direct linkage potential to the microdata through interview date and regional variables in the microdata.

9.2 Data Access

As with LIS and LWS, access to LCS microdata will be provided through the LISSY remote-access system, which enables researchers worldwide to run analyses on confidential microdata without accessing the underlying files. Secured access arrangements will also be available. The beta release ahead of the LIS-III Conference (February 2027 in London) will be available to all registered LISSY users.

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