

Macroeconomic_timeseries

February 26, 2026

1 Lithuanian macroeconomic indicator dashboard snapshot

```
[9]: for group_name, indicator_ids in indicator_groups.items():
    display(Markdown(f'#{group_name}'))
    present_ids = [indicator_id for indicator_id in indicator_ids if
                   indicator_id in available_set]

    if not present_ids:
        display(Markdown('_No indicators mapped in current pipeline output._'))
        continue

    for indicator_id in present_ids:
        grouped_ids.append(indicator_id)
        _render_indicator(indicator_id)
```

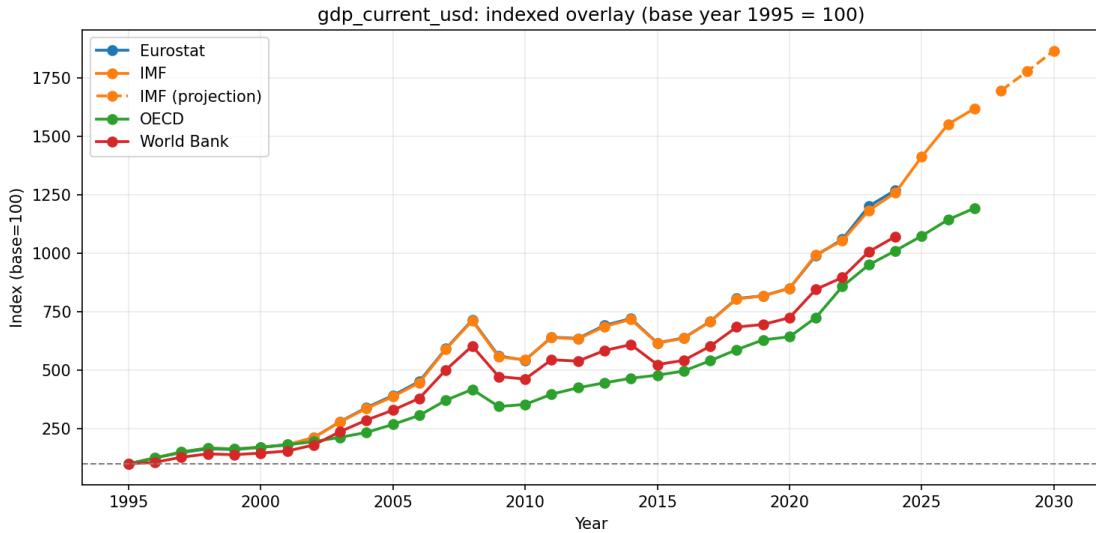
2 Output and growth

2.1 gdp_current_usd

```
      chart_type status base_year \
5  overlay_index     ok    1995.0
3          raw     ok      NaN
4 raw_harmonized     ok      NaN

                                         file_path \
5 /workspaces/da-ai/bs2026_student_projects/Artu...
3 /workspaces/da-ai/bs2026_student_projects/Artu...
4 /workspaces/da-ai/bs2026_student_projects/Artu...

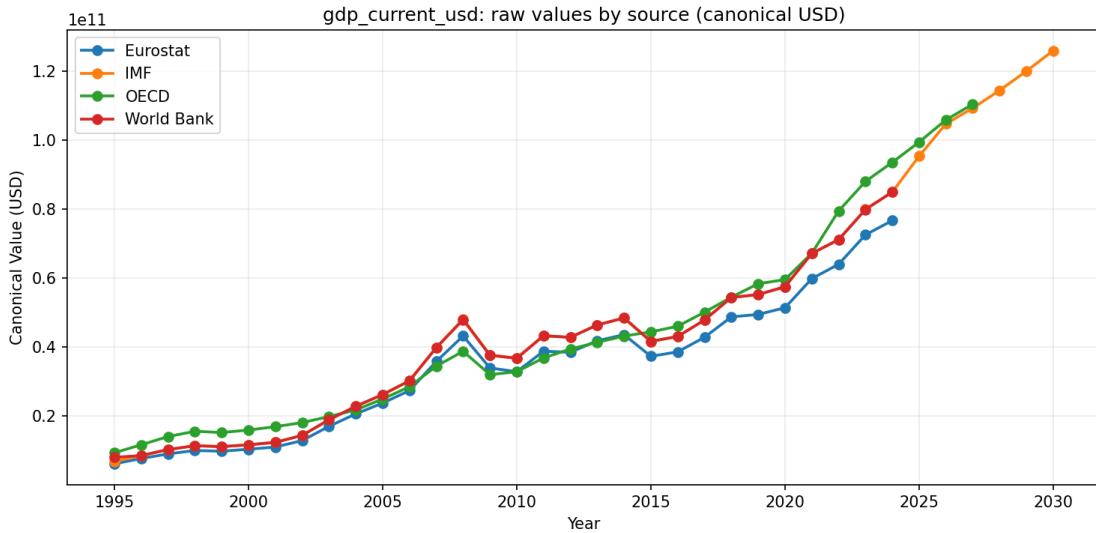
                           note
5
3 Rendered in canonical USD so IMF NGDPD (billio...
4
```



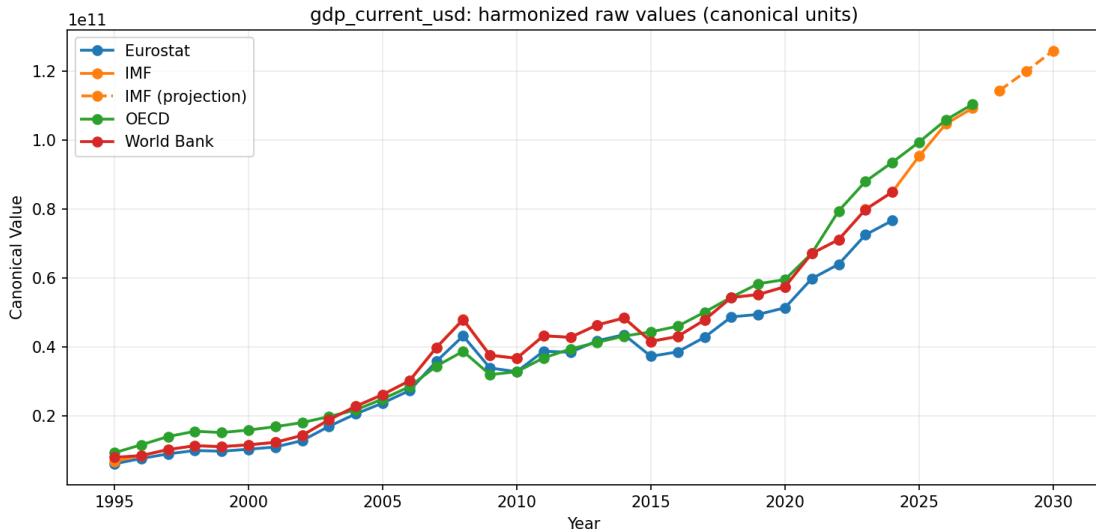
Glossary: indexed comparison derived from harmonized comparable values.

Indicator mapping glossary

Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (NY.GDP.MKTP.CD)	USD	USD	<code>value_canonical</code> = <code>value_raw</code>	Exact mapping
IMF (NGDPD)	source-defined	USD	<code>value_canonical</code> = <code>value_raw * 1e9</code>	WEO-backed; future years are projection-flagged
Eurostat (nama_10_gdp, CP_MEUR)	million EUR	USD	<code>value_canonical</code> = <code>value_raw * 1e6 * usd_per_eur(year)</code>	Uses annual USD/EUR conversion from Eurostat FX series
OECD (DSD_EO@DF_EO, GDP_USD)	USD	USD	<code>value_canonical</code> = <code>value_raw</code>	Proxy: OECD EO GDP is in USD at constant exchange rates (not WB current US\$)



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except `gdp_current_usd` and `gdp_per_capita` which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

2.2 gdp_per_capita

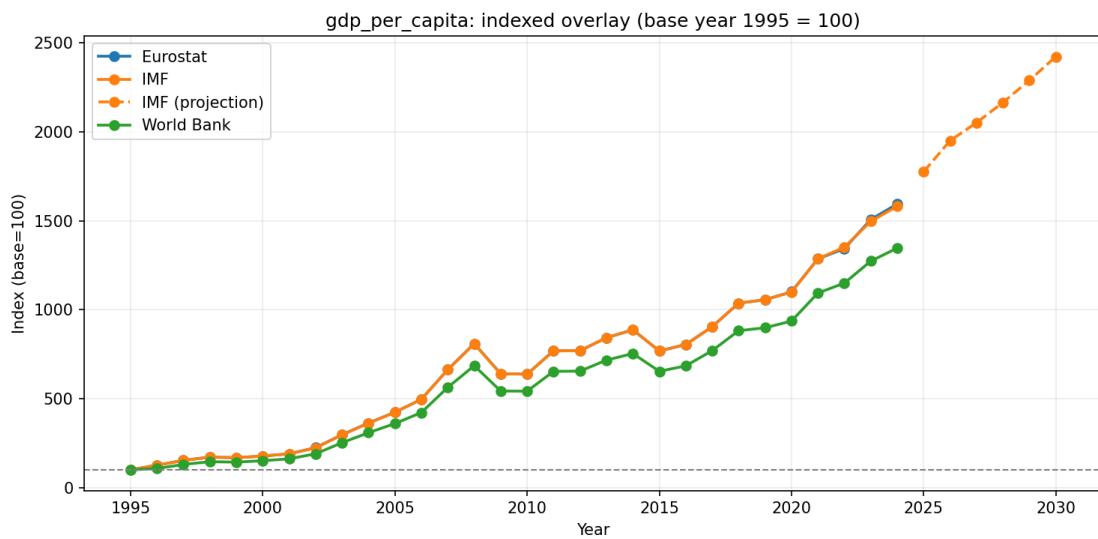
```
chart_type status base_year \
8 overlay_index ok      1995.0
6          raw   ok      NaN
```

```

7 raw_harmonized      ok      NaN
                                         file_path  \
8 /workspaces/da-ai/bs2026_student_projects/Artu...
6 /workspaces/da-ai/bs2026_student_projects/Artu...
7 /workspaces/da-ai/bs2026_student_projects/Artu...

                                         note
8
6 Rendered in canonical USD per capita so Eurost...
7

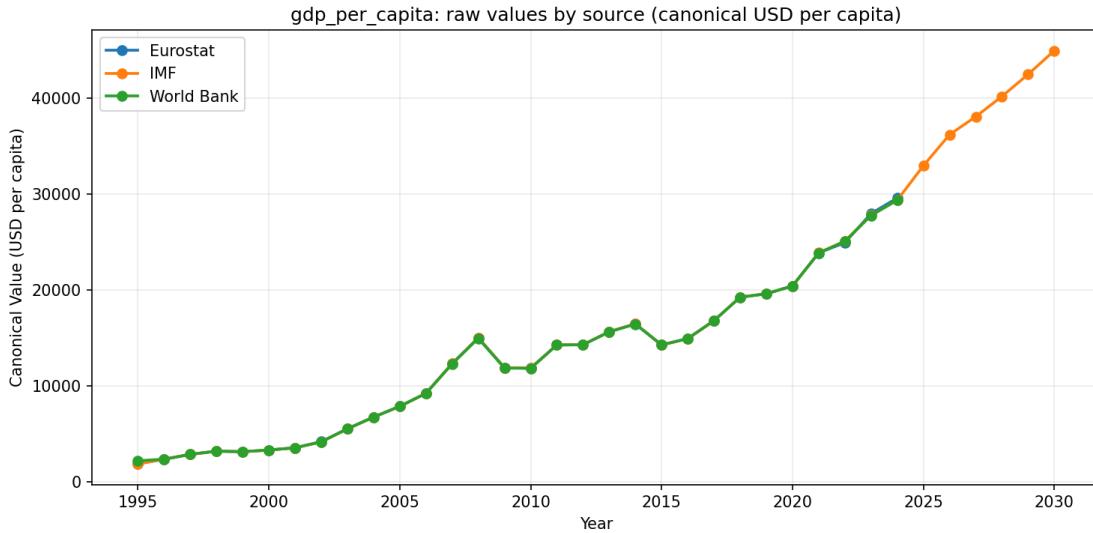
```



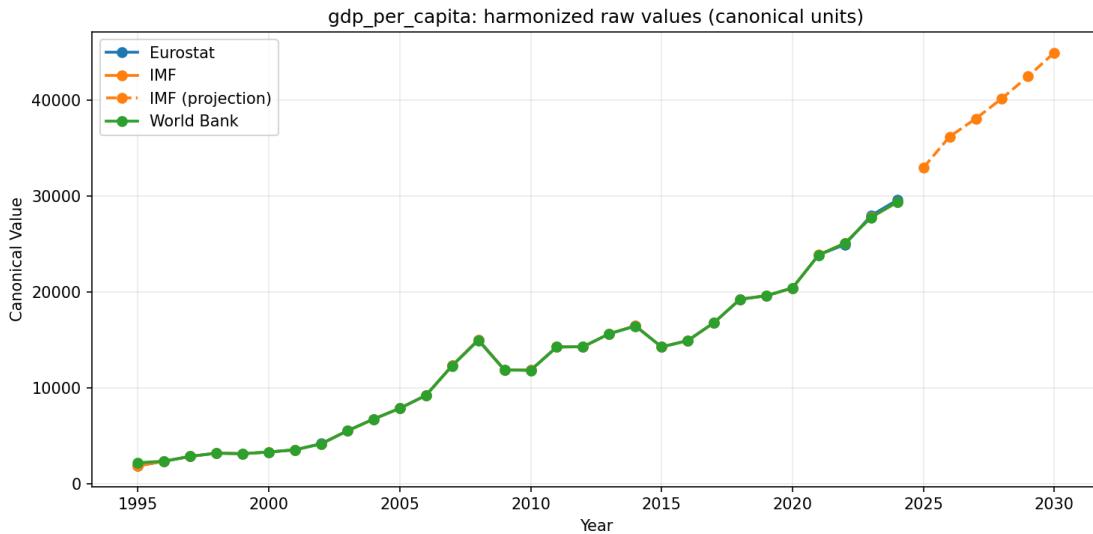
Glossary: indexed comparison derived from harmonized comparable values.

Indicator mapping glossary

Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (NY.GDP.PCAP.CD)	USD per capita	USD per capita	identity	Exact mapping
IMF (NGDPDPC)	source-defined	USD per capita	identity	WEO-backed; future years are projection- flagged
Eurostat (nama_10_pc, CP_EUR_HAB)	EUR per inhabitant	USD per capita	value_canonical = value_raw * usd_per_eur(year)	Uses annual USD/EUR conversion from Eurostat FX series



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except gdp_current_usd and gdp_per_capita which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

3 Labor market

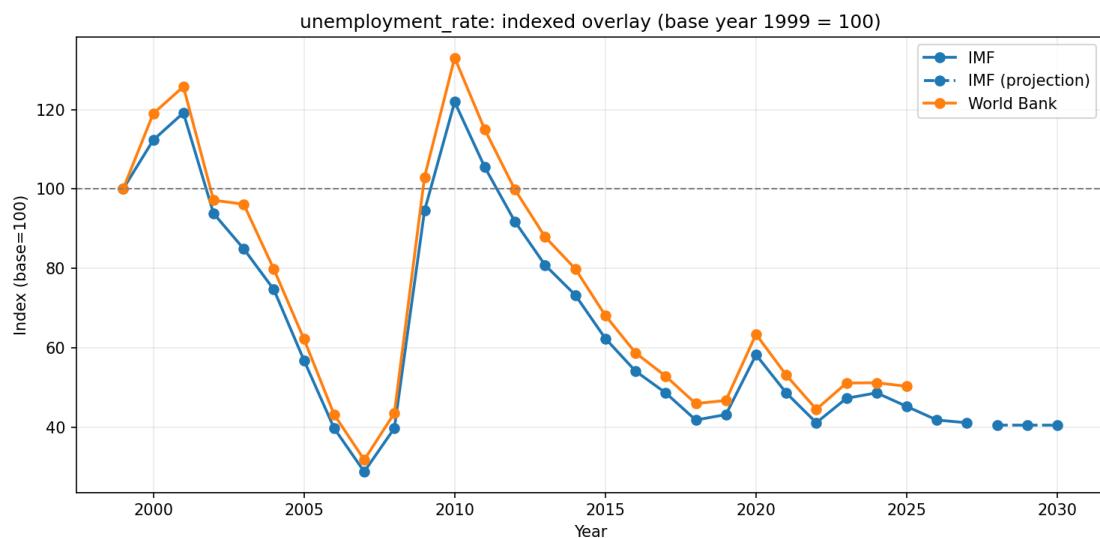
3.1 unemployment_rate

```

        chart_type status base_year \
20  overlay_index      ok    1999.0
18      raw      ok      NaN
19 raw_harmonized      ok      NaN

                                         file_path note
20 /workspaces/da-ai/bs2026_student_projects/Artu...
18 /workspaces/da-ai/bs2026_student_projects/Artu...
19 /workspaces/da-ai/bs2026_student_projects/Artu...

```

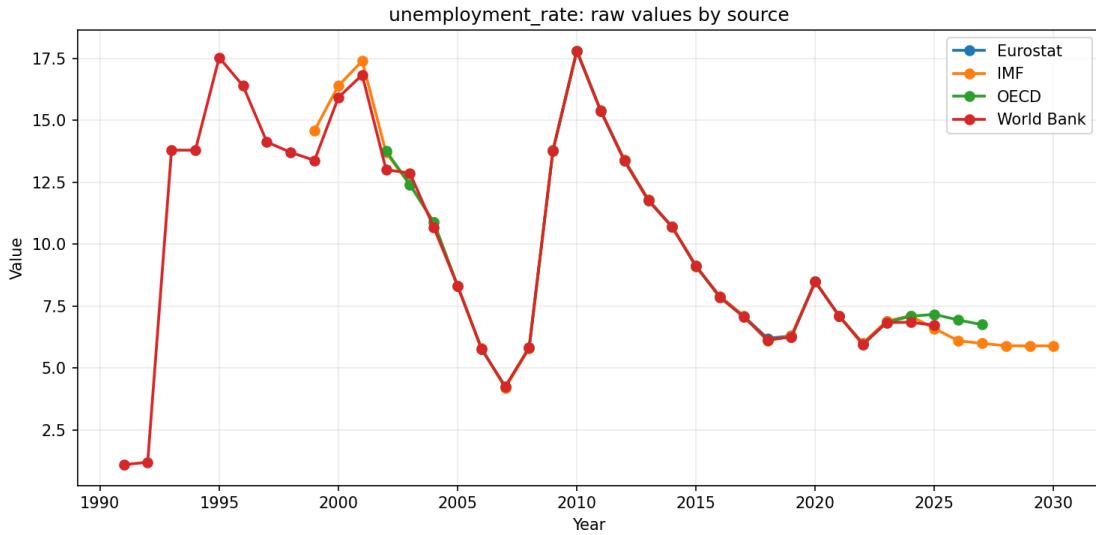


Glossary: indexed comparison derived from harmonized comparable values.

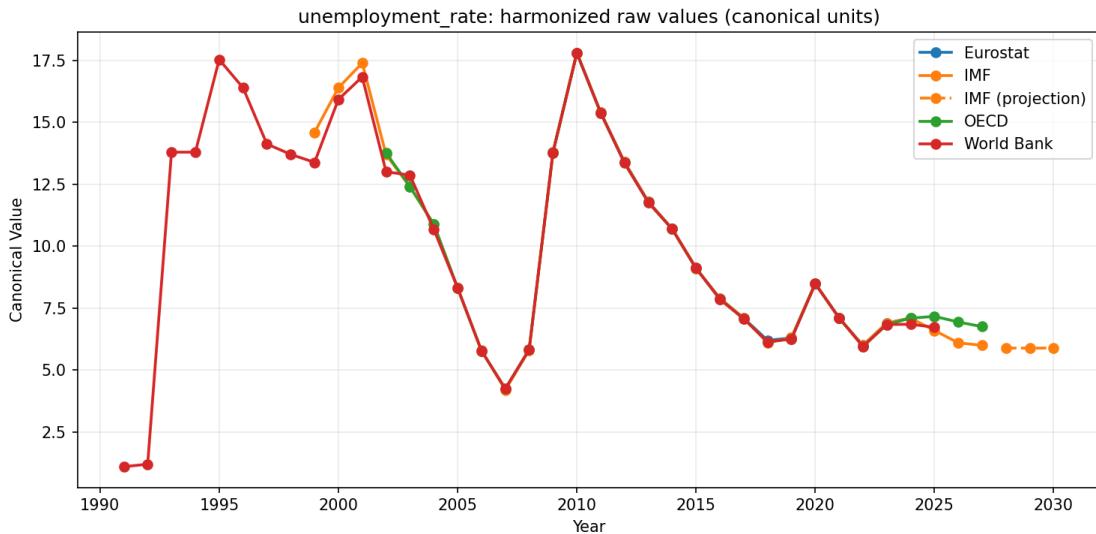
Indicator mapping glossary

Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (SL.UEM.TOTL.ZS)	percent	percent	identity	Exact mapping
IMF (LUR)	source-defined	percent	identity	Comparable concept; possible projection years
Eurostat (une_rt_a)	PC_ACT	percent	identity	Proxy (methodology differences)

Source	Raw Unit	Canonical Unit	Transform	Notes
OECD (DSD_EO@DF_EO, UNR)	percent	percent	identity	Comparable unemployment concept from OECD EO



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except gdp_current_usd and gdp_per_capita which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

4 Inflation and prices

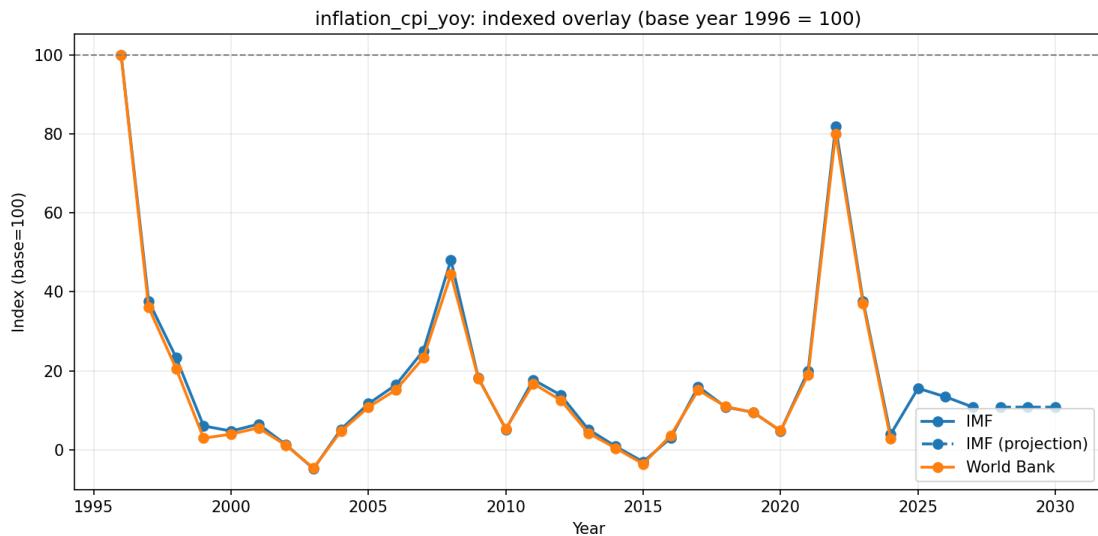
4.1 inflation_cpi_yoy

```

        chart_type status base_year \
11  overlay_index      ok    1996.0
9       raw      ok      NaN
10 raw_harmonized     ok      NaN

                                         file_path note
11 /workspaces/da-ai/bs2026_student_projects/Artu...
9   /workspaces/da-ai/bs2026_student_projects/Artu...
10 /workspaces/da-ai/bs2026_student_projects/Artu...

```



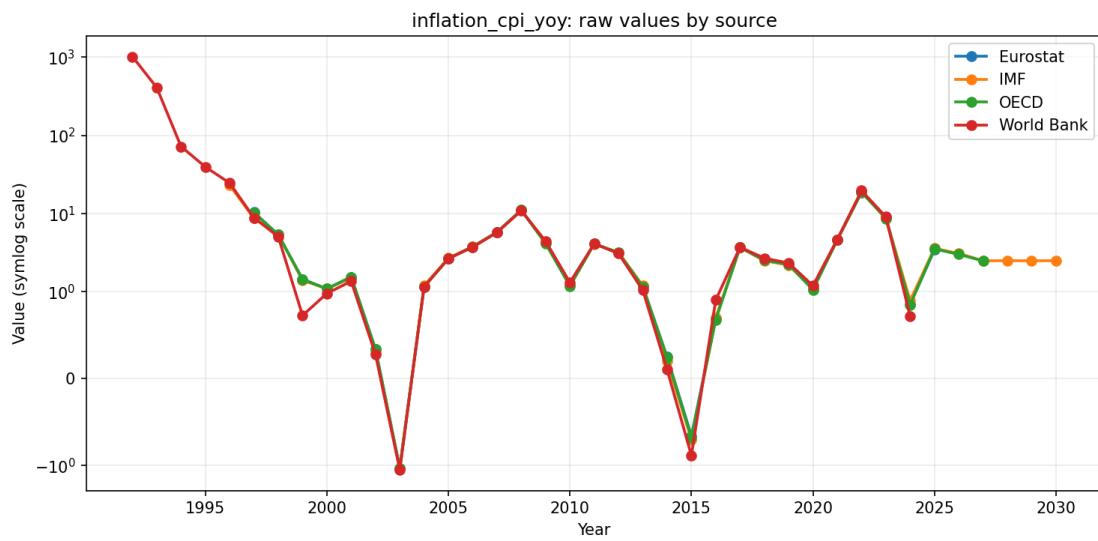
Glossary: indexed comparison derived from harmonized comparable values.

Indicator mapping glossary

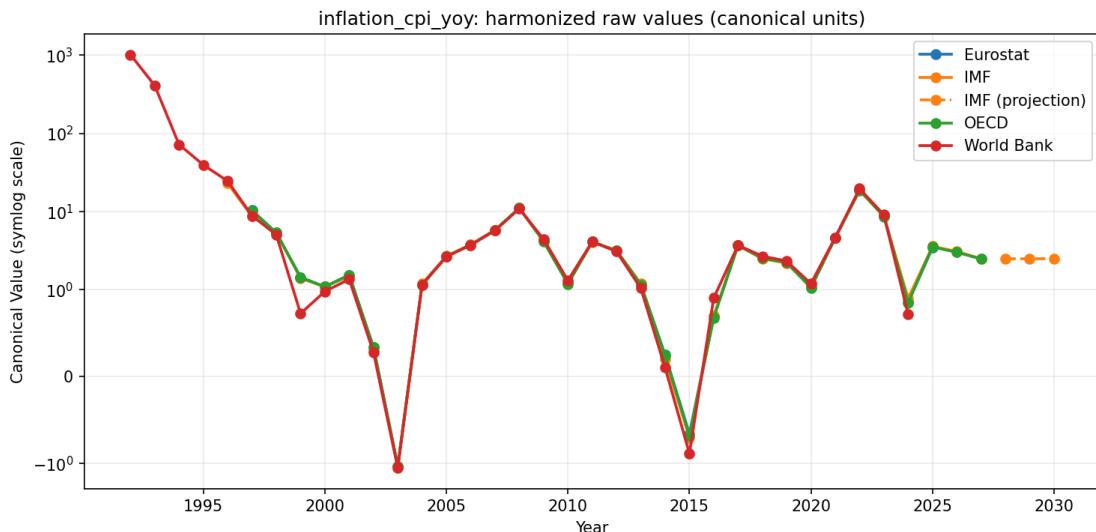
Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (FP.CPI.TOTL.ZG)	percent	percent	identity	Exact mapping
IMF (PCPIPCH)	source-defined	percent	identity	Proxy-equivalent concept; future years can be projections

Source	Raw Unit	Canonical Unit	Transform	Notes
Eurostat (prc_hicp_manr)	RCH_A monthly YoY	percent annual	annual mean of monthly values	Proxy with methodology differences
OECD (DSD_EO@DF_EO, CPIH_YTYPCT)	percent	percent	identity	Proxy: harmonised CPI annual inflation rate

Chart rendering note: `inflation_cpi_yoy` raw and raw-harmonized charts use a logarithmic y-axis; if any non-positive values exist, the axis falls back to `symlog`.



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except `gdp_current_usd` and `gdp_per_capita` which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

5 Monetary conditions and interest rates

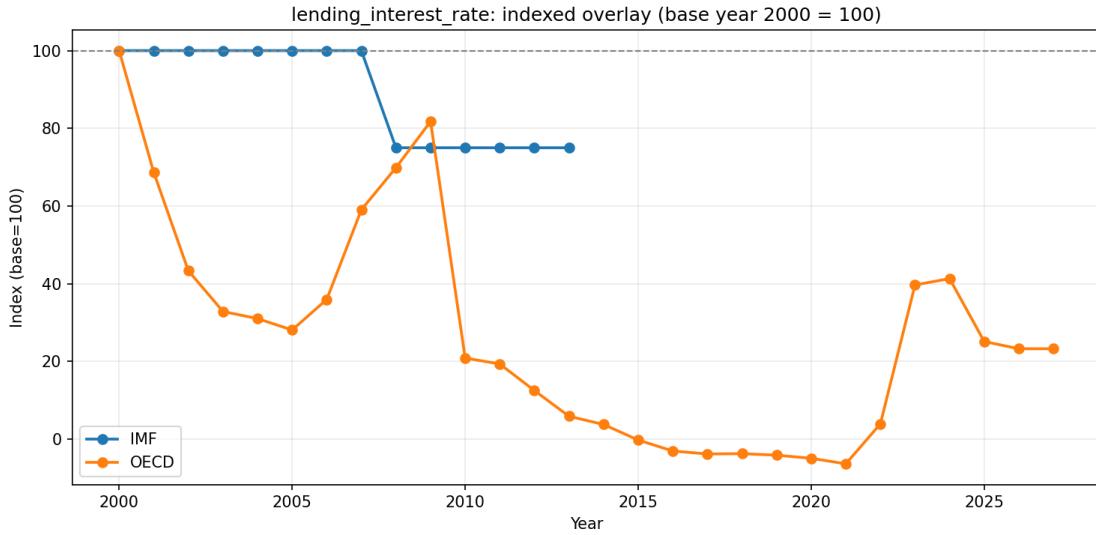
5.1 lending_interest_rate

```

        chart_type status base_year \
14   overlay_index      ok    2000.0
12       raw      ok      NaN
13 raw_harmonized      ok      NaN

                                         file_path note
14 /workspaces/da-ai/bs2026_student_projects/Artu...
12 /workspaces/da-ai/bs2026_student_projects/Artu...
13 /workspaces/da-ai/bs2026_student_projects/Artu...

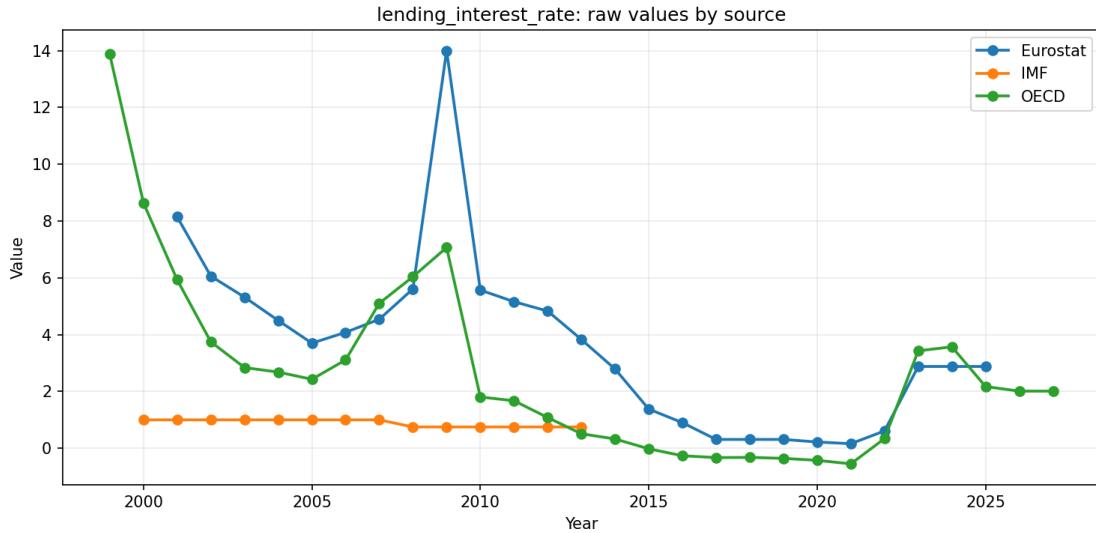
```



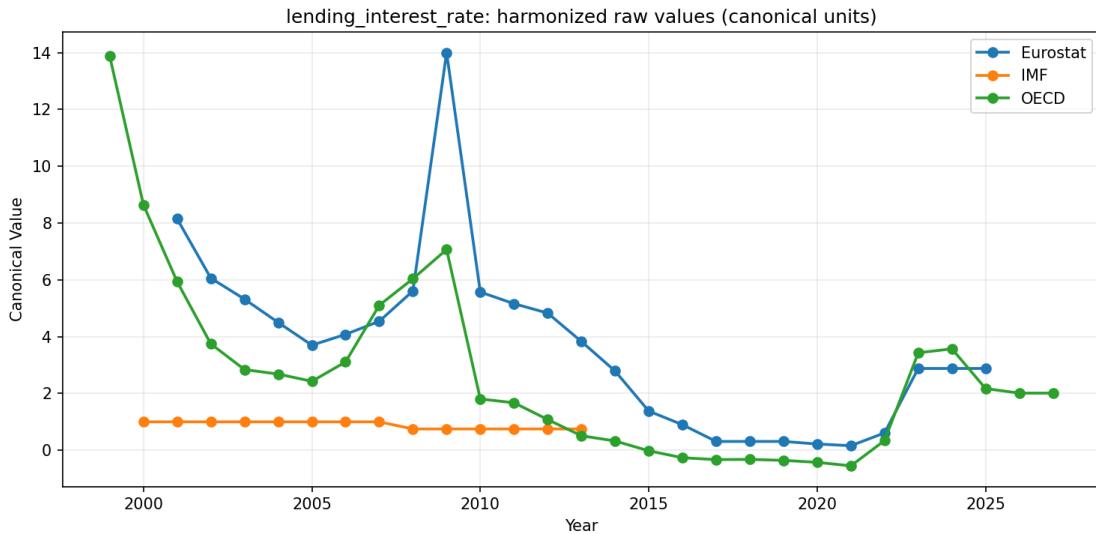
Glossary: indexed comparison derived from harmonized comparable values.

Indicator mapping glossary

Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (FR.INR.LEND)	percent	percent	identity	Endpoint resolves but currently no numeric LT rows
IMF (Ka_mm)	index	percent (pipeline canonical target)	identity	Weak proxy; LT availability only to 2013
Eurostat (irt_lt_mcby_a)	percent	percent	identity	Proxy (long-term rate, not direct lending rate)
OECD (DSD_EO@DF_E0, IRS)	percent	percent	identity	Proxy: short-term interest rate, not direct lending rate



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except `gdp_current_usd` and `gdp_per_capita` which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

6 Fiscal indicators

No indicators mapped in current pipeline output.

7 External sector indicators

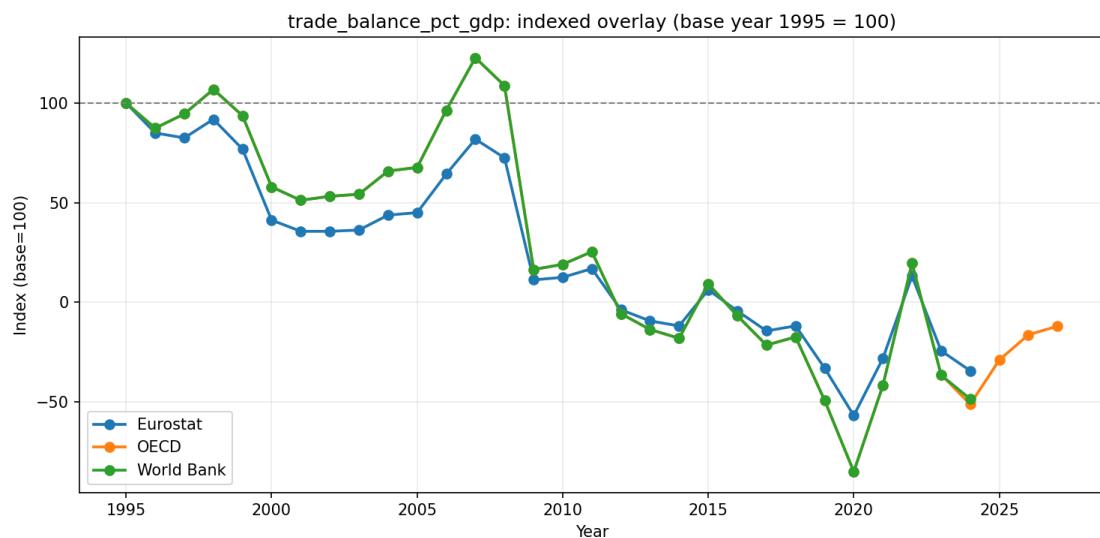
7.1 trade_balance_pct_gdp

```

        chart_type status base_year \
17   overlay_index      ok    1995.0
15       raw      ok      NaN
16 raw_harmonized      ok      NaN

                                         file_path note
17 /workspaces/da-ai/bs2026_student_projects/Artu...
15 /workspaces/da-ai/bs2026_student_projects/Artu...
16 /workspaces/da-ai/bs2026_student_projects/Artu...

```

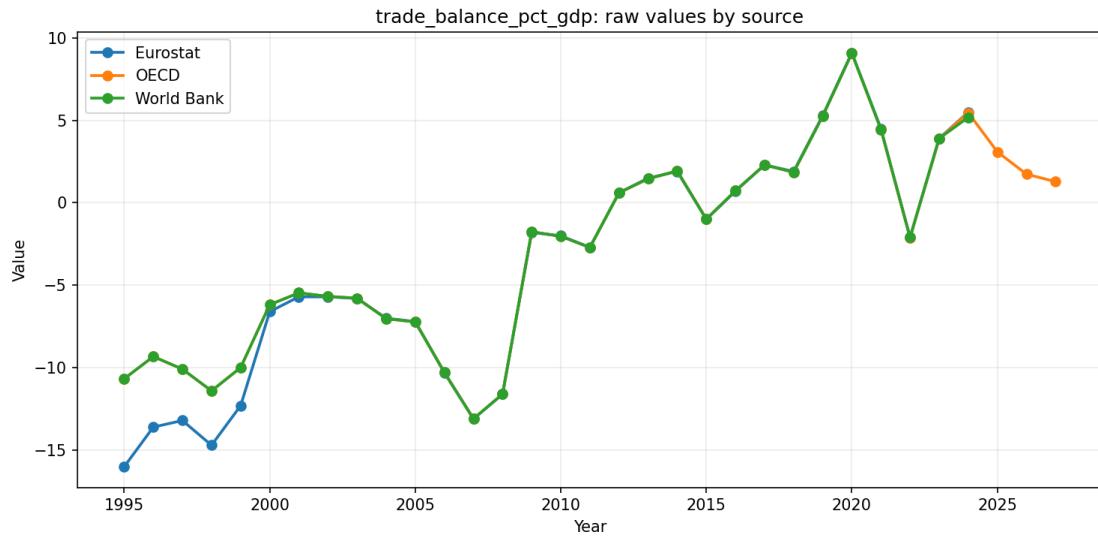


Glossary: indexed comparison derived from harmonized comparable values.

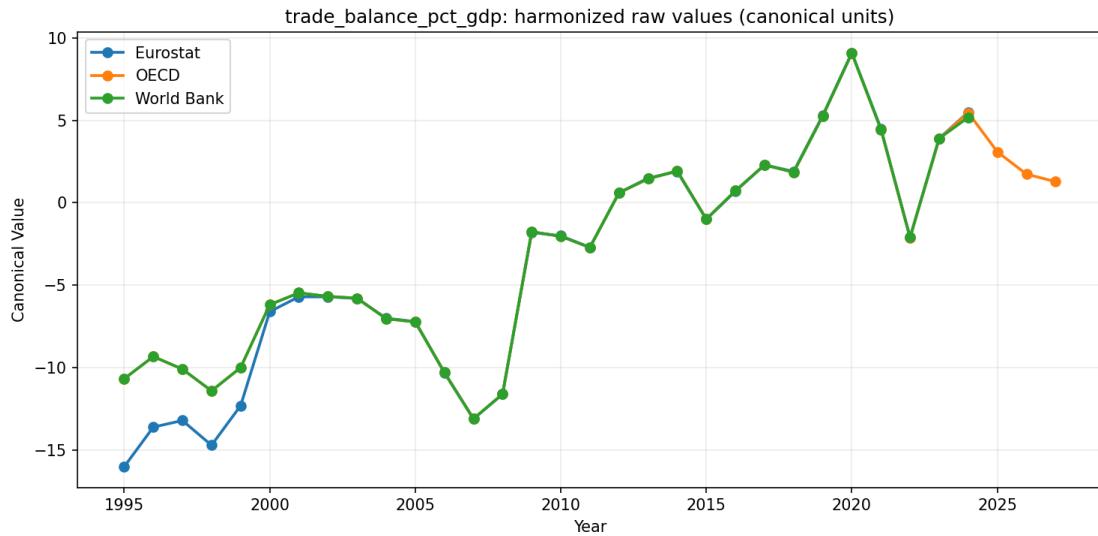
Indicator mapping glossary

Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (NE.RSB.GNFS.ZS)	percent of GDP	percent of GDP	identity	Exact mapping
IMF (BT_GDP)	source-defined	percent of GDP	identity	Proxy with potential definition differences
Eurostat (bop_gdp6_q)	PC_GDP	percent of GDP	identity	Proxy (BPM6 framing differs)

Source	Raw Unit	Canonical Unit	Transform	Notes
OECD (DSD_E0@DF_E0, FBGSQ)	percent of GDP	percent of GDP	identity	Proxy: net exports of goods/services as % GDP



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except gdp_current_usd and gdp_per_capita which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

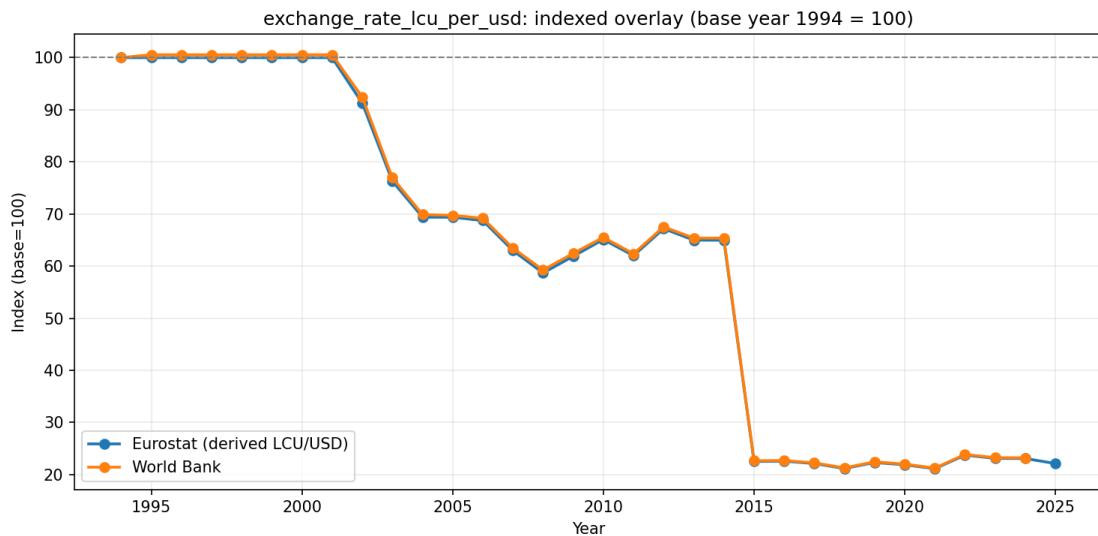
7.2 exchange_rate_lcu_per_usd

```

        chart_type status base_year \
2   overlay_index      ok    1994.0
0       raw      ok        NaN
1 raw_harmonized      ok        NaN

                           file_path note
2 /workspaces/da-ai/bs2026_student_projects/Artu...
0 /workspaces/da-ai/bs2026_student_projects/Artu...
1 /workspaces/da-ai/bs2026_student_projects/Artu...

```

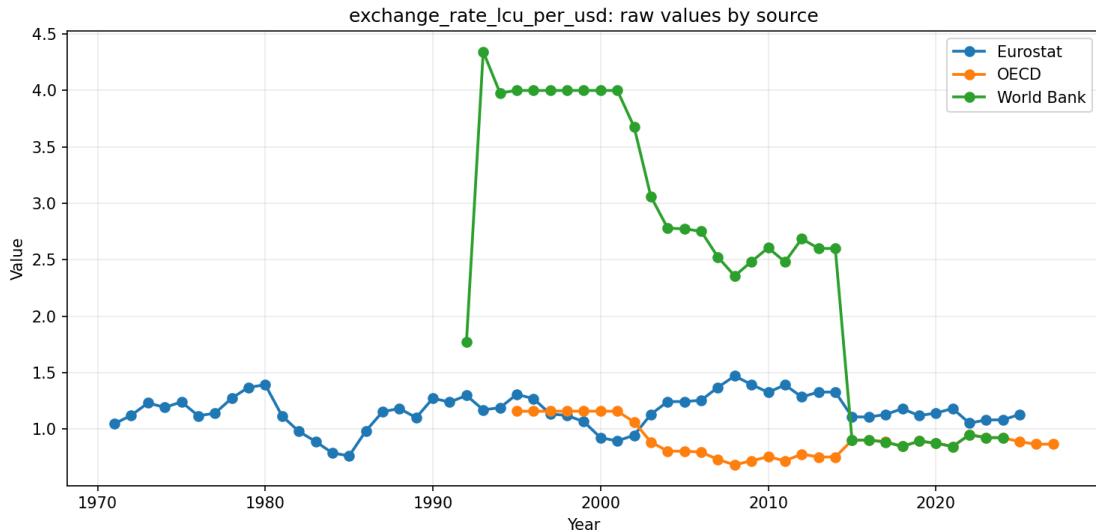


Glossary: indexed comparison derived from harmonized comparable values.

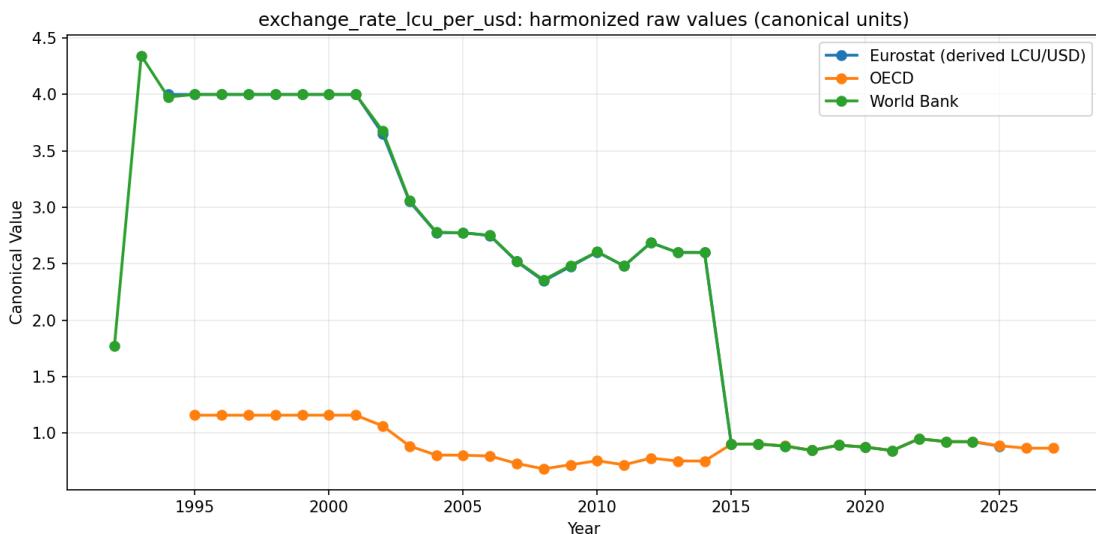
Indicator mapping glossary

Source	Raw Unit	Canonical Unit	Transform	Notes
World Bank (PA.NUS.FCRF)	LCU per USD	LCU per USD	identity	Exact mapping
Eurostat raw (ert_bil_eur_a)	USD per EUR (NAC)	LCU per USD target	not directly comparable	Marked <code>is_comparable=false</code> for cross-source overlays
Eurostat derived (eurostat_derived)	derived from USD/EUR	LCU per USD	LT regime rules by year	Comparable series used in harmonized/overlay charts

Source	Raw Unit	Canonical Unit	Transform	Notes
OECD (DSD_EO@DF_EO, EXCHUD)	LCU per USD	LCU per USD	identity	Proxy: OECD EO exchange-rate conventions can differ by historical treatment



Glossary: source-native values exactly as returned after normalization (not unit-harmonized), except `gdp_current_usd` and `gdp_per_capita` which are rendered in canonical USD units to avoid mixed-scale flattening.



Glossary: canonical-unit values for comparable cross-source analysis.

8 Confidence and surveys

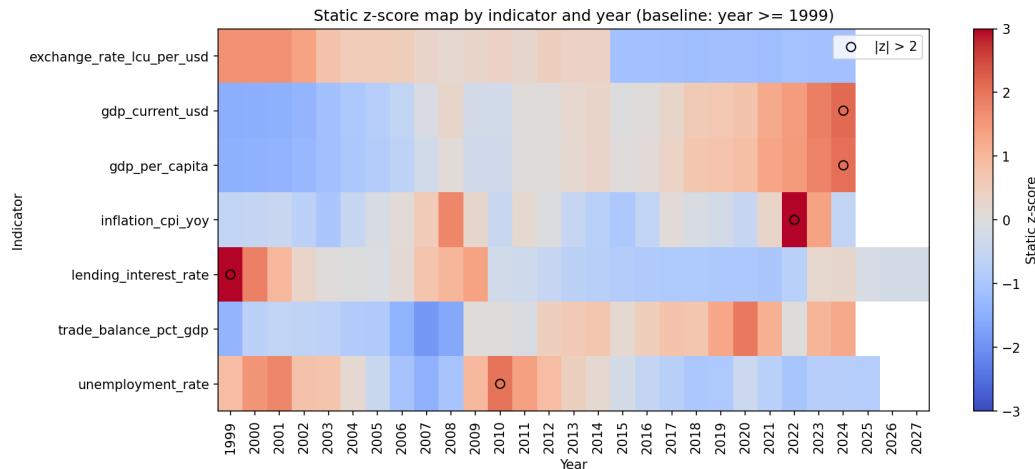
No indicators mapped in current pipeline output.

```
[10]: remaining_ids = [indicator_id for indicator_id in available_ids if indicator_id not in set(grouped_ids)]  
if remaining_ids:  
    display(Markdown('# Other indicators'))  
    for indicator_id in remaining_ids:  
        _render_indicator(indicator_id)
```

9 Static Z-score normalization

```
[14]: from IPython.display import Image, Markdown, display  
  
heatmap_path = outdir / 'charts' / 'zscore_normalization_heatmap.png'  
timeline_path = outdir / 'charts' / 'zscore_normalization_timelines.png'  
  
display(Markdown('## Static z-score visuals'))  
display(Image(filename=str(heatmap_path)))  
display(Image(filename=str(timeline_path)))
```

9.1 Static z-score visuals





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