Package 'inflateR'

March 4, 2026

Title Inflation Adjustment for Historical Currency Values

Version 0.1.3

Description Convert historical monetary values into their present-day equivalents using bundled CPI (Consumer Price Index) and GDP deflator data sourced from the World Bank Development Indicators. Supports British pounds (GBP), Australian dollars (AUD), US dollars (USD), Euro (EUR), Canadian dollars (CAD), Japanese yen (JPY), Chinese yuan (CNY), Swiss francs (CHF), New Zealand dollars (NZD), Indian rupees (INR), South Korean won (KRW), Brazilian reais (BRL), and Norwegian krone (NOK). Currency codes and country names are both accepted as input.

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Encoding UTF-8

Language en-US

URL https://github.com/charlescoverdale/inflateR

BugReports https://github.com/charlescoverdale/inflateR/issues

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LazyData true

Depends R (>= 3.5.0)

NeedsCompilation no

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`adjust_inflation` *Adjust a historical monetary value for inflation*

Description

Converts an amount from a historical year into its equivalent value in a target year, using bundled CPI data sourced from the World Bank Development Indicators. Supports GBP, AUD, USD, EUR, CAD, JPY, CNY, CHF, NZD, INR, KRW, BRL, and NOK.

Usage

```
adjust_inflation(amount, from_year, currency, to_year = NULL)
```

Arguments

amount	Numeric. The original monetary amount.
from_year	Integer. The year the amount is from.
currency	Character. A currency code or country name. Accepted codes: "GBP", "AUD", "USD", "EUR", "CAD", "JPY", "CNY", "CHF". Country names are also accepted, e.g. "Australia", "United States", "Japan", "New Zealand", "India", "Norway" (case-insensitive).
to_year	Integer. The target year to adjust to. Defaults to the current year.

Value

A numeric value representing the inflation-adjusted amount.

Examples

```
# What is £12 from 1963 worth today?
adjust_inflation(12, 1963, "GBP")

# What is AUD 50 from 1980 worth in 2000?
adjust_inflation(50, 1980, "AUD", to_year = 2000)
```

---

adjust_real *Adjust a monetary value using a GDP deflator*

Description

Converts an amount between two years using GDP deflator data sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Suitable for adjusting GDP figures, government expenditure, and other macroeconomic aggregates. For adjusting personal or consumer values (wages, prices of goods), use adjust_inflation which uses CPI instead.

Usage

```
adjust_real(amount, from_year, currency, to_year = NULL)
```

Arguments

amount	Numeric. The original monetary amount.
from_year	Integer. The year the amount is from.
currency	Character. A currency code or country name. Accepted codes: "GBP", "AUD", "USD", "EUR", "CAD", "JPY", "CNY", "CHF". Country names are also accepted, e.g. "Australia", "United States", "Japan", "Switzerland" (case-insensitive).
to_year	Integer. The target year to adjust to. Defaults to the latest available year in the deflator series.

Details

The GDP deflator measures price changes across all goods and services produced in an economy, unlike CPI which tracks a fixed consumer basket. Key differences from CPI:

- Covers all domestic production, not just consumer goods
- Excludes imported goods (CPI includes them)
- Updates its basket automatically (CPI uses a fixed basket)
- Published annually/quarterly (CPI is monthly)

Use the GDP deflator when comparing macroeconomic aggregates (GDP, government spending, investment) across time. Use `adjust_inflation` for personal or consumer values.

Value

A numeric value representing the deflator-adjusted amount.

Examples

```
# Adjust UK GDP from 1990 to today using GDP deflator
adjust_real(500000, 1990, "GBP")

# Compare US government spending in 2000 vs 2020 terms
adjust_real(1000000, 2000, "USD", to_year = 2020)
```

---

aud_cpi *Australian CPI Data (1960-2024)*

Description

Annual Consumer Price Index for Australia, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
aud_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

aud_gdp_def *Australian GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Australia, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
aud_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

brl_cpi *Brazilian CPI Data (1980-2024)*

Description

Annual Consumer Price Index for Brazil, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100. Data availability begins in 1980.

Usage

```
brl_cpi
```

Format

A data frame with 45 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

brl_gdp_def *Brazilian GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Brazil, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
brl_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

cad_cpi *Canadian CPI Data (1960-2024)*

Description

Annual Consumer Price Index for Canada, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
cad_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

cad_gdp_def *Canadian GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Canada, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
cad_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

chf_cpi *Swiss CPI Data (1960-2024)*

Description

Annual Consumer Price Index for Switzerland, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
chf_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

chf_gdp_def *Swiss GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Switzerland, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
chf_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

cny_cpi *Chinese CPI Data (1986-2024)*

Description

Annual Consumer Price Index for China, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100. Data availability begins in 1986.

Usage

```
cny_cpi
```

Format

A data frame with 39 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

cny_gdp_def *Chinese GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for China, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
cny_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

eur_cpi *Euro Area CPI Data (1960-2024)*

Description

Annual Consumer Price Index for Germany, used as a proxy for the Euro (EUR). Sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
eur_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Details

Note: The Euro area aggregate is not available in WDI. Germany is used as a proxy as it is the largest Eurozone economy and was the monetary anchor (Deutsche Mark) prior to the Euro's introduction in 1999.

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

eur_gdp_def *Euro Area GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Germany, used as a proxy for the Euro (EUR). Sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
eur_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

historical_real *Convert a value to its historical equivalent using a GDP deflator*

Description

Takes a monetary amount from a recent year and returns what it would have been worth in a specified historical year, using GDP deflator data sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). This is the inverse of `adjust_real`.

Usage

```
historical_real(amount, to_year, currency, from_year = NULL)
```

Arguments

`amount`	Numeric. The monetary amount in the reference year.
`to_year`	Integer. The historical year to convert back to.
`currency`	Character. Currency code (`"GBP"`, `"AUD"`, `"USD"`, `"EUR"`, `"CAD"`, `"JPY"`, `"CNY"`, `"CHF"`) or country name (`"Australia"`, `"United States"`, etc.) — case-insensitive.
`from_year`	Integer. The year the amount is from. Defaults to the latest year available in the deflator series.

Details

For converting consumer or personal values, use historical_value which uses CPI instead.

Value

A numeric value representing the historical equivalent amount.

Examples

```
# What would UK GDP of £2 trillion today have been in 1990 terms?
historical_real(2e12, 1990, "GBP")

# What would USD 1 trillion in 2020 have been worth in 2000?
historical_real(1e12, 2000, "USD", from_year = 2020)
```

---

historical_value *Convert a present-day value to its historical equivalent*

Description

Takes a monetary amount from a recent year and returns what it would have been worth in a specified historical year, using bundled CPI data sourced from the World Bank Development Indicators. Supports GBP, AUD, USD, EUR, CAD, JPY, CNY, and CHF.

Usage

```
historical_value(amount, to_year, currency, from_year = NULL)
```

Arguments

amount	Numeric. The monetary amount in the reference year.
to_year	Integer. The historical year to convert back to.
currency	Character. Currency code ("GBP", "AUD", "USD", "EUR", "CAD", "JPY", "CNY", "CHF") or country name ("Australia", "United States", etc.) — case-insensitive.
from_year	Integer. The year the amount is from. Defaults to the latest year available in the data.

Value

A numeric value representing the historical equivalent amount.

Examples

```
# What would £100 today have been worth in 1963?
historical_value(100, 1963, "GBP")

# What would USD 500 in 2020 have been worth in 1980?
historical_value(500, 1980, "USD", from_year = 2020)
```

---

inr_cpi *Indian CPI Data (1960-2024)*

Description

Annual Consumer Price Index for India, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
inr_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

inr_gdp_def *Indian GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for India, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
inr_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

jpy_cpi *Japanese CPI Data (1960-2024)*

Description

Annual Consumer Price Index for Japan, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
jpy_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

jpy_gdp_def *Japanese GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Japan, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
jpy_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

krw_cpi *South Korean CPI Data (1960-2024)*

Description

Annual Consumer Price Index for South Korea, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
krw_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

krw_gdp_def *South Korean GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for South Korea, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
krw_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

nok_cpi *Norwegian CPI Data (1960-2024)*

Description

Annual Consumer Price Index for Norway, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
nok_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

nok_gdp_def *Norwegian GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for Norway, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
nok_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

nzd_cpi *New Zealand CPI Data (1960-2024)*

Description

Annual Consumer Price Index for New Zealand, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
nzd_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

nzd_gdp_def *New Zealand GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for New Zealand, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
nzd_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

uk_cpi *UK CPI Data (1960-2024)*

Description

Annual Consumer Price Index for the United Kingdom, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
uk_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

uk_gdp_def *UK GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for the United Kingdom, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100. Use for adjusting macroeconomic aggregates (GDP, government spending, investment). For consumer values, use `uk_cpi` instead.

Usage

```
uk_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

---

usd_cpi *US CPI Data (1960-2024)*

Description

Annual Consumer Price Index for the United States, sourced from the World Bank Development Indicators (indicator: FP.CPI.TOTL). Rescaled so that 2020 = 100.

Usage

```
usd_cpi
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index CPI index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/FP.CPI.TOTL

---

usd_gdp_def *US GDP Deflator Data (1960-2024)*

Description

Annual GDP deflator for the United States, sourced from the World Bank Development Indicators (indicator: NY.GDP.DEFL.ZS). Rescaled so that 2020 = 100.

Usage

```
usd_gdp_def
```

Format

A data frame with 65 rows and 2 columns:

year Calendar year (integer)

index GDP deflator index value (numeric, base 2020 = 100)

Source

World Bank Open Data https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS

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