Package: readecb (via r-universe)

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Title Access 'European Central Bank' Data

Version 0.1.3

Description Provides clean, tidy access to statistical data published by the 'European Central Bank' ('ECB') via the 'ECB Data Portal' API <https://data.ecb.europa.eu>. Covers policy interest rates, 'EURIBOR', euro exchange rates, harmonised consumer price inflation ('HICP'), euro area yield curves, the euro short-term rate ('ESTR'), monetary aggregates (M1, M2, M3), mortgage and lending rates, GDP, unemployment, and government debt-to-GDP. Each dataset has a dedicated function that abstracts away the underlying 'SDMX' key structure, so users do not need to know series codes. A generic fetcher is also provided for direct access to any of the 'ECB' 100-plus dataflows. Data is downloaded on first use and cached locally for subsequent calls.

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Encoding UTF-8

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`clear_cache` *Clear the readecb cache*

Description

Deletes all locally cached ECB data files. The next call to any data function will re-download from the ECB Data Portal.

Usage

```
clear_cache()
```

Value

Invisible `NULL`.

See Also

Other data access: `ecb_get()`, `ecb_yield_curve()`, `list_ecb_dataflows()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
clear_cache()
options(op)
```

---

ecb_estr *Euro short-term rate (ESTR)*

Description

Returns the euro short-term rate, the ECB's benchmark overnight interest rate that replaced EONIA.

Usage

```
ecb_estr(from = NULL, to = NULL, cache = TRUE)
```

Arguments

`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

value Numeric. Rate in percent.

See Also

Other interest rates: `ecb_euribor()`, `ecb_policy_rates()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_estr(from = "2024-01")
options(op)
```

ecb_euribor *EURIBOR interbank lending rates*

Description

Returns EURIBOR (Euro Interbank Offered Rate) at one or more tenors. EURIBOR is the benchmark rate at which euro area banks lend to each other, widely used as a reference rate for mortgages, loans, and derivatives.

Usage

```
ecb_euribor(tenor = "3M", from = NULL, to = NULL, cache = TRUE)
```

Arguments

`tenor`	One or more of `"1M"` (1 month), `"3M"` (default), `"6M"`, or `"12M"`.
`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

tenor Character. EURIBOR maturity.

value Numeric. Rate in percent per annum.

See Also

Other interest rates: `ecb_estr()`, `ecb_policy_rates()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_euribor("3M", from = "2022-01")
ecb_euribor(c("1M", "3M", "6M", "12M"), from = "2024-01")
options(op)
```

`ecb_exchange_rate` *Euro exchange rates*

Description

Returns ECB reference exchange rates for one or more currencies against the euro.

Usage

```
ecb_exchange_rate(
  currency = "USD",
  frequency = c("monthly", "daily"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

`currency`	Character vector of ISO 4217 currency codes (e.g. `"USD"`, `"GBP"`). Use `list_exchange_rates()` to see available currencies.
`frequency`	One of `"monthly"` (default) or `"daily"`.
`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

currency Character. ISO currency code.

value Numeric. Units of foreign currency per euro.

See Also

Other exchange rates: `list_exchange_rates()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_exchange_rate("USD", from = "2024-01")
ecb_exchange_rate(c("USD", "GBP", "JPY"), from = "2024-01")
options(op)
```

ecb_gdp *Euro area GDP*

Description

Returns quarterly real GDP for the euro area from the ECB's national accounts dataset (MNA).

Usage

```
ecb_gdp(from = NULL, to = NULL, cache = TRUE)
```

Arguments

`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the quarter.

value Numeric. GDP in millions of euros (chain-linked volumes).

See Also

Other macro: `ecb_government_debt()`, `ecb_unemployment()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_gdp(from = "2020")
options(op)
```

ecb_get *Fetch any ECB dataflow*

Description

A generic fetcher for direct access to any of the ECB's dataflows. Use `list_ecb_dataflows()` to discover available dataflows.

Usage

```
ecb_get(dataflow, key, from = NULL, to = NULL, cache = TRUE)
```

Arguments

`dataflow`	Character. The dataflow identifier (e.g. `"EXR"`, `"FM"`).
`key`	Character. The SDMX dimension key (e.g. `"M.USD.EUR.SP00.A"`).
`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame. Columns vary by dataflow but always include `TIME_PERIOD` and `OBS_VALUE`.

See Also

Other data access: `clear_cache()`, `ecb_yield_curve()`, `list_ecb_dataflows()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
# Fetch EUR/USD monthly exchange rate
ecb_get("EXR", "M.USD.EUR.SP00.A", from = "2024-01")
options(op)
```

`ecb_government_debt` *Euro area government debt-to-GDP ratio*

Description

Returns the annual general government consolidated gross debt as a percentage of GDP for the euro area, from the ECB's government finance statistics dataset (GFS).

Usage

```
ecb_government_debt(from = NULL, to = NULL, cache = TRUE)
```

Arguments

`from`	Optional start date (year, e.g. `"2000"`).
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. 1 January of each year.

value Numeric. Government debt as a percentage of GDP.

See Also

Other macro: ecb_gdp(), ecb_unemployment()

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_government_debt(from = "2000")
options(op)
```

---

ecb_hicp — *Harmonised Index of Consumer Prices (HICP)*

Description

Returns HICP inflation data for one or more euro area countries or country groups. The default is the euro area aggregate ("U2").

Usage

```
ecb_hicp(
  country = "U2",
  measure = c("annual_rate", "index", "monthly_rate"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

country	Character vector of country codes. Use "U2" for the euro area aggregate, or ISO 2-letter codes such as "DE" (Germany), "FR" (France), "IT" (Italy), "ES" (Spain).
measure	One of: • "annual_rate" (default) – year-on-year percentage change • "index" – index level (2015 = 100) • "monthly_rate" – month-on-month percentage change
from	Optional start date.
to	Optional end date.
cache	Logical. Use cached data if available (default TRUE).

Value

A data frame with columns:

date Date.

country Character. Country or area code.

value Numeric. Inflation rate or index level.

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_hicp(from = "2020-01")
ecb_hicp(c("DE", "FR", "IT"), from = "2023-01")
options(op)
```

`ecb_lending_rates` *Lending interest rates to non-financial corporations*

Description

Returns the composite cost-of-borrowing indicator for loans to non-financial corporations in the euro area or a specific country.

Usage

```
ecb_lending_rates(country = "U2", from = NULL, to = NULL, cache = TRUE)
```

Arguments

`country`	Character. Country code: `"U2"` for the euro area aggregate (default), or an ISO 2-letter code such as `"DE"`, `"FR"`, `"IT"`, `"ES"`.
`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

country Character. Country or area code.

value Numeric. Interest rate in percent per annum.

See Also

Other credit: `ecb_money_supply()`, `ecb_mortgage_rates()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_lending_rates(from = "2015-01")
options(op)
```

ecb_money_supply *Euro area monetary aggregates*

Description

Returns outstanding amounts for M1, M2, or M3 monetary aggregates in the euro area.

Usage

```
ecb_money_supply(
  aggregate = c("M3", "M2", "M1"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

aggregate	One of "M3" (default), "M2", or "M1".
from	Optional start date.
to	Optional end date.
cache	Logical. Use cached data if available (default TRUE).

Value

A data frame with columns:

date Date.

value Numeric. Outstanding amount in millions of euros.

See Also

Other credit: ecb_lending_rates(), ecb_mortgage_rates()

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_money_supply("M3", from = "2020-01")
options(op)
```

ecb_mortgage_rates *Mortgage interest rates*

Description

Returns the composite cost-of-borrowing indicator for house purchase loans in the euro area or a specific country.

Usage

```
ecb_mortgage_rates(country = "U2", from = NULL, to = NULL, cache = TRUE)
```

Arguments

country	Character. Country code: "U2" for the euro area aggregate (default), or an ISO 2-letter code such as "DE", "FR", "IT", "ES".
from	Optional start date.
to	Optional end date.
cache	Logical. Use cached data if available (default TRUE).

Value

A data frame with columns:

date Date.

country Character. Country or area code.

value Numeric. Interest rate in percent per annum.

See Also

Other credit: `ecb_lending_rates()`, `ecb_money_supply()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_mortgage_rates(from = "2015-01")
options(op)
```

ecb_policy_rates — *ECB policy interest rates*

Description

Returns the three main ECB policy rates: the main refinancing operations rate, the deposit facility rate, and the marginal lending facility rate.

Usage

```
ecb_policy_rates(from = NULL, to = NULL, cache = TRUE)
```

Arguments

`from`	Optional start date (e.g. `"2020"` or `"2020-01"`).
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

rate Character. One of `"Main refinancing rate"`, `"Deposit facility rate"`, or `"Marginal lending rate"`.

value Numeric. Rate in percent per annum.

See Also

Other interest rates: `ecb_estr()`, `ecb_euribor()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_policy_rates(from = "2022-01")
options(op)
```

ecb_unemployment — *Euro area unemployment rate*

Description

Returns the monthly harmonised unemployment rate for the euro area from the ECB's labour force statistics dataset (LFSI).

Usage

```
ecb_unemployment(from = NULL, to = NULL, cache = TRUE)
```

Arguments

`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

value Numeric. Unemployment rate as a percentage.

See Also

Other macro: `ecb_gdp()`, `ecb_government_debt()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_unemployment(from = "2020-01")
options(op)
```

ecb_yield_curve *Euro area government bond yield curve*

Description

Returns AAA-rated euro area government bond yields for one or more tenors.

Usage

```
ecb_yield_curve(tenor = "10Y", from = NULL, to = NULL, cache = TRUE)
```

Arguments

`tenor`	Character vector of tenors. Common values: `"3M"`, `"6M"`, `"1Y"`, `"2Y"`, `"3Y"`, `"5Y"`, `"7Y"`, `"10Y"`, `"15Y"`, `"20Y"`, `"30Y"`. Default is `"10Y"`.
`from`	Optional start date.
`to`	Optional end date.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date.

tenor Character. Bond maturity.

value Numeric. Yield in percent per annum.

See Also

Other data access: `clear_cache()`, `ecb_get()`, `list_ecb_dataflows()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
ecb_yield_curve("10Y", from = "2023-01")
ecb_yield_curve(c("2Y", "10Y"), from = "2022-01")
options(op)
```

`list_ecb_dataflows` *List available ECB dataflows*

Description

Fetches the full list of dataflows from the ECB Data Portal. Each dataflow corresponds to a dataset that can be queried with `ecb_get()`.

Usage

```
list_ecb_dataflows(cache = TRUE)
```

Arguments

`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

dataflow_id Character. The dataflow identifier.

name Character. Human-readable name.

See Also

Other data access: `clear_cache()`, `ecb_get()`, `ecb_yield_curve()`

Examples

```
op <- options(readecb.cache_dir = tempdir())
list_ecb_dataflows()
options(op)
```

`list_exchange_rates` *List available exchange rate currencies*

Description

Returns a data frame of ISO 4217 currency codes for which the ECB publishes reference exchange rates. No network call is made.

Usage

```
list_exchange_rates()
```

Value

A data frame with columns:

code Character. ISO 4217 currency code.

currency Character. Currency name.

See Also

Other exchange rates: `ecb_exchange_rate()`

Examples

```
list_exchange_rates()
```

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