Package 'ons'

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Title Download Data from the 'Office for National Statistics'

Version 0.1.5

Description Provides functions to download and tidy statistical data published by the 'Office for National Statistics' <https://www.ons.gov.uk>. Covers GDP, inflation (CPI, CPIH, RPI), unemployment, employment, wages, trade, retail sales, house prices, productivity, population, and public sector finances. Most series are fetched from the 'ONS' website using its CSV time series endpoint. House price data is sourced from 'HM Land Registry' <https://www.gov.uk/government/organisations/land-registry>. Data is cached locally between sessions.

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Author Charles Coverdale [aut, cre]

Maintainer Charles Coverdale <charlesfcoverdale@gmail.com>

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`ons-package` *ons: Download Data from the 'Office for National Statistics'*

Description

Provides functions to download and tidy statistical data published by the 'Office for National Statistics' https://www.ons.gov.uk. Covers GDP, inflation (CPI, CPIH, RPI), unemployment, employment, wages, trade, retail sales, house prices, productivity, population, and public sector finances. Most series are fetched from the 'ONS' website using its CSV time series endpoint. House price data is sourced from 'HM Land Registry' https://www.gov.uk/government/organisations/land-registry. Data is cached locally between sessions.

Author(s)

Maintainer: Charles Coverdale <charlesfcoverdale@gmail.com>

Authors:

- Charles Coverdale <charlesfcoverdale@gmail.com>

See Also

Useful links:

- https://charlescoverdale.github.io/ons/
- https://github.com/charlescoverdale/ons
- Report bugs at https://github.com/charlescoverdale/ons/issues

clear_cache *Clear the local download cache*

Description

Removes cached data files stored by this package. By default all cached files are deleted. Use `max_age_days` to remove only files older than a given number of days.

Usage

```
clear_cache(max_age_days = NULL)
```

Arguments

`max_age_days`	Numeric. If supplied, only files older than this many days are removed. If `NULL` (the default), all cached files are removed.

Value

Invisibly returns `NULL`. Called for its side effect of deleting cached files.

See Also

Other data access: `ons_get()`, `ons_search()`

Examples

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

ons_cpi *Download consumer price inflation*

Description

Downloads CPI, CPIH, or RPI data from the ONS. Returns either the annual rate of change or the index level.

Usage

```
ons_cpi(
  measure = c("cpi", "cpih", "rpi"),
  type = c("rate", "index"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

measure	Character. One of "cpi" (default), "cpih", or "rpi".
type	Character. One of "rate" (default, annual percentage change) or "index" (index level).
from	Date or character (YYYY-MM-DD). Start date. Defaults to NULL (all available data).
to	Date or character (YYYY-MM-DD). End date. Defaults to NULL.
cache	Logical. Use cached data if available (default TRUE).

Value

A data frame with columns:

date Date. First day of the month.

value Numeric. Inflation rate (percent) or index level.

Source

https://www.ons.gov.uk

See Also

Other economic indicators: ons_gdp(), ons_monthly_gdp(), ons_population(), ons_productivity()

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_cpi(from = "2020-01-01"))
options(op)
```

`ons_employment` *Download employment rate*

Description

Downloads the UK employment rate (aged 16 to 64, seasonally adjusted) from the ONS Labour Market Statistics. Available from 1971.

Usage

```
ons_employment(
  group = c("total", "male", "female"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

`group`	Character. One of `"total"` (default), `"male"`, or `"female"`.
`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the period.

value Numeric. Employment rate (percent).

Source

https://www.ons.gov.uk

See Also

Other labour market: `ons_inactivity()`, `ons_unemployment()`, `ons_wages()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_employment(from = "2020-01-01"))
options(op)
```

ons_gdp *Download GDP data*

Description

Downloads quarterly Gross Domestic Product data from the ONS. Available from 1948 (levels) or 1955 (growth rates).

Usage

```
ons_gdp(
  measure = c("growth", "yoy", "level", "nominal"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

measure	Character. One of "growth" (default, quarter-on-quarter percentage change), "yoy" (percentage change on the same quarter a year earlier), "level" (chained volume measure in GBP millions, seasonally adjusted), or "nominal" (current price GBP millions, seasonally adjusted). Each series is read from whichever of the first-estimate (PN2) and quarterly national accounts (QNA) datasets the ONS released most recently.
from	Date or character (YYYY-MM-DD). Start date. Defaults to NULL (all available data).
to	Date or character (YYYY-MM-DD). End date. Defaults to NULL.
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 value (percent for growth measures, GBP millions for level measures).

Source

https://www.ons.gov.uk

See Also

Other economic indicators: ons_cpi(), ons_monthly_gdp(), ons_population(), ons_productivity()

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_gdp(from = "2020-01-01"))
options(op)
```

`ons_get` *Download any ONS time series by CDID code*

Description

Fetches a time series from the ONS website using its CDID (four-character series identifier). The function uses the ONS Search API to discover the download path, then retrieves the CSV.

Usage

```
ons_get(cdid, from = NULL, to = NULL, cache = TRUE)
```

Arguments

`cdid`	Character vector. One or more ONS CDID codes (e.g. `"IHYQ"` for quarterly GDP growth). Maximum 50 codes per call.
`from`	Date or character (YYYY-MM-DD). Start date filter. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date filter. Defaults to `NULL` (up to the latest observation).
`cache`	Logical. Use cached data if available (default `TRUE`).

Details

CDID codes can be found by browsing the ONS time series explorer at https://www.ons.gov.uk/timeseriestool or by using `ons_search()`.

Value

A data frame with columns:

date Date. Observation date (first day of the period).

cdid Character. The CDID code.

value Numeric. Observation value.

Source

https://www.ons.gov.uk

See Also

Other data access: `clear_cache()`, `ons_search()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_get("IHYQ", from = "2020-01-01"))
options(op)
```

`ons_house_prices` *Download UK house prices*

Description

Downloads UK average house prices from the HM Land Registry UK House Price Index. Available from 1968. Data is jointly produced by the ONS and HM Land Registry.

Usage

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

Arguments

`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Details

The function automatically finds the latest available monthly file from HM Land Registry, working backwards from the current month.

Value

A data frame with columns:

date Date. First day of the month.

average_price_gbp Numeric. Average house price (GBP).

annual_change_pct Numeric. Annual percentage change.

Source

https://www.gov.uk/government/collections/uk-house-price-index-reports

See Also

Other trade and prices: ons_retail_sales(), ons_trade()

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_house_prices(from = "2020-01-01"))
options(op)
```

`ons_inactivity` *Download economic inactivity*

Description

Downloads the number of economically inactive people (aged 16 to 64, seasonally adjusted) from the ONS Labour Market Statistics. Available from 1971.

Usage

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

Arguments

`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the period.

value Numeric. Economically inactive people (thousands).

Source

https://www.ons.gov.uk

See Also

Other labour market: ons_employment(), ons_unemployment(), ons_wages()

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_inactivity(from = "2020-01-01"))
options(op)
```

`ons_monthly_gdp` *Download monthly GDP estimate*

Description

Downloads the monthly estimate of GDP from the ONS. This is an experimental index-based estimate, available from 1997.

Usage

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

Arguments

`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the month.

value Numeric. Monthly GDP index (2019 = 100).

Source

https://www.ons.gov.uk

See Also

Other economic indicators: `ons_cpi()`, `ons_gdp()`, `ons_population()`, `ons_productivity()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_monthly_gdp(from = "2020-01-01"))
options(op)
```

`ons_population` *Download population estimates*

Description

Downloads mid-year population estimates for the United Kingdom from the ONS. Returns annual estimates.

Usage

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

Arguments

`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. Mid-year date (represented as 1 January).

value Numeric. Population estimate (thousands).

Source

https://www.ons.gov.uk

See Also

Other economic indicators: `ons_cpi()`, `ons_gdp()`, `ons_monthly_gdp()`, `ons_productivity()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_population(from = "2000-01-01"))
options(op)
```

`ons_productivity` *Download labour productivity*

Description

Downloads quarterly labour productivity data from the ONS. Available as output per hour worked or output per worker.

Usage

```
ons_productivity(
  measure = c("per_hour", "per_worker"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

`measure`	Character. One of `"per_hour"` (default, output per hour worked) or `"per_worker"` (output per worker). Both are seasonally adjusted indices.
`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the quarter.

value Numeric. Productivity index.

Source

https://www.ons.gov.uk

See Also

Other economic indicators: `ons_cpi()`, `ons_gdp()`, `ons_monthly_gdp()`, `ons_population()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_productivity(from = "2020-01-01"))
options(op)
```

`ons_public_finances` *Download public sector finances*

Description

Downloads public sector net borrowing (excluding public sector banks) from the ONS. Available from 1993.

Usage

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

Arguments

`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the month.

value Numeric. Public sector net borrowing (GBP millions).

Source

https://www.ons.gov.uk

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_public_finances(from = "2020-01-01"))
options(op)
```

`ons_retail_sales` *Download retail sales index*

Description

Downloads the Retail Sales Index from the ONS. Returns volume (quantity) or value (amount spent) indices.

Usage

```
ons_retail_sales(
  type = c("volume", "value"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

`type`	Character. One of `"volume"` (default, quantity bought, seasonally adjusted) or `"value"` (amount spent, not seasonally adjusted).
`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the month.

value Numeric. Retail sales index.

Source

https://www.ons.gov.uk

See Also

Other trade and prices: `ons_house_prices()`, `ons_trade()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_retail_sales(from = "2020-01-01"))
options(op)
```

`ons_search` *Search for ONS time series*

Description

Searches the ONS catalogue for time series matching a keyword or phrase. Returns CDID codes, titles, and dataset information that can be used with `ons_get()`.

Usage

```
ons_search(query, limit = 10L)
```

Arguments

`query`	Character. Search term (e.g. `"GDP growth"`, `"unemployment"`).
`limit`	Integer. Maximum number of results to return (default 10, maximum 50).

Value

A data frame with columns:

cdid Character. The four-character CDID code.

dataset_id Character. The ONS dataset identifier.

title Character. Description of the series.

release_date Character. Date of the most recent release.

Source

https://www.ons.gov.uk

See Also

Other data access: `clear_cache()`, `ons_get()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_search("GDP growth"))
options(op)
```

`ons_trade` *Download UK trade data*

Description

Downloads UK trade in goods and services data from the ONS. Available from 1948.

Usage

```
ons_trade(
  measure = c("balance", "exports", "imports"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

`measure`	Character. One of `"balance"` (default, trade balance), `"exports"` (total exports), or `"imports"` (total imports). All in GBP millions, current prices, seasonally adjusted.
`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the month.

value Numeric. Trade value (GBP millions).

Source

https://www.ons.gov.uk

See Also

Other trade and prices: `ons_house_prices()`, `ons_retail_sales()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_trade(from = "2020-01-01"))
options(op)
```

`ons_unemployment` *Download unemployment rate*

Description

Downloads the UK unemployment rate (aged 16 and over, seasonally adjusted) from the ONS Labour Market Statistics. Available from 1971.

Usage

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

Arguments

`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the period.

value Numeric. Unemployment rate (percent).

Source

https://www.ons.gov.uk

See Also

Other labour market: `ons_employment()`, `ons_inactivity()`, `ons_wages()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_unemployment(from = "2020-01-01"))
options(op)
```

`ons_wages` *Download average weekly earnings*

Description

Downloads average weekly earnings (AWE) for the whole economy from the ONS Labour Market Statistics. Available from 2000.

Usage

```
ons_wages(
  measure = c("level", "growth", "real"),
  from = NULL,
  to = NULL,
  cache = TRUE
)
```

Arguments

`measure`	Character. One of `"level"` (default, GBP per week), `"growth"` (year-on-year 3-month average percentage change), or `"real"` (real terms index, seasonally adjusted regular pay).
`from`	Date or character (YYYY-MM-DD). Start date. Defaults to `NULL` (all available data).
`to`	Date or character (YYYY-MM-DD). End date. Defaults to `NULL`.
`cache`	Logical. Use cached data if available (default `TRUE`).

Value

A data frame with columns:

date Date. First day of the month.

value Numeric. Earnings level (GBP), growth rate (percent), or real index.

Source

https://www.ons.gov.uk

See Also

Other labour market: `ons_employment()`, `ons_inactivity()`, `ons_unemployment()`

Examples

```
op <- options(ons.cache_dir = tempdir())
try(ons_wages(from = "2020-01-01"))
options(op)
```

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