Package 'mpshock'

November 6, 2026

Title Monetary Policy Shock Series for Empirical Macroeconomics

Version 0.1.2

Description Provides a curated multi-country collection of monetary policy shock and stance series from the empirical macroeconomics literature, bundled as tidy data frames with provenance metadata. Version 0.1.0 includes thirteen series covering the United States, United Kingdom, and Australia: for the US, the policy news shock of Nakamura and Steinsson (2018) <doi:10.1093/qje/qjy004>, the orthogonalised surprise of Bauer and Swanson (2023) <doi:10.1086/723574>, the target and path factors of the Swanson (2021) <doi:10.1016/j.jmoneco.2020.09.003> extension of Gurkaynak, Sack, and Swanson (2005), the pure monetary policy and central bank information shocks of Jarocinski and Karadi (2020) <doi:10.1257/mac.20180090>, the informationally-robust shock of Miranda-Agrippino and Ricco (2021) <doi:10.1257/mac.20180124>, and the shadow federal funds rate of Wu and Xia (2016) <doi:10.1111/jmcb.12300>; for the UK, the UK Monetary Policy Event-Study Database of Braun, Miranda-Agrippino, and Saha (2025) <doi:10.1016/j.jmoneco.2024.103645>, the high-frequency surprise of Cesa-Bianchi, Thwaites, and Vicondoa (2020) <doi:10.1016/j.euroecorev.2020.103375>, and the narrative shock of Cloyne and Hurtgen (2016) <doi:10.1257/mac.20150093>; for Australia, the three-component RBA surprise of Hambur and Haque (2023) <doi:10.1111/1475-4932.12786> and the credit-spread-augmented RBA narrative shock of Beckers (2020). Helpers support date alignment, frequency conversion, and shock cumulation. All data is bundled; no runtime network access is required.

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Contents

bauer_swanson . . . 3
beckers_au . . . 4
cesa_bianchi_uk . . . 5
cloyne_hurtgen_uk . . . 6
gss_path . . . 7
gss_target . . . 8
hambur_haque_au . . . 9
jarocinski_karadi_cbi . . . 10
jarocinski_karadi_mp . . . 11
miranda_agrippino_ricco . . . 12
mp_align . . . 13
mp_cumulate . . . 13
mp_list . . . 14
mp_shock . . . 15
mp_source . . . 16
mp_to_quarterly . . . 17
nakamura_steinsson . . . 18
print.mp_shock . . . 19
ukmpd . . . 19
wu_xia . . . 20

Index **22**

`bauer_swanson` *Bauer-Swanson orthogonalised monetary policy surprise*

Description

The monthly orthogonalised monetary policy surprise series (MPS_ORTH) from Bauer and Swanson (2023), with the raw MPS alongside. The orthogonalised series removes predictability from public economic information available before each FOMC meeting, isolating a genuinely exogenous monetary-policy innovation.

Usage

```
bauer_swanson
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. Orthogonalised MPS, percentage points.

mps_raw `numeric`. Raw high-frequency MPS summed within the month, percentage points.

series `character`. Series identifier `"bauer_swanson"`.

Details

Orthogonalisation. MPS_ORTH is the OLS residual from regressing the raw MPS on six pre-announcement predictors: surprise in the most recent nonfarm payrolls release, trailing 12-month employment growth, log S&P 500 change over the prior three months, change in the 10-year minus 2-year Treasury slope over the same window, log commodity-price- index change, and Bauer-Chernov option-implied 10-year Treasury skewness. See Bauer and Swanson (2023) Appendix Table A.1 for exact predictor definitions and data sources.

Relation to nakamura_steinsson. Both series use a first principal component of tight-window futures surprises. MPS_ORTH additionally removes predictability from public data, which Bauer-Swanson argue isolates the policy shock from the "Fed response to news" that NS attribute to a Fed information effect.

Critique. Hoesch, Rossi, and Sekhposyan (2023) show alternative orthogonalisation choices yield different residuals. If the Fed has any informational advantage, the orthogonalisation throws it away by construction.

Vintage. Bundled from the FRBSF-maintained update covering through December 2023. For a frozen vintage, download directly from the source URL in `mp_source()`.

Source

Bauer, M. D., & Swanson, E. T. (2023). "A Reassessment of Monetary Policy Surprises and High-Frequency Identification." *NBER Macroeconomics Annual* 37: 87-155. doi:10.1086/723574. Data: https://www.frbsf.org/research-and-insights/data-and-indicators/monetary-policy-surprises/.

beckers_au *Beckers Australian narrative monetary policy shock*

Description

Narrative Romer-Romer-style monetary policy shock for Australia. RBA cash-rate changes are purged of their systematic response to the Bank's internal forecasts (Bishop-Tulip 2017 methodology) and further augmented with credit-spread information to separate genuine policy innovations from responses to financial conditions. Quarterly frequency. The headline bundled shock is Beckers's preferred credit-spread-augmented series ("BT-CS"); the pre-augmentation Bishop-Tulip series (bt) is included alongside for comparison.

Usage

```
beckers_au
```

Format

A data frame with columns:

date Date. First day of the observation quarter.

shock numeric. BT-CS shock (preferred), percentage points.

bt numeric. Bishop-Tulip pre-augmentation shock, percentage points.

rate_chg numeric. Raw quarterly cash-rate change, percentage points.

series character. Series identifier "beckers_au".

Details

Construction. The BT-CS series regresses cash-rate changes on RBA internal forecasts (GDP, unemployment, CPI) plus measures of domestic credit spreads, at quarterly frequency. The residual is the identified policy shock.

Frequency note. This is the only quarterly-frequency series currently bundled in mpshock. mp_to_quarterly() is unnecessary; pass beckers_au directly into quarterly VARs or LPs.

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Source

Beckers, B. (2020). "Credit Spreads, Monetary Policy and the Price Puzzle in Australia." Reserve Bank of Australia Research Discussion Paper 2020-01. https://www.rba.gov.au/publications/rdp/2020/2020-01/. CC BY 4.0. Bishop-Tulip methodology: Bishop, J., & Tulip, P. (2017). "Anticipatory Monetary Policy and the Price Puzzle." RBA Research Discussion Paper 2017-02.

`cesa_bianchi_uk` *Cesa-Bianchi-Thwaites-Vicondoa UK high-frequency shock*

Description

High-frequency monetary policy surprise for the United Kingdom, constructed from tight-window changes in the three-month sterling interbank rate around Bank of England MPC announcements. Kuttner-style identification adapted for the UK. Monthly frequency.

Usage

```
cesa_bianchi_uk
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. UK HFI surprise, percentage points.

series `character`. Series identifier `"cesa_bianchi_uk"`.

Details

Identification. Surprises are extracted as the change in the three-month sterling interbank rate in a 60-minute window around each MPC announcement, isolating the unexpected component of the policy decision. Event-level values are aggregated to monthly by summation; months with no MPC meeting are coded zero.

Superseded. For the same identification strategy with a richer asset-price menu and ongoing maintenance, use ukmpd. The CTV series remains useful as a historical reference and for comparisons with pre-UKMPD empirical literature.

Vintage. Static at the published version (1997-06 to 2015-01). No extension maintained by the authors.

Source

Cesa-Bianchi, A., Thwaites, G., & Vicondoa, A. (2020). "Monetary policy transmission in the United Kingdom: A high frequency identification approach." *European Economic Review* 123: 103375. doi:10.1016/j.euroecorev.2020.103375. Data: `https://sites.google.com/site/ambropo/publications`.

`cloyne_hurtgen_uk` *Cloyne-Hurtgen UK narrative monetary policy shock*

Description

Narrative Romer-Romer-style monetary policy shock for the United Kingdom. Cash-rate changes are purged of their systematic response to Bank of England internal forecasts, leaving a series of exogenous policy innovations. Monthly frequency.

Usage

```
cloyne_hurtgen_uk
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. UK narrative shock, percentage points.

series `character`. Series identifier `"cloyne_hurtgen_uk"`.

Details

Narrative identification. Cloyne and Hurtgen (2016) read the Bank of England *Inflation Report* forecasts and regress each Bank Rate change on the Bank's own real-time projections for output, unemployment, and inflation at horizons up to two years. The residual is the "narrative" shock. The bundled series is the extension carried forward by Cesa-Bianchi, Thwaites, and Vicondoa using the same methodology; the original paper covers 1975 to 2007 but the bundled vintage is the CTV re-compiled version from 1997-06 onwards.

Comparison with HFI. Narrative shocks are typically lower- frequency than high-frequency event-window surprises and capture broader policy reassessments. They can differ materially from cesa_bianchi_uk and ukmpd even on common sample.

Source

Cloyne, J., & Hurtgen, P. (2016). "The Macroeconomic Effects of Monetary Policy: A New Measure for the United Kingdom." *American Economic Journal: Macroeconomics* 8(4): 75-102. doi:10.1257/mac.20150093. Replication data on openICPSR project 114114; bundled vintage is the Cesa-Bianchi-Thwaites- Vicondoa (2020) re-compilation available at `https://sites.google.com/site/ambropo/publications`.

`gss_path` *GSS path factor (Swanson extended)*

Description

The Forward Guidance factor from Swanson's (2021) three-factor decomposition of high-frequency FOMC surprises, the direct extension of the original "path" factor in Gurkaynak, Sack, and Swanson (2005). Event-level factor values are summed within calendar months; months with no scheduled FOMC meeting are coded as zero.

Usage

```
gss_path
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. GSS path factor, percentage points.

series `character`. Series identifier `"gss_path"`.

Details

See gss_target for identification, rotation sensitivity, and aggregation details; the same caveats apply to both factors since they come from a joint rotation.

Regime coverage. The path factor picks up forward-guidance surprises and is the most informative Swanson factor during the zero-lower-bound period (2009 to 2015). Its variance rises sharply in that window relative to the pre-ZLB sample, consistent with forward guidance becoming the dominant policy tool.

Source

Swanson, E. T. (2021). "Measuring the Effects of Federal Reserve Forward Guidance and Asset Purchases on Financial Markets." *Journal of Monetary Economics* 118: 32-53. doi:10.1016/j.jmoneco.2020.09.003. Data: `https://sites.socsci.uci.edu/~swanson2/`.

`gss_target` *GSS target factor (Swanson extended)*

Description

The Federal Funds Rate factor from Swanson's (2021) three-factor decomposition of high-frequency FOMC surprises, the direct extension of the original "target" factor in Gurkaynak, Sack, and Swanson (2005). Event-level factor values are summed within calendar months; months with no scheduled FOMC meeting are coded as zero.

Usage

```
gss_target
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. GSS target factor, percentage points.

series `character`. Series identifier `"gss_target"`.

Details

Identification. Swanson (2021) computes the first three principal components of high-frequency futures surprises, then rotates them by (i) zero loading of factor 3 on the current-month fed-funds-rate surprise, (ii) minimum sum of squared factor-3 values over the pre-ZLB sample 1991-07 to 2008-12, and (iii) sign normalisation. The target and path factors are therefore conditional on the pre-ZLB window used to pin down factor 3. Extensions past the bundled span must re-estimate the rotation, not simply append new events.

Relation to GSS 2005. Pre-2009 the target factor closely tracks the original two-factor decomposition of Gurkaynak, Sack, and Swanson (2005). Post-2009 it differs because unconventional policy announcements are absorbed by a distinct LSAP factor (not bundled in v0.1.0; see Swanson's website for the full three-factor panel).

Monthly aggregation. Event-level factors are summed within calendar months. Months with no scheduled FOMC meeting are coded 0. Users who want to distinguish "no news" from "news = 0" should recode no-meeting months as `NA` before estimation (Bu, Rogers, and Wu 2021, *Journal of Monetary Economics* 118).

Source

Swanson, E. T. (2021). "Measuring the Effects of Federal Reserve Forward Guidance and Asset Purchases on Financial Markets." *Journal of Monetary Economics* 118: 32-53. doi:10.1016/j.jmoneco.2020.09.003. Data: `https://sites.socsci.uci.edu/~swanson2/`. Original two-factor decomposition: Gurkaynak, R. S., Sack, B., and Swanson, E. T. (2005), *International Journal of Central Banking* 1(1): 55-93.

hambur_haque_au *Hambur-Haque Australian monetary policy shock*

Description

High-frequency monetary policy surprise for Australia, decomposed into three components (action, path, and term premium) by a principal- component rotation of changes in overnight-indexed swap and Australian Government Securities yields around RBA cash-rate decisions. Monthly frequency; months with no RBA board meeting are coded zero.

Usage

```
hambur_haque_au
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. Action factor (current cash-rate surprise), percentage points.

action `numeric`. Current-meeting cash-rate surprise, percentage points.

path `numeric`. Forward-guidance surprise, percentage points.

term_premium `numeric`. Long-end term-premium surprise, percentage points.

series `character`. Series identifier `"hambur_haque_au"`.

Details

Identification. Three PC components are rotated to isolate (i) `action`, the current-meeting cash-rate surprise; (ii) `path`, the forward-guidance surprise in expected short rates; (iii) `term_premium`, the residual long-end move attributable to duration / term-premium effects. `shock` is set to `action` for pipeline compatibility; users running multi-factor IRFs should use the individual component columns.

Coverage. The bundled series spans April 2001 to December 2019, matching the published paper. The RBA has not released a maintained extension covering the COVID-era LSAP period.

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Source

Hambur, J., & Haque, Q. (2023). "Monetary Policy Transmission, Real Interest Rates and Credit Spreads: Evidence from Australia." *Economic Record* (2024). doi:10.1111/14754932.12786. Data: Reserve Bank of Australia Research Discussion Paper 2023-04, `https://www.rba.gov.au/publications/rdp/2023/2023-04/`. CC BY 4.0.

`jarocinski_karadi_cbi` *Jarocinski-Karadi central bank information shock*

Description

The "central bank information" shock from Jarocinski and Karadi (2020), identified alongside the pure MP shock by sign restrictions on the joint rate-stock response. The information shock moves short rates and stock prices in the same direction, interpreted as the central bank revealing private information about the economy. Monthly US series from the authors' maintained update.

Usage

```
jarocinski_karadi_cbi
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. CB information shock (CBI_median), percentage points.

series `character`. Series identifier `"jarocinski_karadi_cbi"`.

Details

See jarocinski_karadi_mp for the full identification scheme and caveats. The information shock is the companion component: if markets interpret a hawkish rate surprise as a sign the Fed has seen positive economic news, stocks rise rather than fall.

Controversy. Bauer-Swanson (2023) and Acosta (2023) argue the information shock is largely artefactual: an omitted-variables problem (Fed and markets reacting to the same pre-meeting public data) plus a weak sign-restriction identifier. Interpret with caution; if the information-effect literature is central to your result, read both critiques before citing.

Source

Jarocinski, M., & Karadi, P. (2020). "Deconstructing Monetary Policy Surprises: The Role of Information Shocks." *American Economic Journal: Macroeconomics* 12(2): 1-43. doi:10.1257/mac.20180090. Updated data: `https://github.com/marekjarocinski/jkshocks_update_fed`.

`jarocinski_karadi_mp` *Jarocinski-Karadi pure monetary policy shock*

Description

The "pure" monetary policy shock from Jarocinski and Karadi (2020), identified via sign restrictions on the joint response of short-term interest rates and stock prices around FOMC announcements. The median decomposition allows the MP and information shocks to co-occur. Monthly US series from the authors' maintained update.

Usage

```
jarocinski_karadi_mp
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. Pure MP shock (MP_median), percentage points.

series `character`. Series identifier `"jarocinski_karadi_mp"`.

Details

Identification. Two high-frequency surprises enter: the 3-month fed-funds futures and the S&P 500, both in 30-minute windows around FOMC announcements. A 2-shock SVAR is identified by sign restrictions: a positive MP shock raises rates and lowers stocks (negative co-movement); a positive CB-information shock raises both (positive co-movement).

Median vs poor-man's decomposition. The "poor-man's" variant sorts events by sign pattern and assigns each surprise wholly to one shock. The median variant solves the set-identified problem and picks the rotation whose impulse responses lie at the median of admissible rotations; both shocks can co-occur at every event. `mpshock` uses the median version (`MP_median`, `CBI_median`). Results are set-identified, not point-identified: users should report robustness across rotations.

Critical follow-up. Acosta (2023, "Perceived Causes of Monetary Policy Surprises") argues that the rate-stock sign pattern is a weak discriminator between policy and information shocks because the two are typically negatively correlated at high frequency regardless of shock type. Bauer and Swanson (2023) argue the information shock reflects omitted pre-announcement data rather than genuine Fed private information. Users estimating information-effect IRFs should report robustness to these critiques.

Source

Jarocinski, M., & Karadi, P. (2020). "Deconstructing Monetary Policy Surprises: The Role of Information Shocks." *American Economic Journal: Macroeconomics* 12(2): 1-43. doi:10.1257/mac.20180090. Updated data: `https://github.com/marekjarocinski/jkshocks_update_fed`.

`miranda_agrippino_ricco` *Miranda-Agrippino-Ricco informationally-robust MP shock*

Description

The informationally-robust monetary policy shock from Miranda- Agrippino and Ricco (2021), constructed as the component of FF4 (fourth Eurodollar futures) high-frequency surprises orthogonal to the Fed's Greenbook information set. Isolates exogenous policy moves from shifts in the central bank's private information about the economy. Monthly US series from the Degasperi and Ricco maintained extension.

Usage

```
miranda_agrippino_ricco
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. Informationally-robust MP shock, percentage points.

info `numeric`. Companion information component, percentage points.

series `character`. Series identifier `"miranda_agrippino_ricco"`.

Details

Construction. The raw FF4 surprise (3-month-ahead fed-funds futures) is projected on the Fed's Greenbook / Tealbook forecast revisions for GDP, unemployment, and inflation at horizons of zero to four quarters (Miranda-Agrippino and Ricco 2021, Section III). The residual is the informationally-robust monetary policy shock.

Extension past 2013. The published paper covers 1991 to 2009; the Degasperi-Ricco maintained update extends to June 2019. Because the Fed's Tealbook is subject to a five-year release embargo, post-2013 observations use real-time SPF and Greenbook-equivalent series instead. These are not strictly on the same information basis as the published 1991 to 2009 series.

Ramey critique. Ramey (2018, discussion of Miranda-Agrippino-Ricco at the NBER Summer Institute) notes that orthogonalisation is with respect to the Fed's information set, not the market's. Any news markets infer from the announcement beyond the Tealbook remains in the residual. Weak-instrument F-statistics drop materially after 2007.

Source

Miranda-Agrippino, S., & Ricco, G. (2021). "The Transmission of Monetary Policy Shocks." *American Economic Journal: Macroeconomics* 13(3): 74-107. doi:10.1257/mac.20180124. Updated data: `https://github.com/riccardo-degasperi/info-policy-surprises`.

mp_align *Align a shock series to a target data frame by date*

Description

Left-joins a shock series onto a target data frame by its date column. Non-matching target rows receive NA in the shock column. Use this to line a shock series up with a macro panel before running impulse responses or local projections.

Usage

```
mp_align(shock, target, by = "date", fill_zero = FALSE)
```

Arguments

shock	An mp_shock object from mp_shock().
target	A data frame containing a date column.
by	Character(1). The name of the date column in target. Defaults to "date".
fill_zero	Logical(1). If TRUE, non-matching target rows get 0 in the shock column instead of NA. Useful when the target is a complete monthly panel and missing shocks should be treated as zero-surprise months. Defaults to FALSE.

Value

A data frame with the same rows as target plus a shock column (and any other numeric columns from the shock series, prefixed with the series name).

Examples

```
panel <- data.frame(
  date = seq(as.Date("2010-01-01"), as.Date("2010-06-01"), by = "month"),
  gdp_growth = rnorm(6)
)
aligned <- mp_align(mp_shock("nakamura_steinsson"), panel)
head(aligned)
```

mp_cumulate *Cumulate a shock series*

Description

Computes running sums of a shock series. With window = NULL, returns the full cumulative sum. With a finite window, returns a rolling window sum of the last window observations.

Usage

```
mp_cumulate(shock, window = NULL)
```

Arguments

shock	An mp_shock object from mp_shock().
window	Integer, the rolling window length in observations. If NULL (default), computes the full cumulative sum.

Value

A data frame with the same rows as shock and a new column shock_cum (full cumulative) or shock_roll (rolling window). Other columns are preserved.

Examples

```
cum <- mp_cumulate(mp_shock("nakamura_steinsson"))
head(cum)

roll <- mp_cumulate(mp_shock("nakamura_steinsson"), window = 12)
head(roll, 15)
```

---

mp_list *List available monetary policy shock series*

Description

Returns a metadata table of every shock or stance series bundled in the package.

Usage

```
mp_list()
```

Value

A data frame with one row per series and columns:

- series: identifier used with mp_shock().
- author: short author string, e.g. "Nakamura and Steinsson (2018)".
- country: ISO country code or "EA" for Euro area.
- frequency: "monthly", "quarterly", or "event".
- type: "shock" for identified monetary policy shocks, "shadow_rate" for shadow-rate stance measures, "surprise" for high-frequency event-window surprises.
- start, end: coverage span as Date (first and last bundled observation).
- n: number of non-missing shock observations.

- `doi`: DOI of the source paper.
- `source_url`: canonical URL for the published series.
- `description`: short prose description.

Examples

```
mp_list()
```

`mp_shock` *Load a monetary policy shock series*

Description

Loads a named shock series bundled with the package as a tidy data frame with class `mp_shock`. Optionally filters by date range.

Usage

```
mp_shock(series, start = NULL, end = NULL)
```

Arguments

`series`	Character(1). Name of the series. See `mp_list()` for available series.
`start`, `end`	Optional `Date` or character (YYYY-MM-DD) filters on the returned series. If `NULL`, returns the full bundled span.

Details

Aggregation. All event-study series (nakamura_steinsson, bauer_swanson, gss_target, gss_path, jarocinski_karadi_mp, jarocinski_karadi_cbi, miranda_agrippino_ricco) are bundled at monthly frequency by summing FOMC-event-level surprises within each calendar month. Months with no scheduled FOMC meeting are coded zero, matching the convention in Gertler and Karadi (2015) and the authors' own maintained releases.

Bu, Rogers, and Wu (2021, *Journal of Monetary Economics* 118) argue that no-meeting months should be coded `NA` rather than zero when estimating proxy-SVAR or LP-IV models, to avoid downward-biased variance in weak-instrument F-statistics. `mpshock` does not apply this adjustment; recode after loading if needed.

Scaling. Units differ across series. nakamura_steinsson is rescaled to one-year nominal Treasury-yield equivalents; bauer_swanson and most others are in raw percentage-point surprises. See each series' help file.

Value

A data frame with class `c("mp_shock", "data.frame")` and columns:

- `date`: `Date`, first day of the observation month.
- `shock`: `numeric`, the shock value in the units published by the source (see `mp_source()` and the per-series help files for units and scaling conventions).
- `series`: `character`, the series identifier.

Some series carry additional columns. bauer_swanson returns `mps_raw` alongside `shock` (the orthogonalised surprise); miranda_agrippino_ricco returns `info`; wu_xia returns `shadow_rate` and `effr`.

See Also

`mp_list()`, `mp_source()`, `mp_align()`, `mp_to_quarterly()`.

Examples

```
ns <- mp_shock("nakamura_steinsson")
head(ns)

# Filter to a specific window
ns_gfc <- mp_shock("nakamura_steinsson",
                   start = "2007-01-01", end = "2009-12-31")
```

---

mp_source *Citation and provenance for a shock series*

Description

Returns a single-row data frame with the author, DOI, source URL, and short description for the named series. Also prints the citation to the console.

Usage

```
mp_source(series)
```

Arguments

`series`	Character(1). Name of the series. See `mp_list()` for available series.

Value

Invisibly, a one-row data frame with columns `series`, `author`, `doi`, `source_url`, `description`.

Examples

```
mp_source("nakamura_steinsson")
```

`mp_to_quarterly` *Aggregate a monthly shock series to quarterly frequency*

Description

Converts a monthly `mp_shock` object to quarterly observations using one of three aggregation methods.

Usage

```
mp_to_quarterly(shock, method = c("sum", "mean", "end"))
```

Arguments

`shock`	An `mp_shock` object from `mp_shock()` at monthly frequency.
`method`	Character(1). One of `"sum"` (the default, usual choice for additive shocks), `"mean"` (arithmetic mean of months in the quarter), or `"end"` (last month's value, useful for stock-like measures such as shadow rates).

Details

Method selection. For identified shocks (nakamura_steinsson, bauer_swanson, jarocinski_karadi_mp, miranda_agrippino_ricco), `"sum"` is the standard choice because the underlying objects are additive surprises at FOMC events. For the shadow rate (wu_xia), `"end"` returns end-of-quarter stance and matches the convention used in most zero-lower-bound regressions. `"mean"` is appropriate when the dependent variable is itself a quarterly-average interest rate.

NA handling. Missing monthly values are dropped within each quarter before aggregation. If a whole quarter is missing, the result is zero under `"sum"` / `"mean"` and `NA` under `"end"`.

Value

A data frame with one row per quarter, containing a `date` column set to the first day of the quarter, the aggregated `shock` column, and the series identifier. Class `c("mp_shock", "data.frame")`.

Examples

```
ns_q <- mp_to_quarterly(mp_shock("nakamura_steinsson"), method = "sum")
head(ns_q)
```

`nakamura_steinsson` *Nakamura-Steinsson policy news shock*

Description

The monthly policy news shock series from Nakamura and Steinsson (2018). Each monthly observation is the sum of high-frequency FOMC-event surprises occurring within the month. The surprise at each FOMC announcement is the first principal component of changes in five interest-rate futures (Fed Funds and Eurodollar) in a 30-minute window bracketing the announcement. Months with no scheduled FOMC meeting are coded as zero.

Usage

```
nakamura_steinsson
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. Policy news shock, scaled to one-year Treasury-yield equivalents (percentage points).

series `character`. Series identifier `"nakamura_steinsson"`.

Details

Scaling. The raw first principal component is rescaled so that a unit change equals the contemporaneous change in the one-year nominal Treasury yield (NS Section II.B). Magnitudes are therefore not directly comparable to Kuttner (2001) basis-point fed-funds surprises or to raw FF1 / FF4 surprises without rescaling.

Interpretation caveat. NS frame their policy-news shock as evidence of a "Fed information effect": hawkish surprises raise private-sector growth forecasts. Bauer and Swanson (2023, AER 113(3)) argue the pattern is better explained by the Fed and professional forecasters reacting to the same pre-meeting public data ("Fed response to news"). Users estimating causal macro effects of policy should consider bauer_swanson (MPS_ORTH) or miranda_agrippino_ricco as alternatives that address this bias.

Unscheduled meetings. Inter-meeting cuts (notably 22 January 2008 and 8 October 2008) are included in the series and drive a large share of sample variance.

Source

Nakamura, E., & Steinsson, J. (2018). "High-Frequency Identification of Monetary Non-Neutrality: The Information Effect." *Quarterly Journal of Economics* 133(3): 1283-1330. doi:10.1093/qje/qjy004. Replication archive on Harvard Dataverse: `https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/HZOXKN` (CC0 1.0 Universal public domain dedication).

print.mp_shock *Print an mp_shock object*

Description

Prints a short provenance header followed by the first rows of the shock series.

Usage

```
## S3 method for class 'mp_shock'
print(x, n = 10L, ...)
```

Arguments

x	An mp_shock object.
n	Integer, number of rows to print. Default 10.
...	Ignored.

Value

x, invisibly.

Examples

```
print(mp_shock("nakamura_steinsson"))
```

ukmpd *UK Monetary Policy Event-Study Database (Braun-Miranda-Agrippino-Saha)*

Description

The UK equivalent of the Gurkaynak-Sack-Swanson three-factor decomposition: a principal-component rotation of high-frequency surprises in OIS rates, gilt yields, short-sterling futures, and the FTSE 100 around Bank of England MPC announcements and Monetary Policy Report press conferences. Bundled at monthly frequency; months with no MPC announcement are coded zero.

Usage

```
ukmpd
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. Target factor (current Bank Rate surprise), percentage points.

path `numeric`. Path factor (forward-guidance surprise), percentage points.

qe `numeric`. QE factor (long-end asset-purchase surprise), percentage points.

series `character`. Series identifier `"ukmpd"`.

Details

Three factors. The UK Monetary Policy Event-Study Database (UKMPD) rotates three principal components into Target (current Bank Rate surprise), Path (forward-guidance surprise), and QE (long-end asset-purchase surprise). The package bundles `shock = Target`, with `path` and `qe` as additional columns for users running multi-factor local projections.

Maintenance. UKMPD is the flagship UK shock database: live- maintained by the authors and published through the Bank of England Staff Working Paper series. The bundled version is a snapshot from the package build; check the source URL for the latest vintage if you need observations after the bundled end date.

Relation to older UK series. UKMPD effectively supersedes the Gerko-Rey (2017) UK surprises and the pre-MPR vintage of cesa_bianchi_uk. Cesa-Bianchi-Thwaites-Vicondoa and Cloyne-Hurtgen remain useful for pre-1997 coverage and for narrative comparison.

Source

Braun, R., Miranda-Agrippino, S., & Saha, T. (2025). "Measuring Monetary Policy in the UK: The UK Monetary Policy Event-Study Database." *Journal of Monetary Economics* 149. doi:10.1016/j.jmoneco.2024.103645. Data: `https://www.bankofengland.co.uk/working-paper/2023/measuring-monetary-poli`

`wu_xia` *Wu-Xia shadow federal funds rate*

Description

The monthly Wu-Xia shadow federal funds rate from Wu and Xia (2016), maintained and published by the Federal Reserve Bank of Atlanta. The shadow rate is the authors' estimate of what the federal funds rate would have been during zero-lower-bound episodes (2008-12 to 2015-12 and 2020-03 to 2022-02) had policy rates been allowed to go negative. The companion effective federal funds rate (`effr`) is included for reference.

Usage

```
wu_xia
```

Format

A data frame with columns:

date `Date`. First day of the observation month.

shock `numeric`. First difference of shadow rate (percentage points per annum).

shadow_rate `numeric`. Wu-Xia shadow federal funds rate at last business day of the month (percentage points per annum).

effr `numeric`. Effective federal funds rate at last business day of the month (percentage points per annum).

series `character`. Series identifier `"wu_xia"`.

Details

Stance vs shock. The shadow rate is a **stance measure**, not a policy shock. The `shock` column is the first difference of `shadow_rate` and is provided for pipeline compatibility with other series in the package. It conflates genuine policy news with Kalman- filter revisions of the latent state. Users estimating shock IRFs should prefer an event-study series (nakamura_steinsson, bauer_swanson, miranda_agrippino_ricco) and reserve `wu_xia` for characterising the zero-lower-bound policy stance.

Model sensitivity. Krippner (2020, *Journal of Money, Credit and Banking* 52(4)) documents that shadow-rate estimates are sensitive to the choice of effective lower bound, the number of factors (two versus three), and the set of yield maturities used in estimation. Wu-Xia's three-factor shadow-rate term-structure model (SRTSM) and Krippner's two-factor SSR can differ by 50 to 150 basis points at the 2014 and 2021 troughs. Results that rely on Wu-Xia alone should be replicated with at least one alternative shadow-rate series.

Vintage. This bundled series is the Atlanta Fed monthly update current as of the package build. Historical values are filtered estimates and can change when new data arrives; users needing a fixed vintage should download the archived Atlanta Fed file directly.

Source

Wu, J. C., & Xia, F. D. (2016). "Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound." *Journal of Money, Credit and Banking* 48(2-3): 253-291. doi:10.1111/jmcb.12300. Data: `https://www.atlantafed.org/research-and-data/data/wu-xia-shadow-federal-funds-rate`. US Federal Reserve research output; not subject to copyright under 17 U.S.C. s. 105.

Index

∗ **datasets**
  bauer_swanson, 3
  beckers_au, 4
  cesa_bianchi_uk, 5
  cloyne_hurtgen_uk, 6
  gss_path, 7
  gss_target, 8
  hambur_haque_au, 9
  jarocinski_karadi_cbi, 10
  jarocinski_karadi_mp, 11
  miranda_agrippino_ricco, 12
  nakamura_steinsson, 18
  ukmpd, 19
  wu_xia, 20

bauer_swanson, 3, *15–18*, *21*
beckers_au, 4

cesa_bianchi_uk, 5, *6*, *20*
cloyne_hurtgen_uk, 6

gss_path, 7, *15*
gss_target, *7*, 8, *15*

hambur_haque_au, 9

jarocinski_karadi_cbi, 10, *15*
jarocinski_karadi_mp, *10*, 11, *15*, *17*

miranda_agrippino_ricco, 12, *15–18*, *21*
mp_align, 13
mp_align(), *16*
mp_cumulate, 13
mp_list, 14
mp_list(), *15, 16*
mp_shock, 15
mp_shock(), *13, 14*, *17*
mp_source, 16
mp_source(), *3*, *16*
mp_to_quarterly, 17
mp_to_quarterly(), *4*, *16*

nakamura_steinsson, *3*, *15*, *17*, 18, *21*

print.mp_shock, 19

ukmpd, *5, 6*, 19

wu_xia, *16, 17*, 20