LSEG Macro Predictions Powered By XTech™

Overview

LSEG Macro Predictions™ provides one-period-ahead forecasts of key global macroeconomic indicators, expressed in month-over-month (MoM) percentage change, delivering insights ahead of official releases. Using advanced statistical modeling and machine learning, LSEG Macro Prediction™ processes vast amounts of public and proprietary data to build a novel bottom-up model for each macro-economic metric. The Macro Predictions for the forthcoming month or quarter are disseminated shortly after the official release from the prior month or quarter and *typically well before the broker consensus estimates are distributed*, with successive updates of increasing accuracy up to the official publication time of the product. These predictions offer market participants a novel orthogonal alternative to traditional broker consensus estimates, which until now have been the sole source of Macro figure estimates. LSEG Macro Predictions enable investors to re-position ahead of macroeconomic releases, to arbitrage incorrect consensus views and to exploit transitory over/under reactions when official releases differ from market expectations. From front-office active risk takers to middle-office risk management functions, LSEG Macro Predictions are an indispensable independent source of macroeconomic market intelligence.

Dataset: LSEG Macro Prediction™

Version: ***Indigo Panther***

Coverage: US Consumer Price Index (CPI), US Retail Sales, Conference Board Consumer Confidence Index, Michigan Consumer Sentiment Index.

Delivery Frequency: Up To Daily

Delivery Time: 3 am UTC

Delivery Method: Unifier API

Data Frequency: Varies Depending Prediction Target Variable

Data Description: Contains the predictions for each macro release, as well as historical as-reported figures for comparison. Additional metrics quantify trailing accuracy and error metrics for various historical lookback periods.

Data Size: <1MB/day

TABLE OF LSEG TOPLINE PRODUCTS AND MACRO PREDICTIONS

Forecast Target	Forecast Date	Delivery Time	Description	History Start Date
CPI First Forecast	3rd Monday of Current Month (more than 3 weeks ahead of official CPI release)	10 pm UTC on T+0	CPI measures the change in prices paid by consumers for a basket of goods and services over time. Includes forecasts for individual CPI components (i.e. gas) as well as the headline number.	November 2017
CPI Second Forecast	3rd Trading Day of Following Month	10 pm UTC on T+0	Same CPI forecast but incorporates additional data	November 2017
CPI Third Forecast	2 Trading Days before CPI Release	10 pm UTC on T+0	Same CPI forecast but incorporates additional data	November 2017
US Retail Sales	3rd Monday of Current Month	10 pm UTC on T+0	Measures the total sales of goods by retail businesses in the U.S.	January 2020
Conference Board Consumer Confidence Index	3rd Monday of Current Month	10 pm UTC on T+0	Assesses consumer sentiment about current and future economic conditions based on survey responses.	January 2022
Michigan Consumer Sentiment Index	3rd Monday of Current Month	10 pm UTC on T+0	Measures consumer confidence in economic conditions based on household survey data.	January 2024

TABLE OF LSEG SEGMENT PRODUCTS AND MACRO PREDICTIONS

Forecast Target	Forecast Date	Delivery Time	Description	History Start Date
CPI Gasoline Forecast	Same as the forecast dates of the 1st, 2nd, and 3rd Headline CPI Forecasts	10 pm UTC on T+0	Forecast for the Gasoline category in CPI.	November 2017
CPI Transportation Services Forecast	Same as the forecast dates of the 1st, 2nd, and 3rd Headline CPI Forecasts	10 pm UTC on T+0	Forecast for the Transportation Services category in CPI.	November 2017
CPI Commodities Forecast	Same as the forecast dates of the 1st, 2nd, and 3rd Headline CPI Forecasts	10 pm UTC on T+0	Forecast for the Commodities less food and energy commodities category in CPI.	November 2017
CPI Food Forecast	Same as the forecast dates of the 1st, 2nd, and 3rd Headline CPI Forecasts	10 pm UTC on T+0	Forecast for the Food category in CPI.	November 2017
CPI Shelter Forecast	Same as the forecast dates of the 1st, 2nd, and 3rd Headline CPI Forecasts	10 pm UTC on T+0	Forecast for the Shelter category in CPI.	November 2017

DATA DICTIONARY

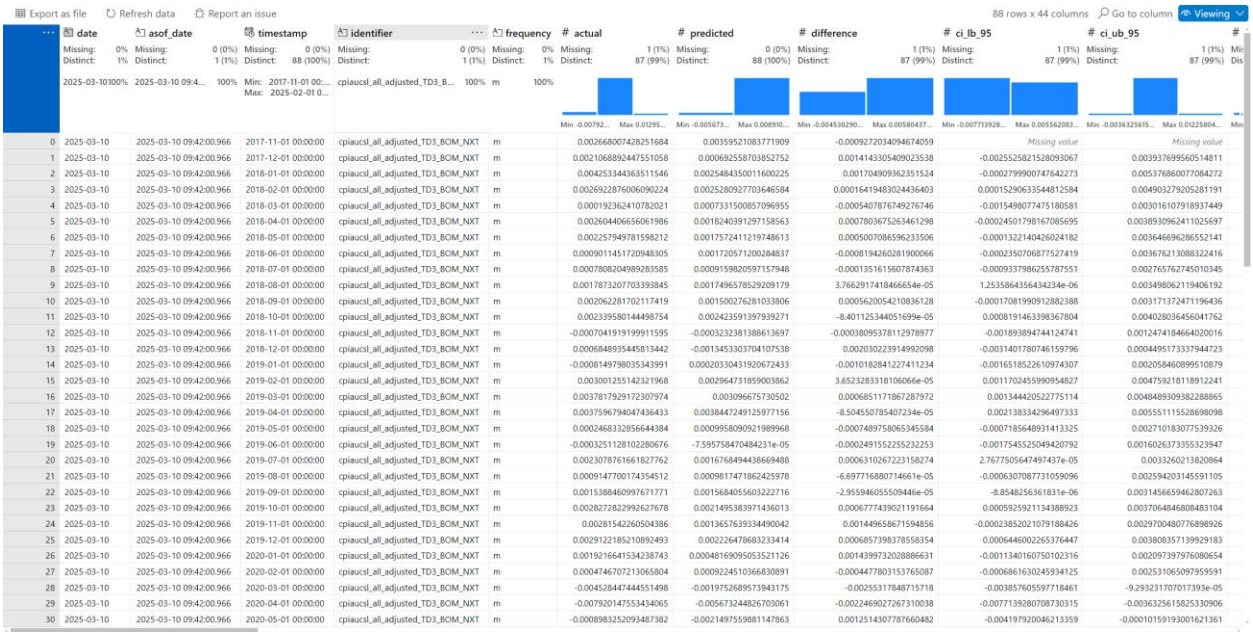
Column Name	Data Type	Description
asof_date	string	Datetime (YYYY-MM-DD HH:MM:SS) at which the prediction was computed in UTC timezone.
date	string	Date-only (YYYY-MM-DD) format of the asof_date timestamp above
timestamp	string	Business period over which the prediction applies. Think of this as the measurement period for the economic figure being reported (E.G. January CPI business period is reported in February)
identifier	string	Unique identifier for each macro prediction product
frequency	string	Data frequency (e.g., "m" for monthly)
actual	float	Observed actual value of the target economic release variable
predicted	float	Forecasted value of the target economic release variable
difference	float	Difference between actual and predicted values (Actual - Predicted)
ci_lb_95	float	Lower bound of 95% confidence interval of the prediction
ci_ub_95	float	Upper bound of 95% confidence interval of the prediction
zscore_diff	float	Z-score of difference (residuals) of the prediction
zscore_pred	float	Z-score of predictions of the prediction
mae_cum	float	Cumulative mean absolute error of the prediction
rmse_cum	float	Cumulative root mean squared error of the prediction
smape_cum	float	Cumulative symmetric mean absolute percentage error of the prediction
correlation_cum	float	Cumulative correlation between actual and predicted of the prediction
directional_accuracy_cum	float	Cumulative % of times the forecast correctly predicted whether the actual value increased or decreased compared to the previous period of the prediction
signed_correlation_cum	float	Cumulative correlation between the forecasted and actual direction of changes, measuring how consistently their up/down movements align of the prediction
sign_accuracy_cum	float	Cumulative % of times the forecasted value had the same sign (positive or negative) as the actual value, regardless of magnitude or change of the prediction
theil_u1_cum[1]	float	Cumulative Theil's U1 statistic (forecast vs. actual accuracy) of the prediction
theil_u1_bias_cum[2]	float	Cumulative Theil's U1 bias component of the prediction
theil_u1_variance_cum[3]	float	Cumulative Theil's U1 variance component of the prediction
theil_u1_covariance_cum[4]	float	Cumulative Theil's U1 covariance component of the prediction
theil_u2[5]	float	Cumulative Theil's U2 statistic (forecast vs. naive model) of the prediction

hit_rate_1bp_cum	float	Cumulative proportion of forecasts within 1 basis point of actual of the prediction
hit_rate_5bp_cum	float	Cumulative proportion of forecasts within 5 basis points of actual of the prediction
hit_rate_10bp_cum	float	Cumulative proportion of forecasts within 10 basis points of actual of the prediction
forecast_bias_cum	float	Cumulative average forecast error (bias) of the prediction
mae_ttm	float	Trailing 12-month mean absolute error of the prediction
rmse_ttm	float	Trailing 12-month root mean squared error of the prediction
smape_ttm	float	Trailing 12-month symmetric mean absolute percentage error of the prediction
correlation_ttm	float	Trailing 12-month correlation between actual and predicted of the prediction
directional_accuracy_ttm	float	Trailing 12-month of directional accuracy of the prediction
signed_correlation_ttm	float	Trailing 12-month of signed correlation of the prediction
sign_accuracy_ttm	float	Trailing 12-month of sign accuracy of the prediction
theil_u1_ttm	float	Trailing 12-month Theil's U1 statistic of the prediction
theil_u1_bias_ttm	float	Trailing 12-month Theil's U1 bias component of the prediction
theil_u1_variance_ttm	float	Trailing 12-month Theil's U1 variance component of the prediction
theil_u1_covariance_ttm	float	Trailing 12-month Theil's U1 covariance component of the prediction
theil_u2_ttm	float	Trailing 12-month Theil's U2 statistic of the prediction
hit_rate_1bp_ttm	float	Trailing 12-month proportion of forecasts within 1 basis point of actual of the prediction
hit_rate_5bp_ttm	float	Trailing 12-month proportion of forecasts within 5 basis points of actual of the prediction
hit_rate_10bp_ttm	float	Trailing 12-month proportion of forecasts within 10 basis points of actual of the prediction
forecast_bias_ttm	float	Trailing 12-month average forecast error (bias) of the prediction

[1] Theil U1 or Theil's inequality coefficient is a normalized measure of forecast accuracy that calculates the RMSE of the forecast errors and scales it by the sum of the RMSE values of the actual and predicted series, ranging from 0 (perfect forecast) to 1 (as poor as a random or naïve prediction).
[2] Theil U1 Bias Proportion: Measures systematic error by evaluating how much the average forecast deviates from the actual average. A lower UMU^MUM is better, as it indicates minimal bias. Values range from 0 to 1, with high values (above 0.1 or 0.2) suggesting a significant systematic bias.
[3] Theil U1 Variance Proportion: Reflects the model's ability to replicate the variability of the actual series. A lower USU^SUS is better, as a high USU^SUS suggests the forecast fluctuates too much or too little compared to the actual data. It ranges from 0 to 1.
[4] Theil U1 Covariance Proportion: Measures the remaining forecast error after accounting for bias and variance. It represents how well the forecast follows the actual pattern after adjusting for systematic differences. A higher covariance is desirable because it means most of the forecast error is due to imperfect correlation rather than systematic bias or variance issues. Since bias + variance + covariance = 1, the ideal scenario is bias and variance equal 0 and covariance =1, indicating that the forecast closely matches actual values aside from unavoidable random error.
[5] Theil U2: a normalized measure of forecast accuracy that compares the RMSE of the forecasted values to the RMSE of a naïve prediction, where the naïve prediction is simply the last observed actual value. It ranges from 0 to > 1, with U2 = 1 indicating that the forecast performs as well as the naïve approach, U2 < 1 meaning the forecast is better than the naïve prediction, and U2 > 1 suggesting the forecast is worse than using the last observed value.

A Sample data file can be downloaded here.

Sample Data Snapshot



	date	asof_date	timestamp	identifier	frequency	actual	predicted	difference	ci_lb_95	ci_ub_95
	Missing: 0% Distinct: 1%	Missing: 0 (0%) Distinct: 1 (1%)	Missing: 0 (0%) Distinct: 88 (100%)	Missing: 0 (0%) Distinct: 1 (1%)	Missing: 0% Distinct: 1%	Missing: 1 (1%) Distinct: 87 (99%)	Missing: 0 (0%) Distinct: 88 (100%)	Missing: 1 (1%) Distinct: 87 (99%)	Missing: 1 (1%) Distinct: 87 (99%)	Missing: 1 (1%) Distinct: 87 (99%)
	2025-03-10 100%	2025-03-10 09:4... 100%	Min: 2017-11-01 00:... Max: 2025-02-01 0...	cpiaucsl_all_adjusted_TD3_B... 100%	m 100%					
0	2025-03-10	2025-03-10 09:42:00.966	2017-11-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002668007428251684	0.003595210837719 09	-0.0009272034094674059	Missing value	Missing value
1	2025-03-10	2025-03-10 09:42:00.966	2017-12-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002106889244755 1058	0.000692558703852752	0.001414330540923538	-0.002552582152893067	0.003937699560514811
2	2025-03-10	2025-03-10 09:42:00.966	2018-01-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.00425334436351 1546	0.002548435001160022 5	0.001704909362351524	-0.0002799900747642273	0.005376860077084272
3	2025-03-10	2025-03-10 09:42:00.966	2018-02-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002692287600690224	0.002528092770364658 4	0.000164194830244364 03	0.000152906335448125 84	0.004903279205281191
4	2025-03-10	2025-03-10 09:42:00.966	2018-03-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000192362410782021	0.000733150085709695 5	-0.000540787674926746	-0.001549807747518058 1	0.003016107918937449
5	2025-03-10	2025-03-10 09:42:00.966	2018-04-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002604406656061986	0.001824039129715856 3	0.000780367526346129 8	-0.000245017981670856 95	0.003893096241102569 7
6	2025-03-10	2025-03-10 09:42:00.966	2018-05-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002257949781598212	0.001757241121974861 3	0.000500708659233506	-0.000132214042602418 2	0.003646696286552141
7	2025-03-10	2025-03-10 09:42:00.966	2018-06-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000901145172094830 5	0.001720571200284837	-0.000819426028190006 6	-0.000235070687527419	0.003676213088322416
8	2025-03-10	2025-03-10 09:42:00.966	2018-07-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000780820498928358 5	0.000915982059715794 8	-0.000135161560784363	-0.000933798625578755 1	0.002765762745010345
9	2025-03-10	2025-03-10 09:42:00.966	2018-08-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.001787320770339384 5	0.001749657852920917 9	3.766291741846665 4e-05	1.253586435643423 4e-06	0.003498062119406192
10	2025-03-10	2025-03-10 09:42:00.966	2018-09-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002062281702117419	0.001500276281033806	0.000562005421083612 8	-0.000170819909128823 88	0.003171372471196436
11	2025-03-10	2025-03-10 09:42:00.966	2018-10-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002339580144498754	0.002423591397939271	-8.401125344051699 e-05	0.000819146339836780 4	0.004028036456041762
12	2025-03-10	2025-03-10 09:42:00.966	2018-11-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	-0.000704191919991595	-0.000323238138861369 7	-0.000380953781129789 77	-0.001893894744124741	0.001247418466402001 6
13	2025-03-10	2025-03-10 09:42:00.966	2018-12-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000684893544581344 2	-0.001345330370410753 8	0.002030223914992098	-0.003140178074615979 6	0.000449517333794472 3
14	2025-03-10	2025-03-10 09:42:00.966	2019-01-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	-0.000814979803534399 1	0.000203304319206724 33	-0.001018284122741123 4	-0.001651852261097430 7	0.002058460899510879
15	2025-03-10	2025-03-10 09:42:00.966	2019-02-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.003001255142321968	0.002964731859003862	3.652328331810606 6e-05	0.001170245590954827	0.004759218118912241
16	2025-03-10	2025-03-10 09:42:00.966	2019-03-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.003781792917230797 4	0.00309667573050 2	0.000685117186728797 2	0.001344420522775114	0.004848930938228886 5
17	2025-03-10	2025-03-10 09:42:00.966	2019-04-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.003759679404743643 3	0.003844724915977156	-8.504550785407234 e-05	0.002138334296497333	0.005551115528698098
18	2025-03-10	2025-03-10 09:42:00.966	2019-05-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000246833285664438 4	0.000995809092198996 8	-0.000748975806534558 4	-0.000718564893141332 5	0.002710183077539326
19	2025-03-10	2025-03-10 09:42:00.966	2019-06-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	-0.000325112810228067 6	-7.595758470484231 e-05	-0.000249155225523225 3	-0.001754552504920792	0.001602637335532394 7
20	2025-03-10	2025-03-10 09:42:00.966	2019-07-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002307876166182762	0.001676849443869488	0.000631026722315827 4	2.767750564749743 7e-05	0.003326021382086 4
21	2025-03-10	2025-03-10 09:42:00.966	2019-08-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000914770017435451 2	0.000981747186242597 8	-6.697716880714661 e-05	-0.000630708773105909 6	0.002594203145591105
22	2025-03-10	2025-03-10 09:42:00.966	2019-09-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.001538846099767171	0.001568405560322271 6	-2.955946055509446 e-05	-8.854825636183 1e-06	0.003145665946280726 3
23	2025-03-10	2025-03-10 09:42:00.966	2019-10-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002827282299262767 8	0.002149538397143601 3	0.000677743902119166 4	0.000592592113438892 3	0.003706484686084831 04
24	2025-03-10	2025-03-10 09:42:00.966	2019-11-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.00281542260504386	0.001365763933449004 2	0.001449658671594856	-0.000238520210791884 26	0.002970048077689892 6
25	2025-03-10	2025-03-10 09:42:00.966	2019-12-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.002912218521089249 3	0.002226478683233414	0.000685739837855835 4	0.000644600226537644 7	0.003808357139929183
26	2025-03-10	2025-03-10 09:42:00.966	2020-01-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.001921664153423874 3	0.000481690950535211 26	0.001439973202888631	-0.001134016075010231 6	0.002097397976080654
27	2025-03-10	2025-03-10 09:42:00.966	2020-02-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	0.000474670721306580 4	0.000922451036683089 1	-0.000447780315376508 7	-0.000686163024593412 5	0.002531065097959591
28	2025-03-10	2025-03-10 09:42:00.966	2020-03-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	-0.004528447444551498	-0.001975268957394317 5	-0.002553178487157 18	-0.003857605597718461	-9.293231707017393e-05
29	2025-03-10	2025-03-10 09:42:00.966	2020-04-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	-0.007920147553434065	-0.005673244826703061	-0.002246902726731003 8	-0.007713928070873015	-0.003632561582533090 6
30	2025-03-10	2025-03-10 09:42:00.966	2020-05-01 00:00:00	cpiaucsl_all_adjusted_TD3_BOM_NXT	m	-0.000898325209348738 2	-0.002149755988114786 3	0.001251430778766048 2	-0.004197920046213359	-0.000101591930016213 61

Errata and Missing Dates

None

How is this dataset unique?

Historically, institutional investors have relied primarily on consensus economic estimates from brokers to anticipate upcoming macroeconomic releases. However, accurate and timely market intelligence regarding these macroeconomic indicators can significantly influence investment outcomes. LSEG Research employs bottom-up, fundamental modeling techniques for each macroeconomic release, combining decades of industry experience, novel real-time business activity and survey data, machine learning algorithms, and advanced statistical methods to accurately forecast economic indicators weeks in advance.

The LSEG Macro Prediction™ provides one-period-ahead forecasts of critical macroeconomic indicators well before consensus estimates are available, offering users a transformative informational advantage ahead of official release dates. Unlike traditional forecasts based on surveys or lagging indicators, LSEG's predictive dataset incorporates real-time data streams, forward-looking survey responses, and meticulously curated point-in-time economic data to ensure timely, reliable predictions.

By accessing forecasts days to weeks before official publication, users can proactively anticipate macroeconomic shifts and strategically position their portfolios. This advanced insight equips portfolio managers and traders to exploit temporary market overreactions or underreactions proactively and to defensively mitigate potential risks before market conditions deteriorate.

Potential uses for the LSEG Macro Prediction™ dataset include:

- Positioning portfolios ahead of macroeconomic releases to capture market-moving events before prices adjust
- Enhancing trading strategies through the integration of macro forecasts into directional or relative-value trades
- Arbitrage market mispricing when consensus estimates are not aligned with actual data in advance of macroeconomic data release
- Managing risk exposure by adjusting portfolio allocations in anticipation of changes in inflation, growth, or consumer spending
- Optimizing asset allocation decisions by leveraging macroeconomic trends across equities, fixed income, commodities, and foreign exchange markets
- Improving market timing by integrating predictive insights into entry and exit strategies
- Supporting fundamental research and strategy development with forward-looking macroeconomic modeling
- Anticipate surprises and disappointments vs consensus and pre-position to be a liquidity provider for those transitory market shocks
- Anticipate economic release surprises that will be catalysts to technical breakouts and turning points