Macroeconomic nowcasting – a user's perspective

Workshop on Nowcasting
EU Independent Fiscal Institutions

23rd November, 2018
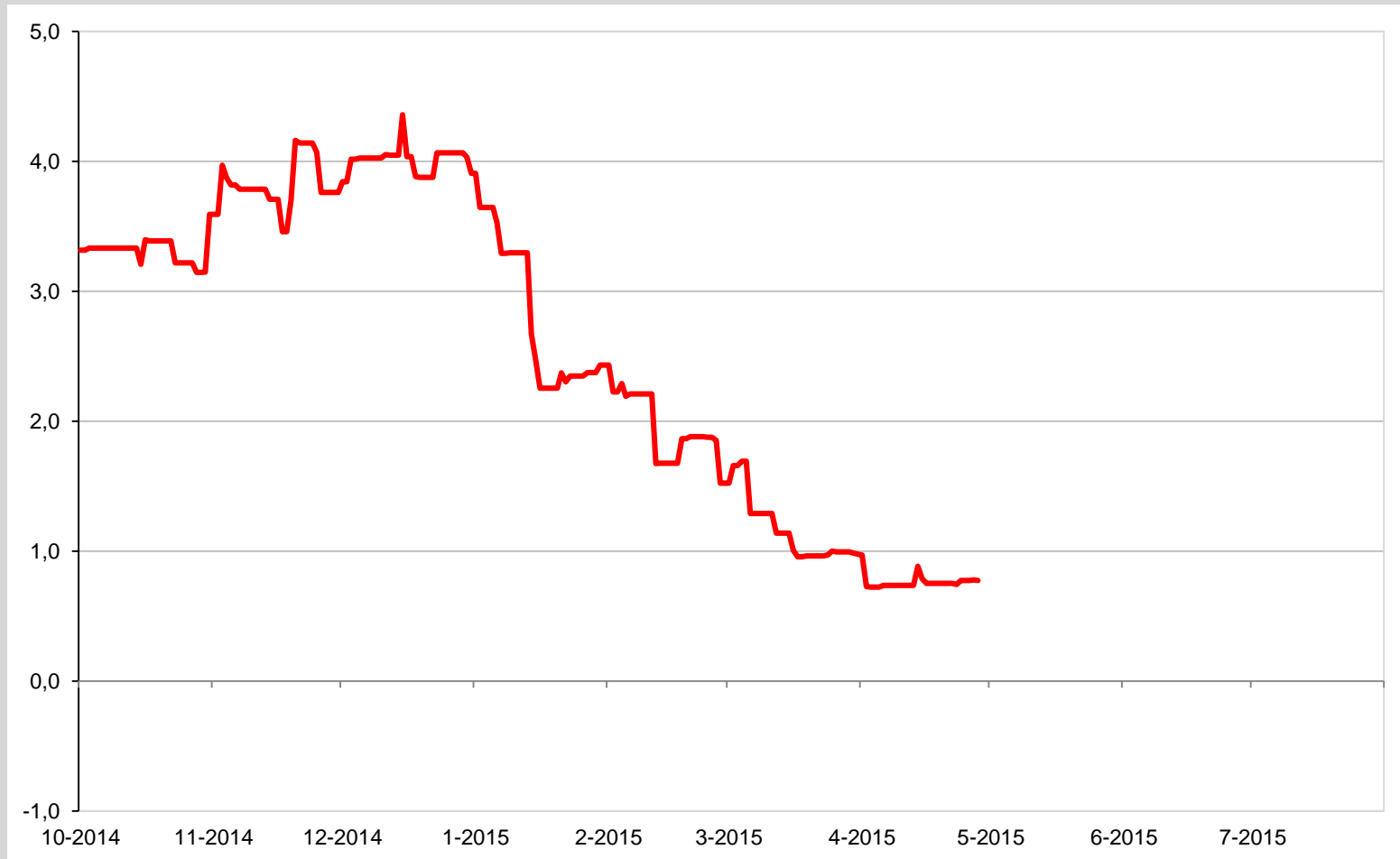*Bratislava*

NOW-CASTING.COM
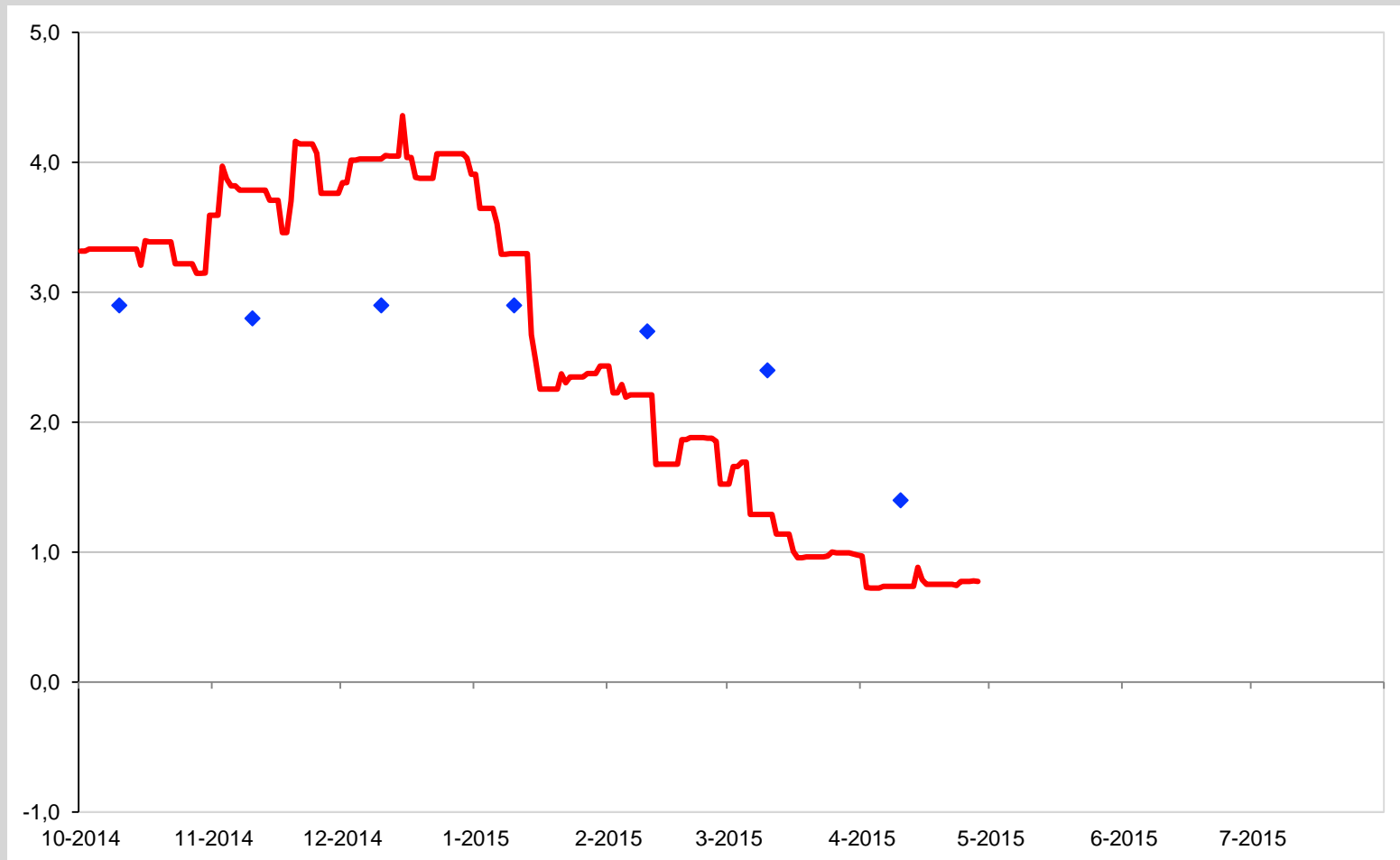*economics in real time*

A fixed event forecast …

US GDP growth, Q1 2015 – % quarter-on-quarter, annualised

nowcasting model

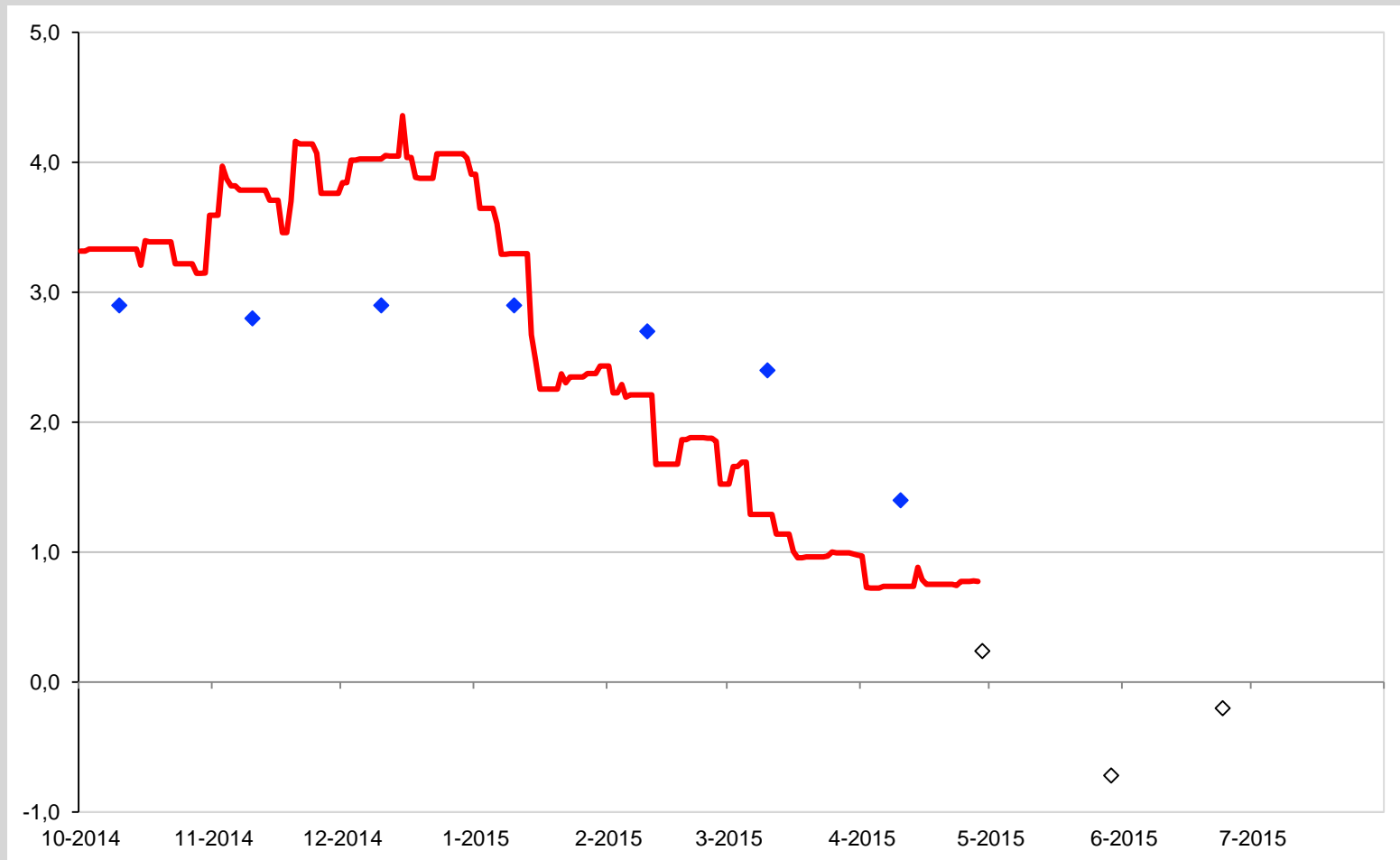# .. which is a useful benchmark for judgmental forecasts

US GDP growth, Q1 2015 – % quarter-on-quarter, annualised

nowcasting model ◆ Blue Chips consensus

.. which is a useful benchmark for judgmental forecasts

NOW-CASTING.COM
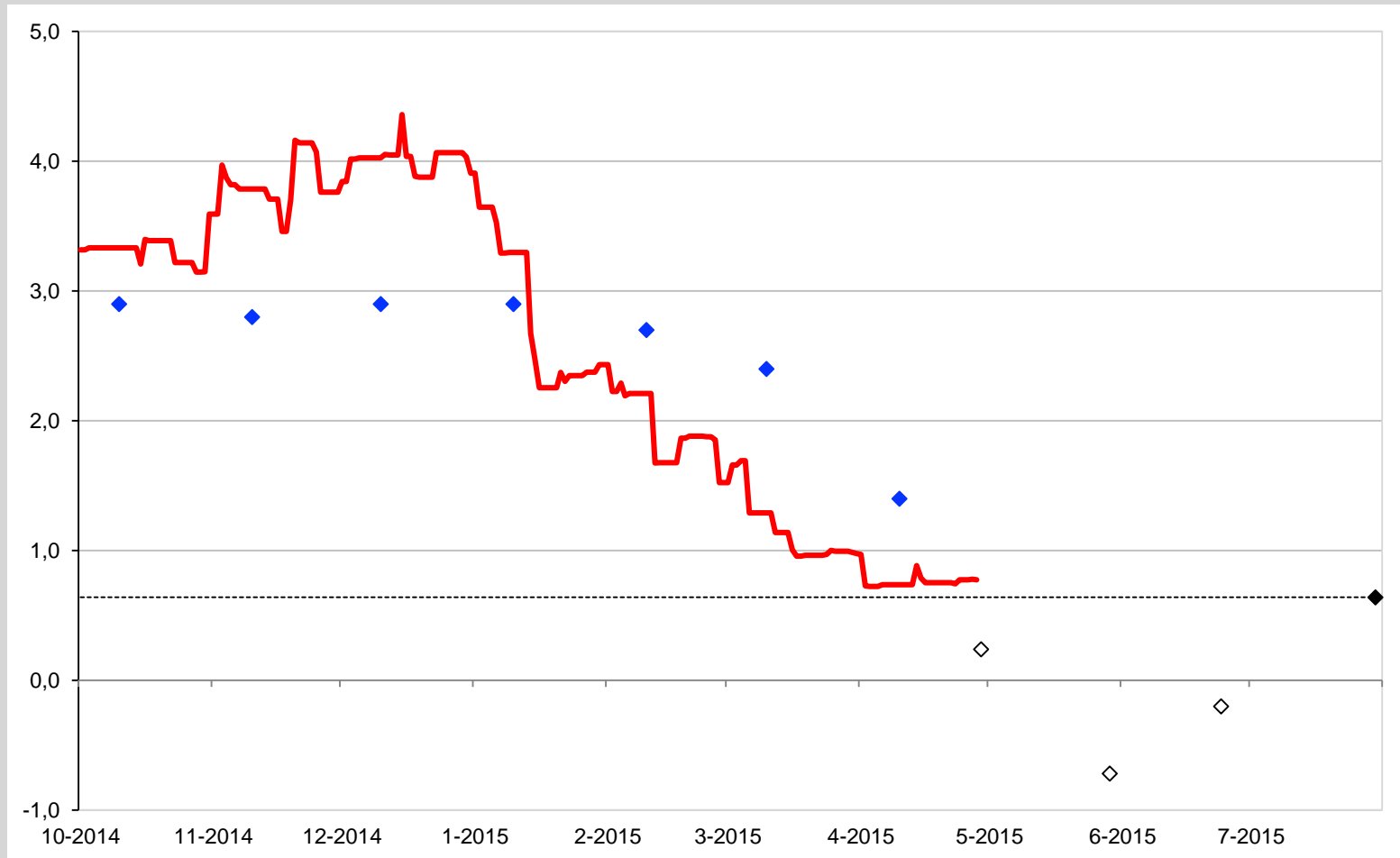economics in real time

US GDP growth, Q1 2015 – % quarter-on-quarter, annualised

nowcasting model   ◆ Blue Chips consensus   ◇ Out-turn

And an accurate forecast in its own right

US GDP growth, Q1 2015 – % quarter-on-quarter, annualised

— nowcasting model　◆ Blue Chips consensus　◇ Out-turn　◆ Out-turn – latest release

The model can also be used to 'read' the newsflow – analysing the informational content of each data release

Tuesday, October 30, 2018   ✕

Date	Country	Release	Actual	Unit	Period	Weight (basis points)	News	Impact (basis points)
30 October 10:27	Euro-Area	Business Climate Indicator	1.01	Index	Oct-18	-13.32	0.03	-0.42
30 October 10:27	Italy	ISTAT Business Confidence Indicator	102.6	Index	Oct-18	0.62	0.39	0.24
30 October 10:27	Italy	ISTAT Consumer Confidence Indicator	116.6	Index	Oct-18	-0.13	0.72	-0.09
30 October 10:27	Euro-Area	Gross Domestic Product	0.16	QoQ %	Q3'18	18.93	-0.25	-4.74
30 October 09:37	Germany	Job Vacancies	-0.62	MoM %	Oct-18	0.48	-1.08	-0.52
30 October 09:07	Italy	Gross Domestic Product	0.02	QoQ %	Q3'18	1.84	-0.28	-0.51
30 October 07:56	France	Household Consumption: Manufactured Goods	-1.71	MoM %	Sep-18	0.94	-1.35	-1.27
30 October 06:42	France	Gross Domestic Product	0.41	QoQ %	Q3'18	4.35	-0.05	-0.24
		Revisions (net)						0.18
		Total						-7.37
29 October		GDP now-cast	0.30	QoQ %	Q4'18			
30 October		GDP now-cast	0.23	QoQ %	Q4'18			

⊞ CSV

The model predicts all series – not just GDP

Euro-Area: Forecasts: Other Series

📅 Calendar   📊 Point Forecasts ▾   📈 GDP Now-Cast Evolution ▾   📉 NCI™

Date	Time (GMT)	Country	Release	Period	Unit	Previous	Forecast
22 November	06:45	France	Business Climate Indicator: Industry	Nov-18	Index	+104.1	+102.9
22 November	15:00	Euro-Area	Consumer Confidence Indicator	Nov-18	Index	-2.7	-2.8
23 November	08:00	France	PMI: Manufacturing	Nov-18	Index	+51.17	+50.66
23 November	08:00	France	PMI: Services	Nov-18	Index	+55.32	+54.67
23 November	08:30	Germany	PMI: Manufacturing	Nov-18	Index	+52.16	+51.44
23 November	08:30	Germany	PMI: Services	Nov-18	Index	+54.68	+53.99
23 November	09:00	Euro-Area	PMI: Manufacturing	Nov-18	Index	+51.97	+51.33
23 November	09:00	Euro-Area	PMI: Services	Nov-18	Index	+53.73	+53.1
26 November	09:00	Germany	Ifo Business Climate Index	Nov-18	Index	+102.8	+102.08
27 November	09:00	Italy	ISTAT Business Confidence Indicator	Nov-18	Index	+102.6	+101.76
27 November	09:00	Italy	ISTAT Consumer Confidence Indicator	Nov-18	Index	+116.6	+116.65
27 November	16:00	France	Registered Unemployed	Oct-18	Thousands	+3,436	+3,436
28 November	12:00	Germany	GfK Consumer Climate Indicator	Dec-18	Index	+10.8	+11.04
29 November	06:45	France	Household Consumption: Manufactured Goods	Oct-18	MoM %	-1.71	+0.72
29 November	06:45	France	Household Confidence Indicator	Nov-18	Index	+94.87	+94.88
29 November	09:00	Germany	Job Vacancies	Nov-18	MoM %	-0.62	-0.54

But many people want to use the model to identify turning points, and for that we have to be careful …
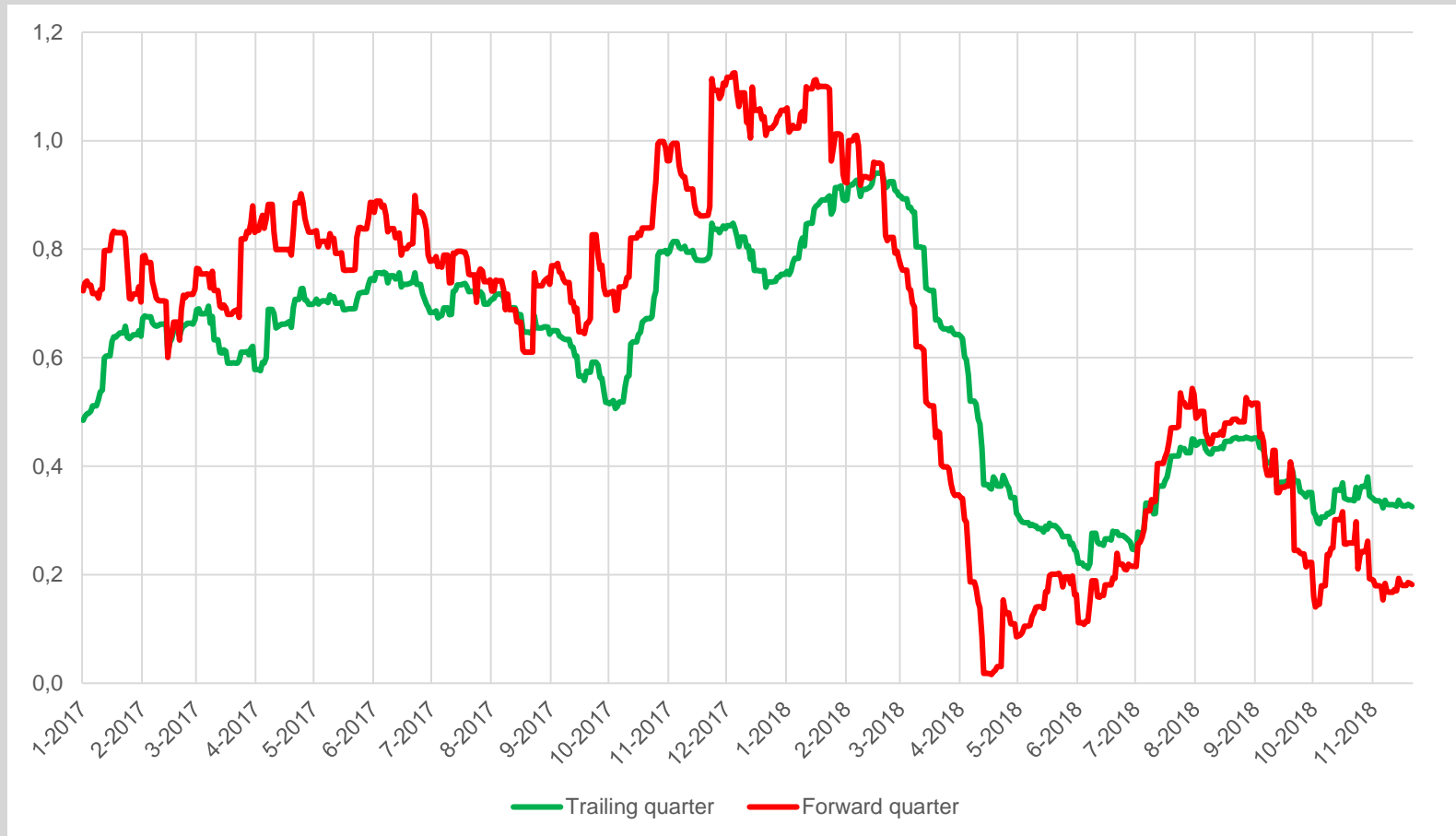
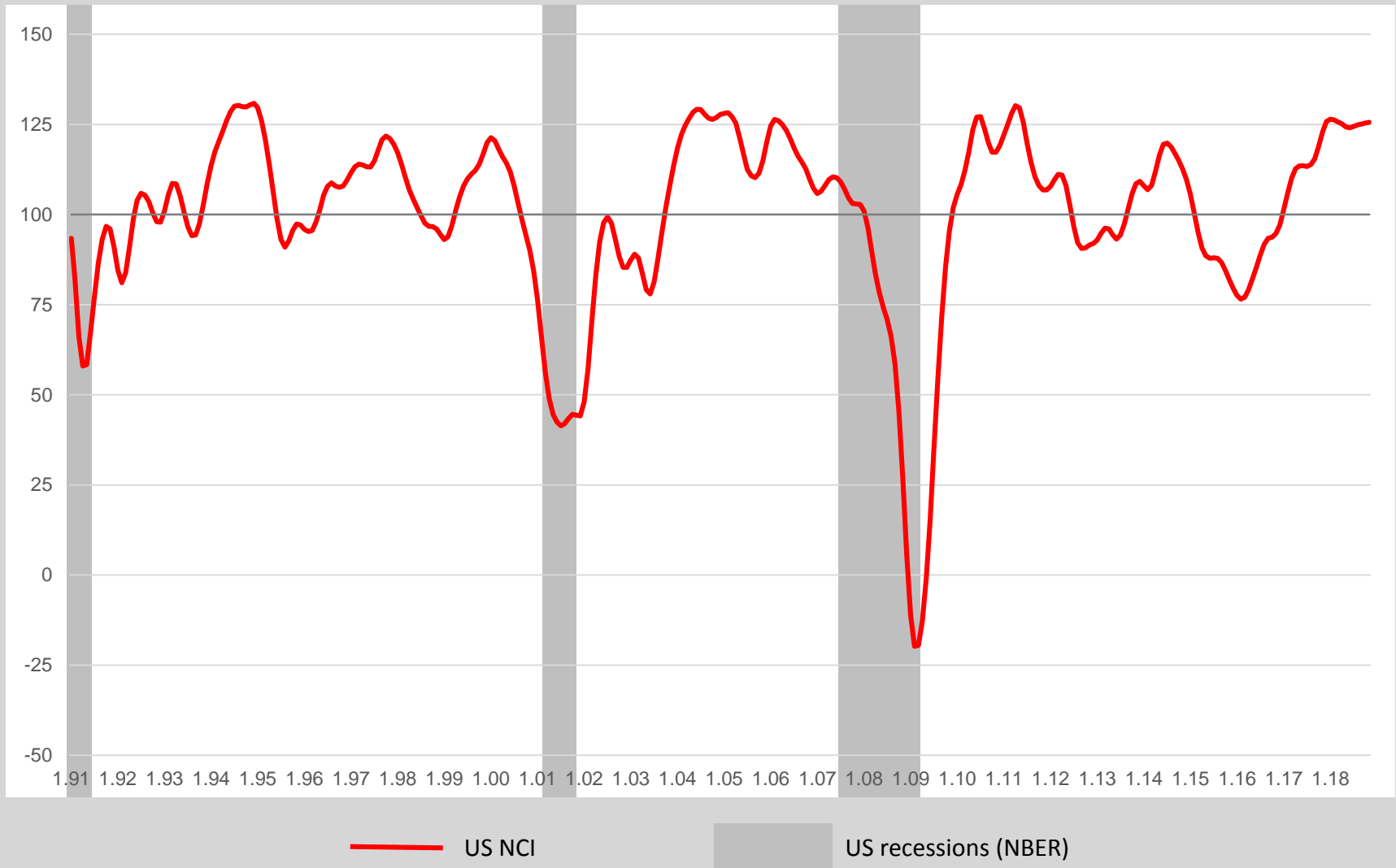*US GDP growth, Q1 2015 – % quarter-on-quarter, annualised*
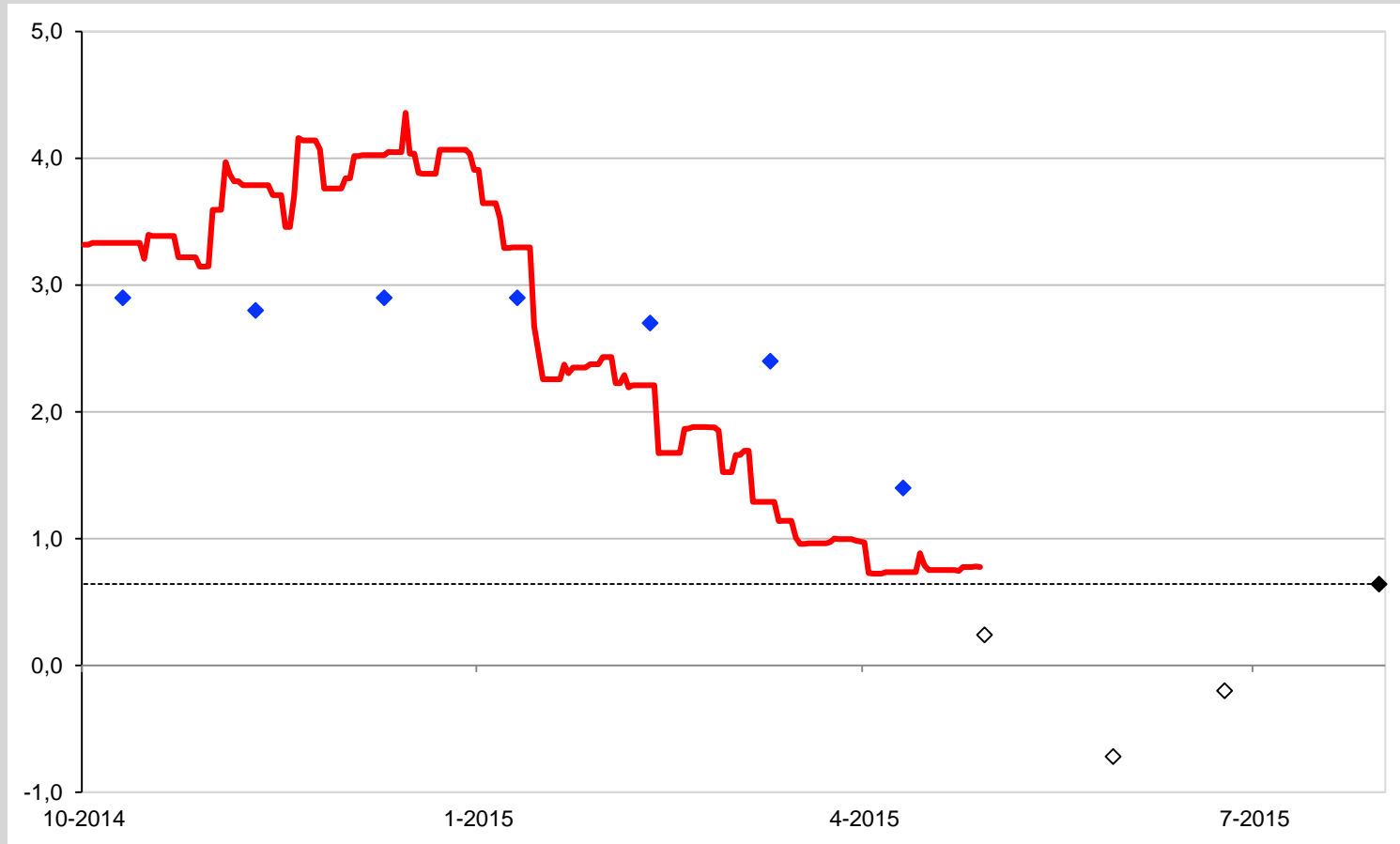
Now-Casting ◇ Out-turn ◆ Out-turn – latest release ◆ Blue Chips consensus

We can transform the fixed event forecasts into 'rolling quarters' to get a continuous track of growth

Euro Area GDP growth, % quarter-on-quarter

# The model can also be used to generate an index of economic activity

US NCI 　　 US recessions (NBER)

Or the model can be used to create a 'surprise index'

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Constructing a surprise index	Typical approach	Now-Casting approach
1 **Identify the surprise** in each data release - i.e., the difference between consensus expectation and out-turn	Use the median of the Bloomberg survey (on the day before the release) as a proxy for consensus	Use the model's prediction as a proxy for consensus
2 **Assign a weight** to each release (i.e., to each series)	Various	Use model weights
3 Cumulate or **aggregate** the index over time	Various	Aggregate over 1, 2 or 3 months

As with the NCI, we smooth the index to get a clearer signal

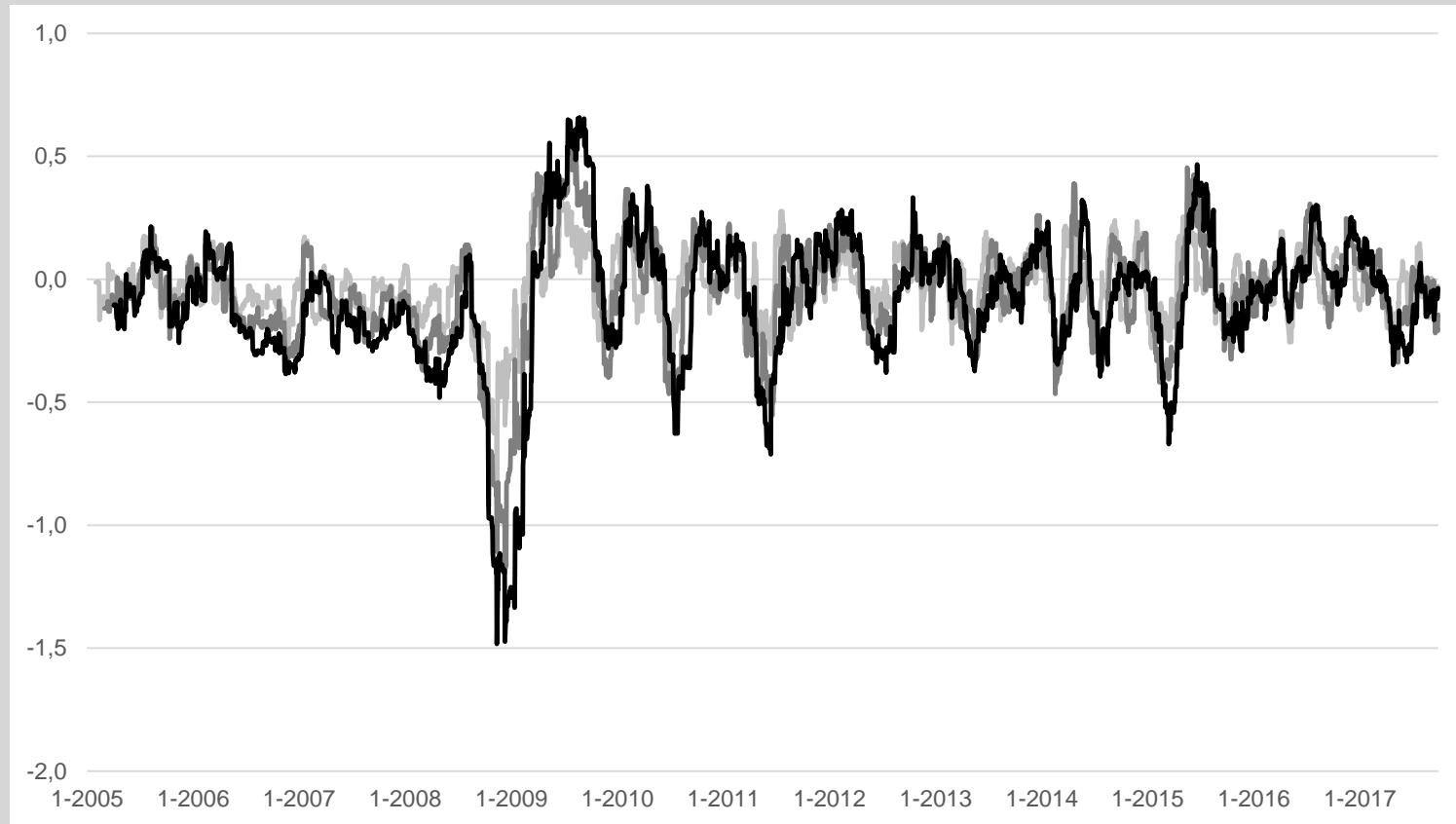*Now-Casting US surprise index - 22 day aggregation*
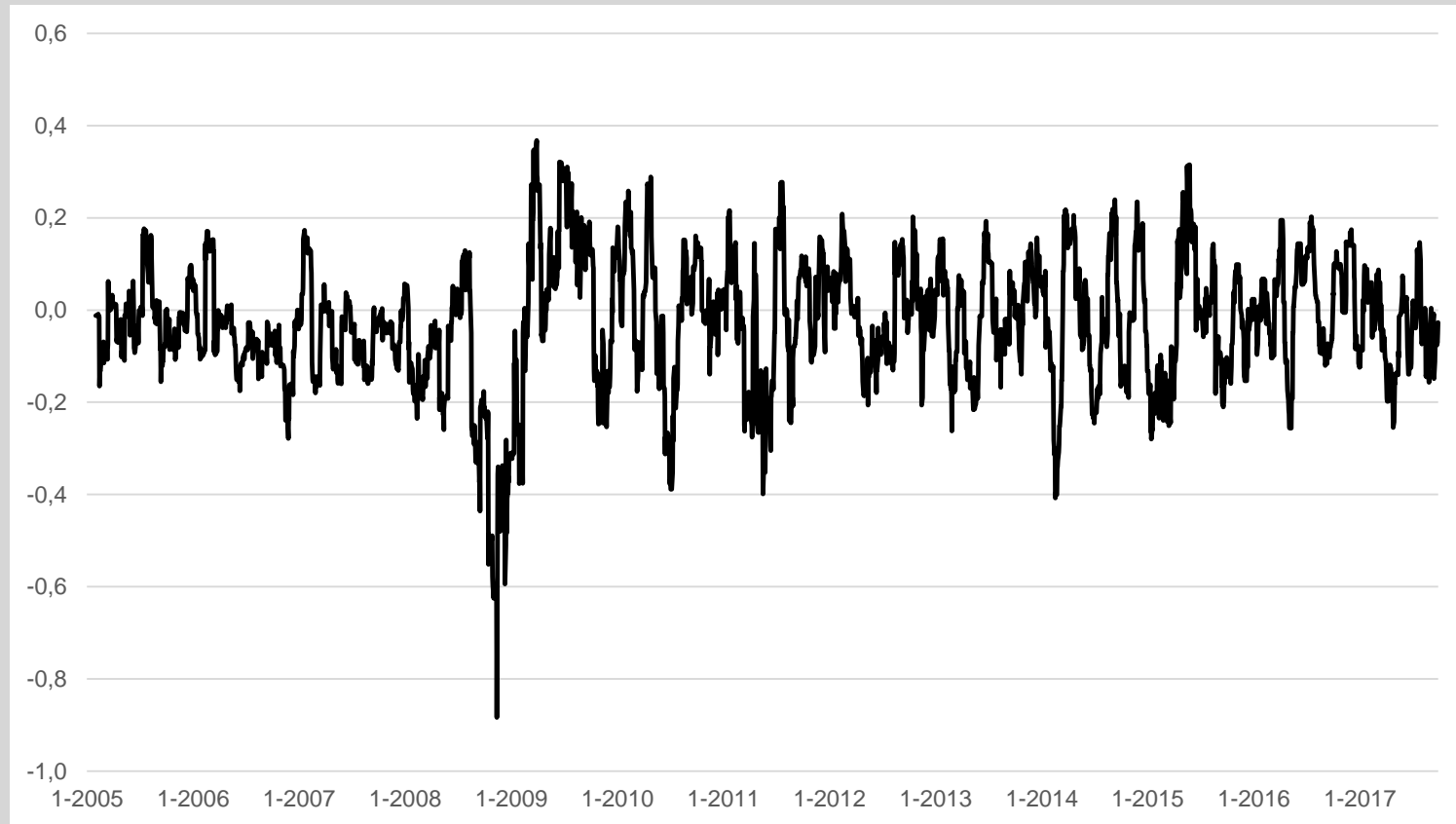
As with the NCI, we smooth the index to get a clearer signal

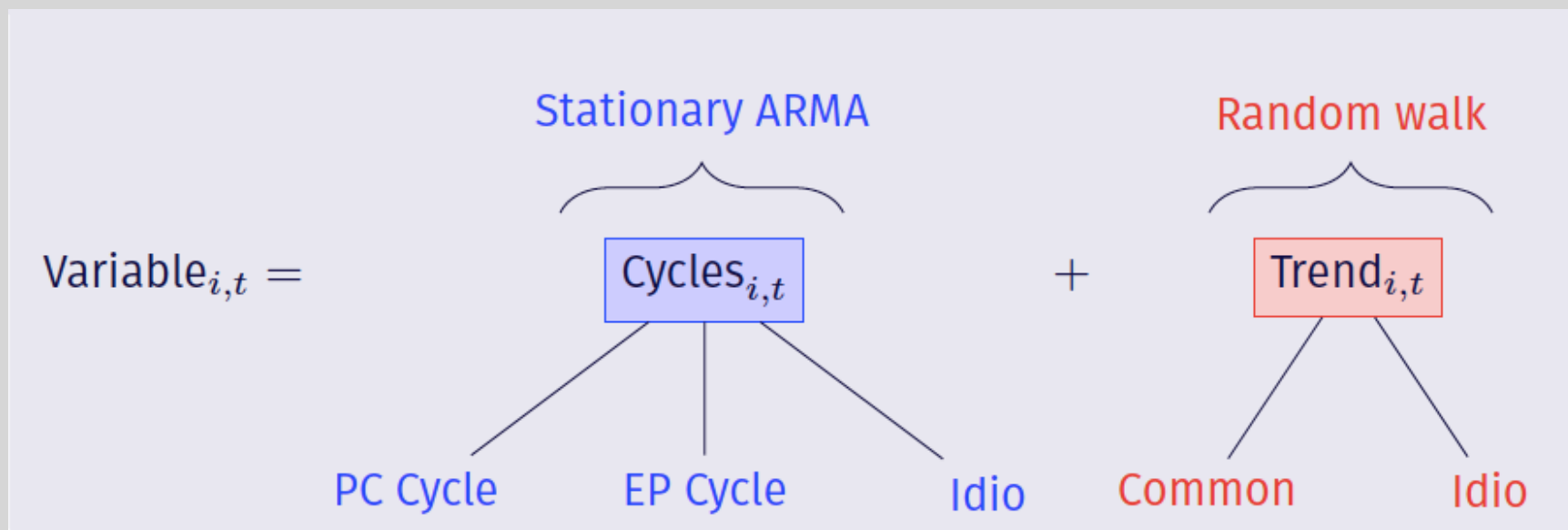*Now-Casting US surprise index - 44 day aggregation*

As with the NCI, we smooth the index to get a clearer signal

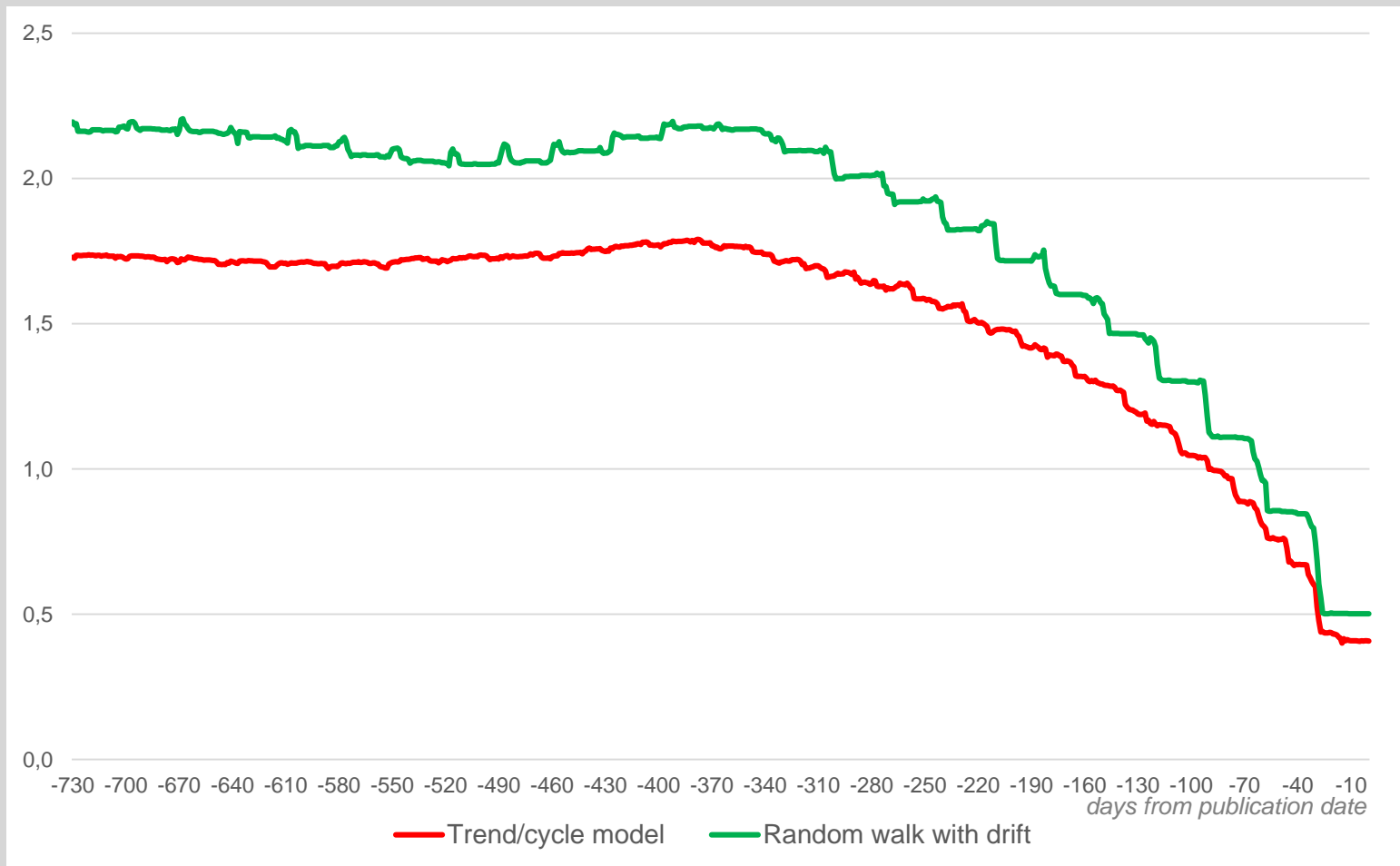*Now-Casting US surprise index - 66 day aggregation*

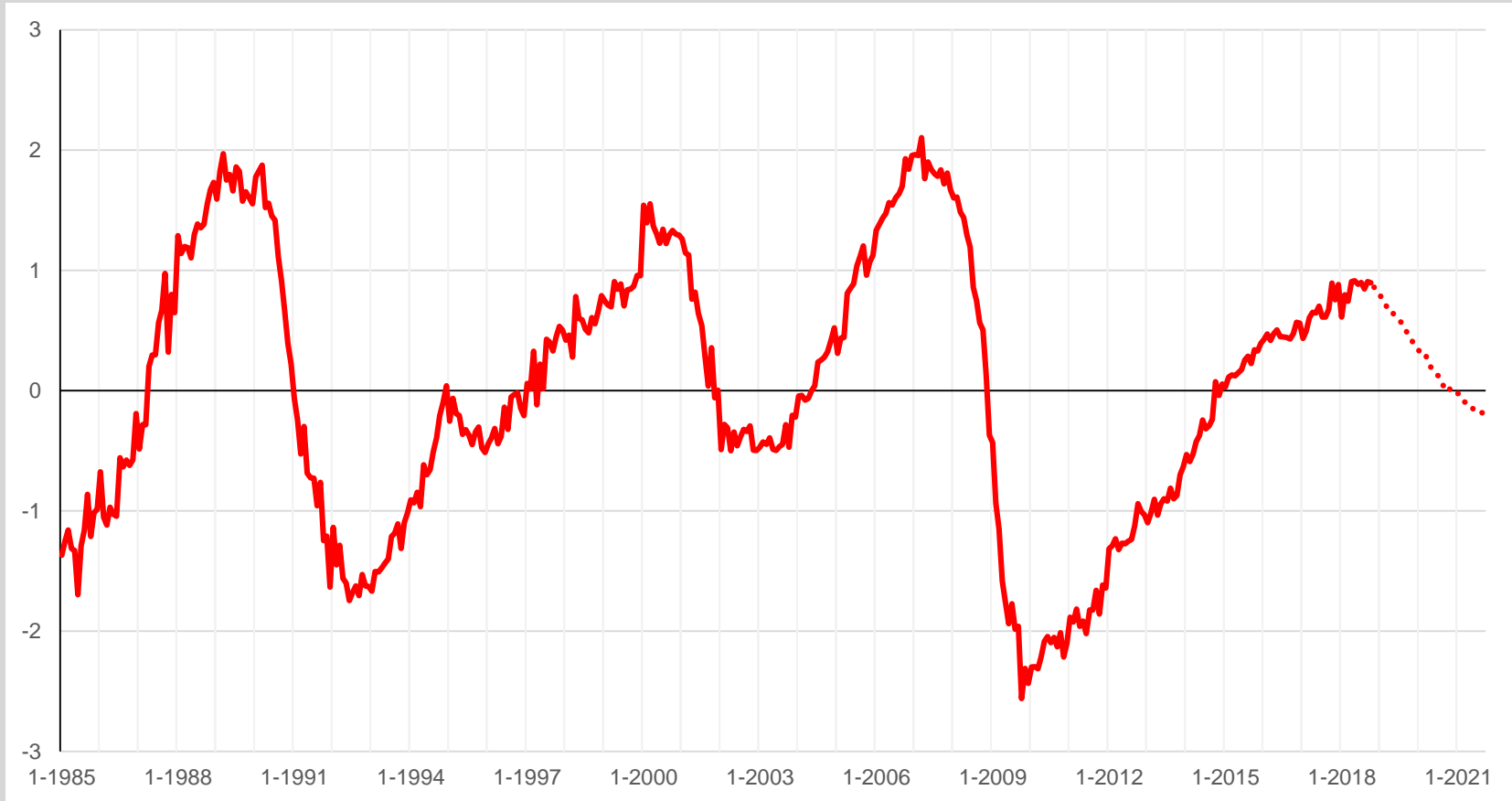# The new model decomposes the data into trends and cycles

$$\text{Variable}_{i,t} = \underbrace{\text{Cycles}_{i,t}}_{\text{Stationary ARMA}} + \underbrace{\text{Trend}_{i,t}}_{\text{Random walk}}$$

Cycles: PC Cycle, EP Cycle, Idio

Trend: Common, Idio

Forecast errors - CPI

Monthly US CPI forecast, root mean squared forecast error

The model's estimate of the monthly output gap

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US

Thank you!