International Workshop
Leading indicators for short term economic analysis in Andalusia

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Euro Growth Indicator, related practical issues

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The Euro Growth indicator

☐ Forecasting the y-o-y GDP rate of change two quarters ahead of official statistics

☐ Monitored by the OFCE, a Sciences Po's Economic Research Center

☐ For EUROFRAME, a consortium of ten European independent research institutes

☐ The indicator has been run since 2000

Why a quantitative leading indicator?

☐ An alternative method to anticipate short-term developments in aggregate activity

☐ Fits the gap between the traditional business cycle analysis and the conventional model forecasting

☐ A quantification of cyclical developments

☐ Eases the adjustment of the model to the current and near-term economic situation

Nature of the components

☐ Business surveys provide the bulk of the coincident or slightly leading components: industry, retail trade

☐ Monetary conditions

 ▪ Internal side: real short-term interest rate

 ▪ External side: the euro per dollar exchange rate

☐ The external demand is caught by the ISM survey in the US industry

Processing of the components

☐ Information content of surveys extracted by means of a principal component analysis

Normalized balance of opinion
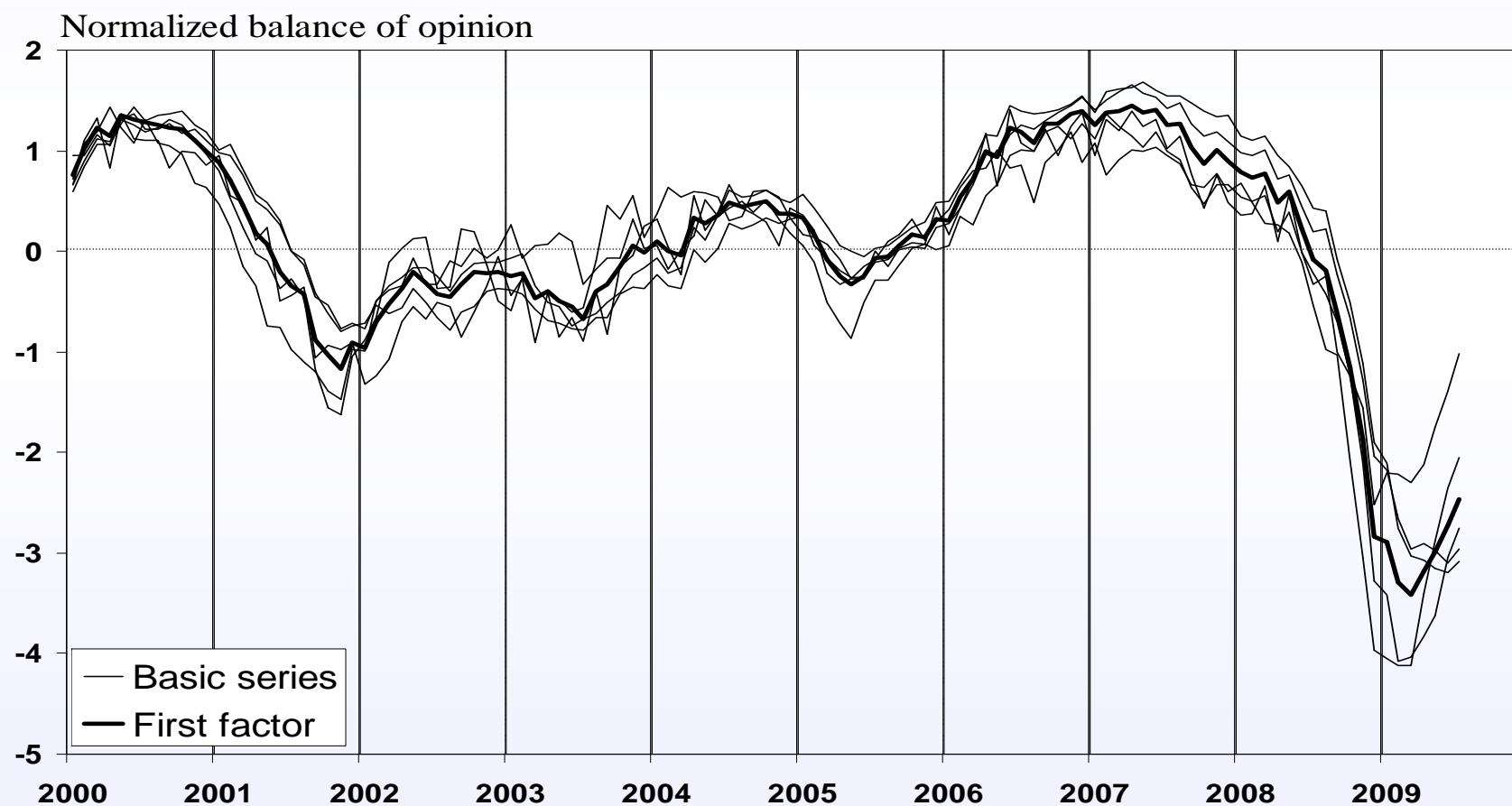
Legend:
— Basic series
— First factor

Processing of the components

☐ Monetary conditions

- Internal side: cyclical component of the real short-term interest rate (interest rate minus GDP trend growth rate)

- External side: the y-o-y growth rate of the real euro per dollar exchange rate

Coincident and leading variables included in the Euro Growth indicator

Variables	*Lead in quarter*	*Quarterly conversion*	*Transformation*
Industrial survey factor	**1**	**Average**	**none**
Retail trade survey factor	**0**	**Average**	**trend-removed**
Short-term interest rate	**2**	**End of quarter, cyclical component**	**trend-removed**
Real dollar/euro exchange rate	**2**	**Average, y-o-y growth rate**	**trend-removed**
ISM industrial survey factor	**0**	**End of quarter**	**none**

Equation for the current Euro Growth indicator

	Coefficient	t-stat	
Industrial survey factor	**7.12**	**6.6**	**Estimation sample:**
Retail trade survey factor	**5.48**	**3.6**	**92Q2 – 09Q1**
Short-term interest rate	**-0.24**	**-2.0**	
Real dollar/euro exchange rate	**0.018**	**2.0**	**Number of observations: 68**
ISM industrial survey factor	**2.79**	**4.0**	
Constant	**1.48**	**3.6**	**Rbar^2 = 0.93**
AR1	**0.88**	**9.1**	
Dummy, =1 in 93Q1, =0 elsewhere	**-0.68**	**-2.1**	**See = 0.4**
Dummy, =1 in 03Q2, =0 elsewhere	**-0.57**	**-1.9**	**DW = 1.94**

The GDP growth rate and fitted values

In %, y-o-y
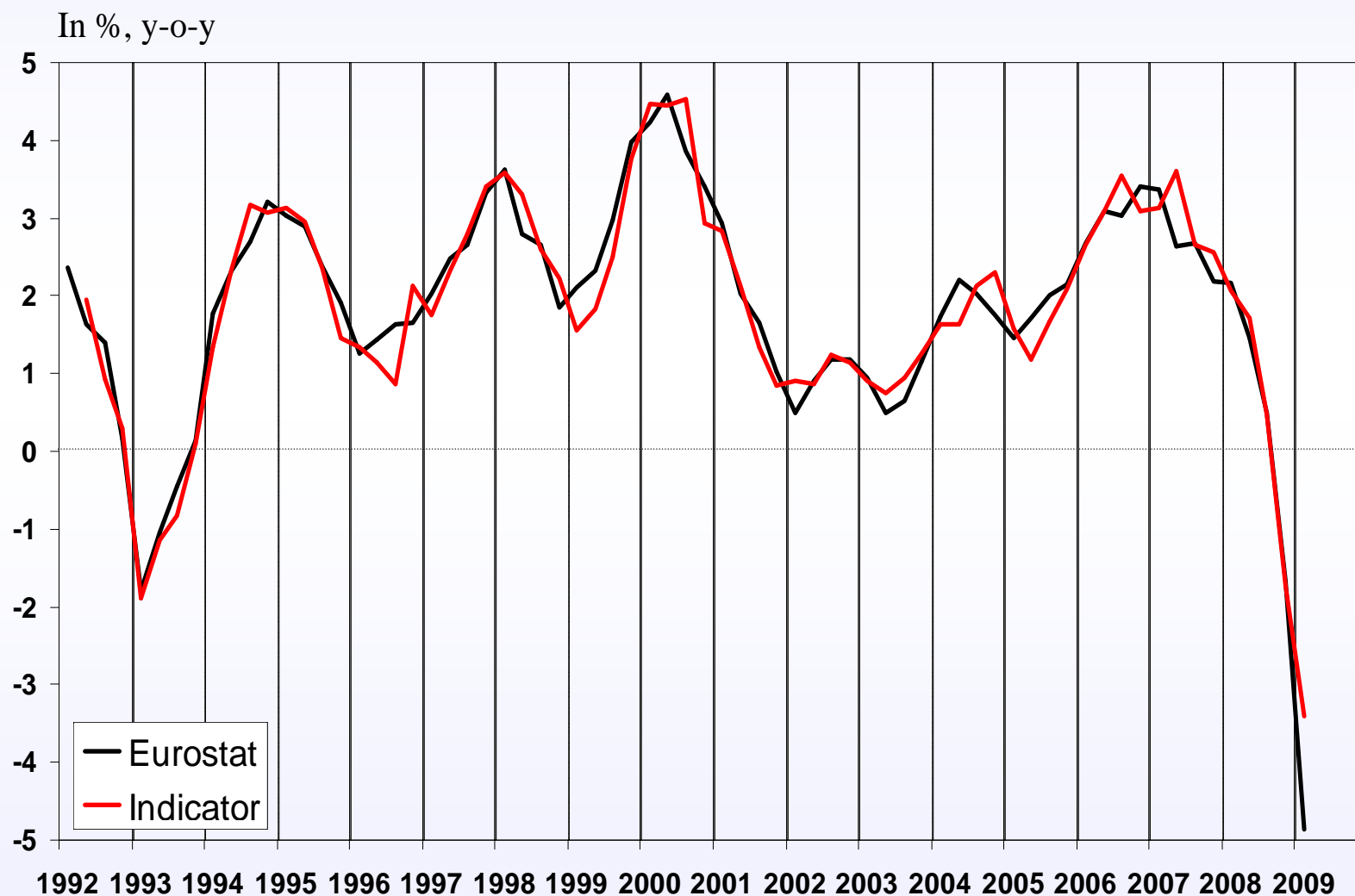
## Forecasting coincident or one-quarter-leading series

GDP release	Last known GDP	Forecast date	Forecast horizon	Last known industrial survey	Extension period	Last known retail trade and ISM surveys	Extension period
mid-November	Q3	Early Dec.	Q4, Q1	Nov.	Dec.	Nov.	Dec., Jan., Feb., Mar.
mid-February	Q4	Early Mar.	Q1, Q2	Feb.	Mar.	Feb.	Mar., Apr., May, June
mid-May	Q1	Early June	Q2, Q3	May	June	May	June, July, Aug., Sep.
mid-August	Q2	Early Sep.	Q3, Q4	Aug.	Sept.	Aug.	Sep., Oct., Nov., Dec.

Assessment of the 'real time' forecasts
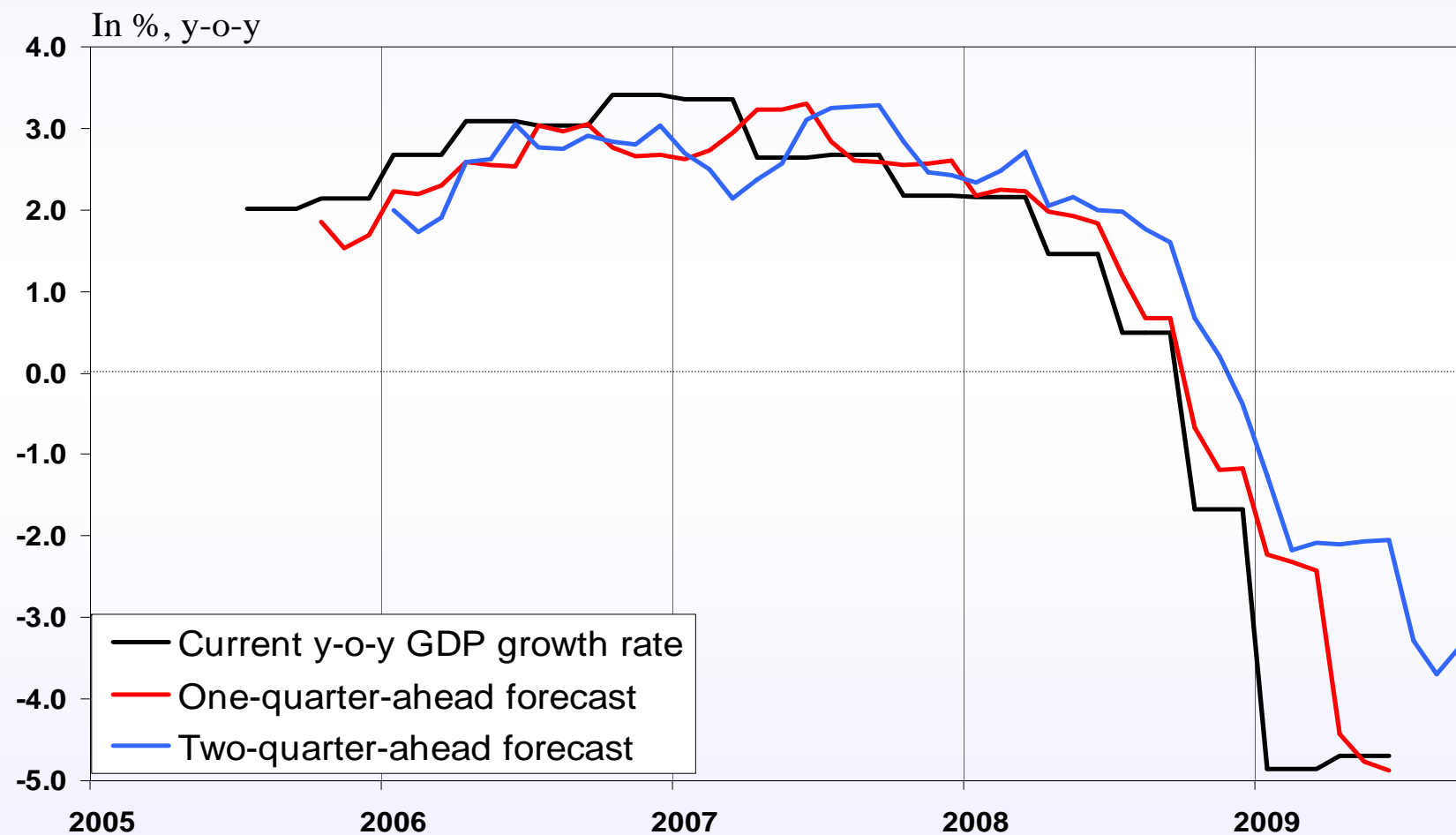
Quadratic forecast errors

Forecast date*	One-quarter-ahead	Two-quarter-ahead
Month 3, quarter Q+1	0.85	1.47
Month 1, quarter Q+2	0.79	1.27
Month 2, quarter Q+2	0.75	1.23

* Month 3, quarter Q+1: December, March, June, September
  Month 1, quarter Q+2: January, April, July, October
  Month 2, quarter Q+2: February, May, August, November