OECD FORECASTS DURING & AFTER THE FINANCIAL CRISIS: *A POST MORTEM*

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BETTER POLICIES FOR BETTER LIVES

OECD Disclaimer

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Forecaster disclaimer

OECD forecasts

- Based on Pain et al. (2014): “OECD Forecasts During and After the Crisis: A Post Mortem”.
- Goal of this research:
  - to assess the OECD’s projections for GDP growth and inflation during the global financial crisis and recovery, i.e. 2007-2012.
  - It focusses on lessons that can be learned.

- Main results:
  - The projections repeatedly over-estimated growth, failing to anticipate the extent of the slowdown and later the weak pace of the recovery (errors made by many other forecasters).
  - At the same time, inflation was stronger than expected on average.
  - Analysis of the growth errors shows that the OECD projections in the crisis years were larger in countries with more international trade openness and greater presence of foreign banks.

Plan of talk

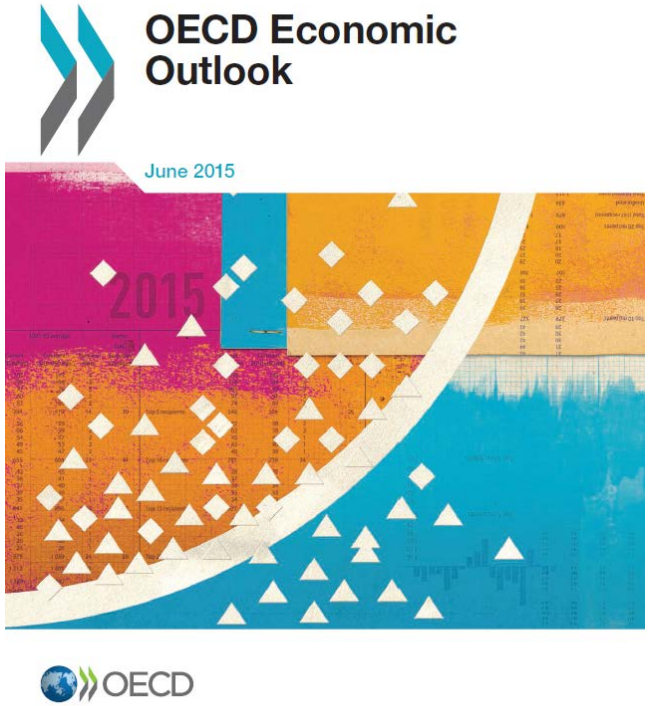
1. Forecasting at the OECD
2. Anatomy of the recent GDP growth forecast errors
3. Explaining those errors
4. Putting the forecast errors in context
5. Lessons for forecasting practises

1. Forecasting at the OECD

OECD Economic Outlook Forecasting Round

2 per annum, 7-8 weeks duration

- Scene-setting meeting (GIM)
- Desks enter forecasts
- Internal Meeting (IDM)
- Meeting with national delegations (STEP)
- Forecast finalised



The OECD forecasts are projections rather than pure forecasts

- They are conditional on a set of assumptions:
  - financial market variables, fiscal policy changes, commodity prices.
- Politically-sensitive issues can cause errors:
  - A two year projection had to assume the euro area crisis would diminish.

“Models” used in the forecast Round

- Global model to evaluate changes since previous forecast & for variant scenarios
- “Now casting” models
- “Forecast/Entry” for Desks to enter forecasts
- Global trade consistency monitored & enforced using various trade equations

Global Macro Models used in The Forecasting Process at the OECD

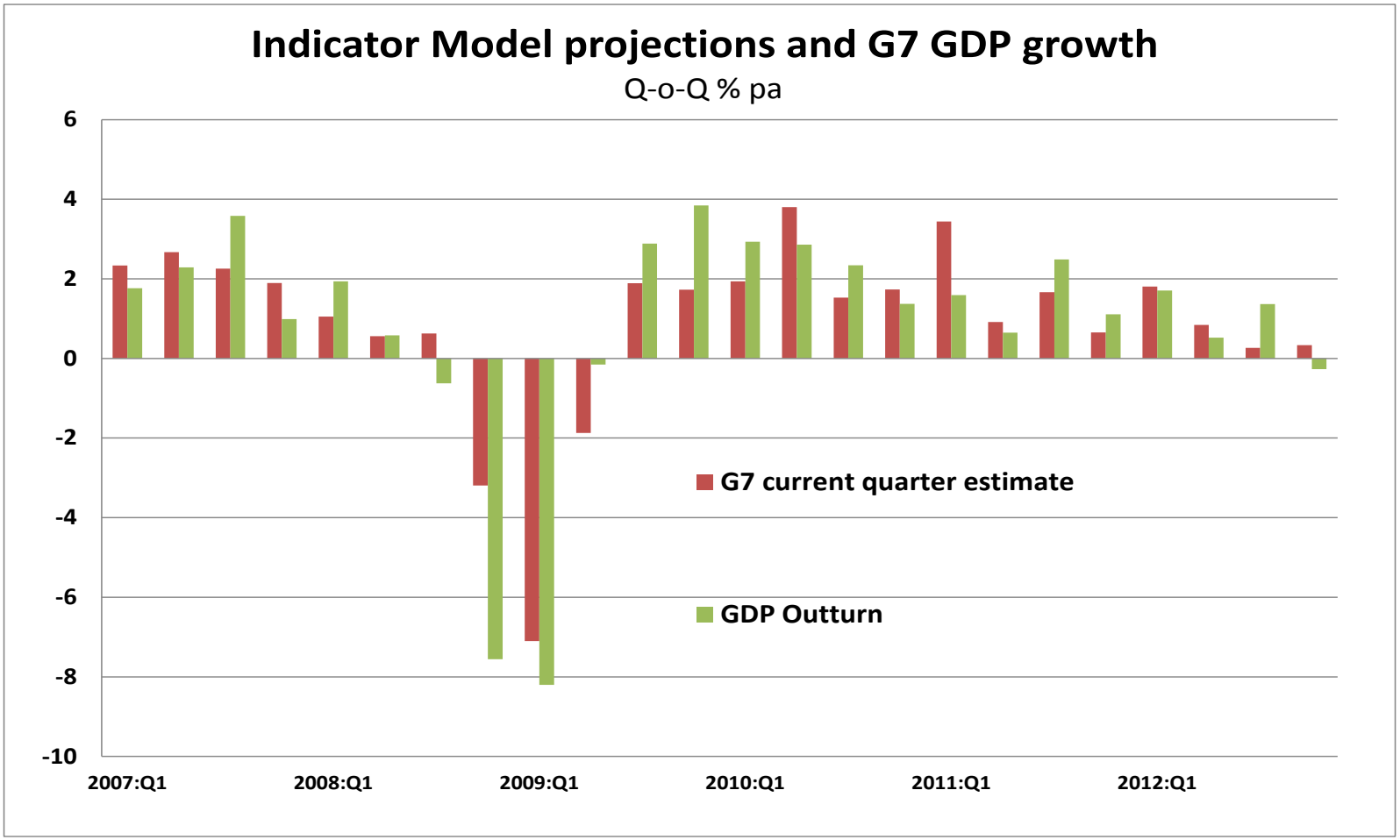
	Date from	No. countries/ regions	No. vars in large country sub-model	Frequency	Wealth ?	Forward-looking ?
INTERLINK [1], [2]	Early 1980s	30	250	S	N	N
A Small OECD Global Model [3]	2001	4	<20	Q	N	Y
The New OECD Global Model [4]	2006	9	300	Q	Y	N
NIGEM [5] *(on subscription from NIESR*)*	2010*	50	500	Q	Y	Y

“Now casting” models [6],[7]

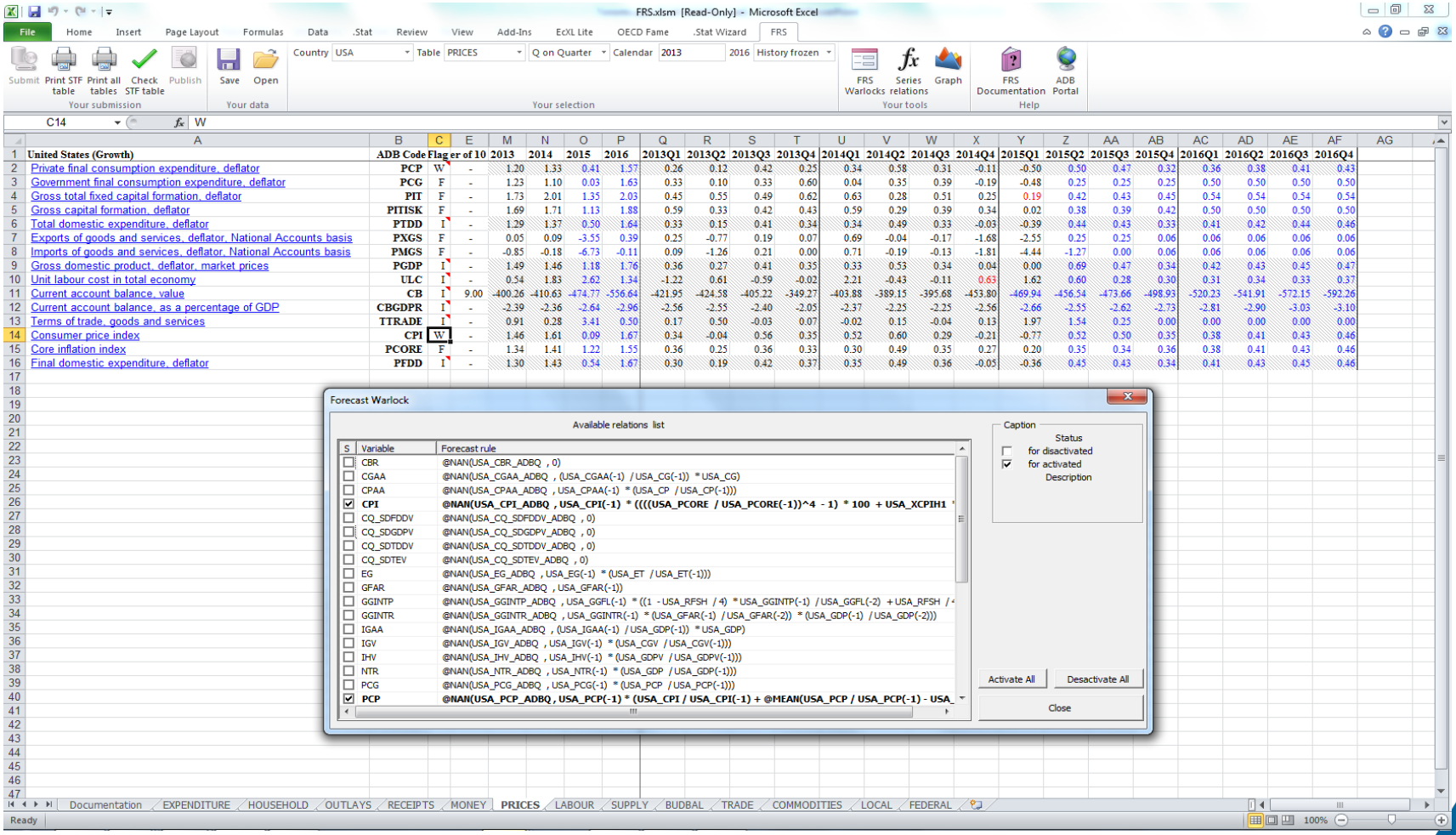
- Indicator models
- Outperform naive forecasts
- Models getting better.
- Currently testing Dynamic Factor Models and MIDAS.

Now-cast models did a good job in over Crisis [10]

Typically with 1-2 months hard data, 2-3 months Survey data



“Forecast Entry” used by Desks

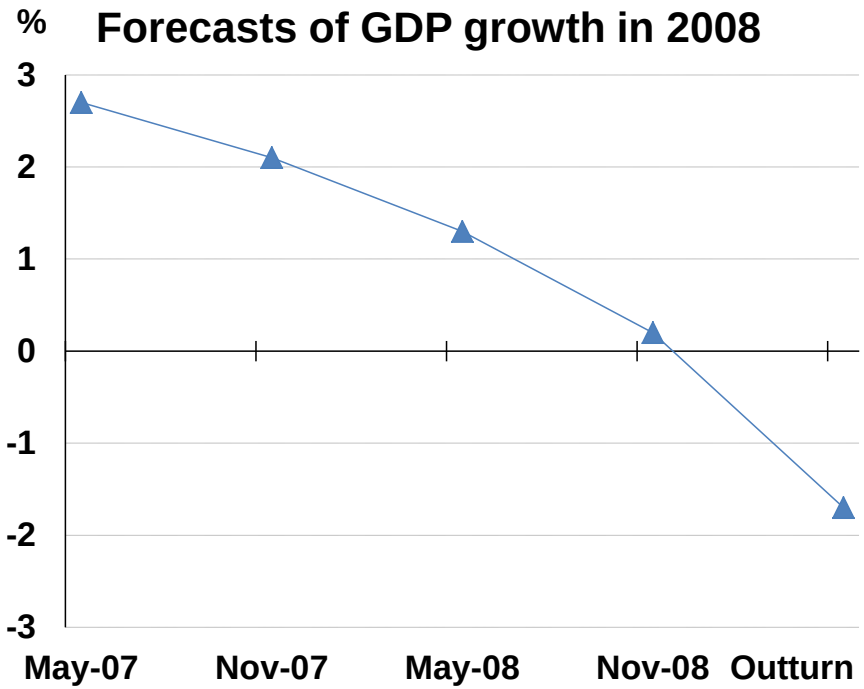


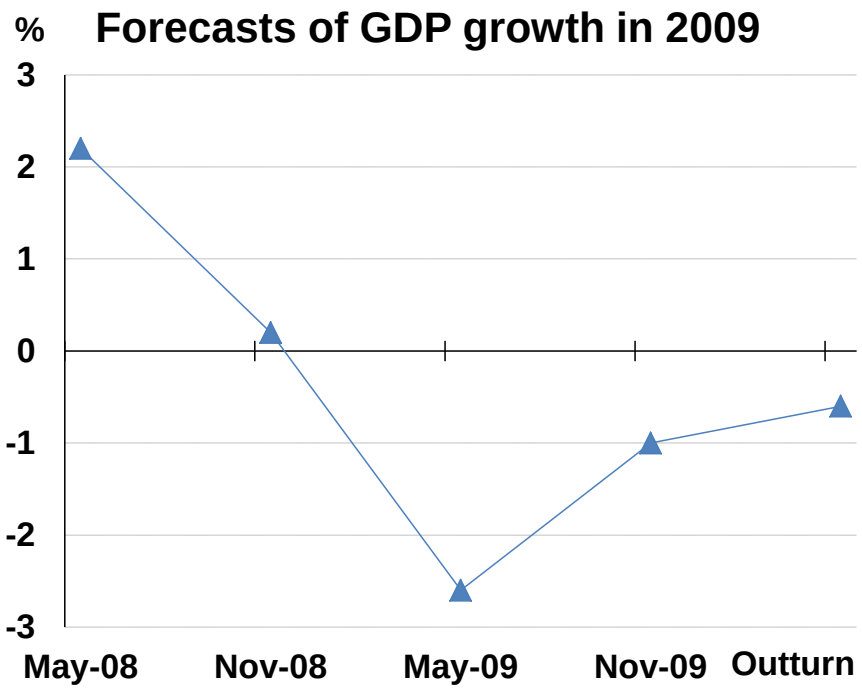
Equations used to enforce Global Trade Consistency [8]

- Unit specifically tasked to police global consistency
- Avoids (increasing) “exports to Mars” **[9]**
- Important if global imbalances an issue

2. Anatomy of the recent GDP growth forecast errors

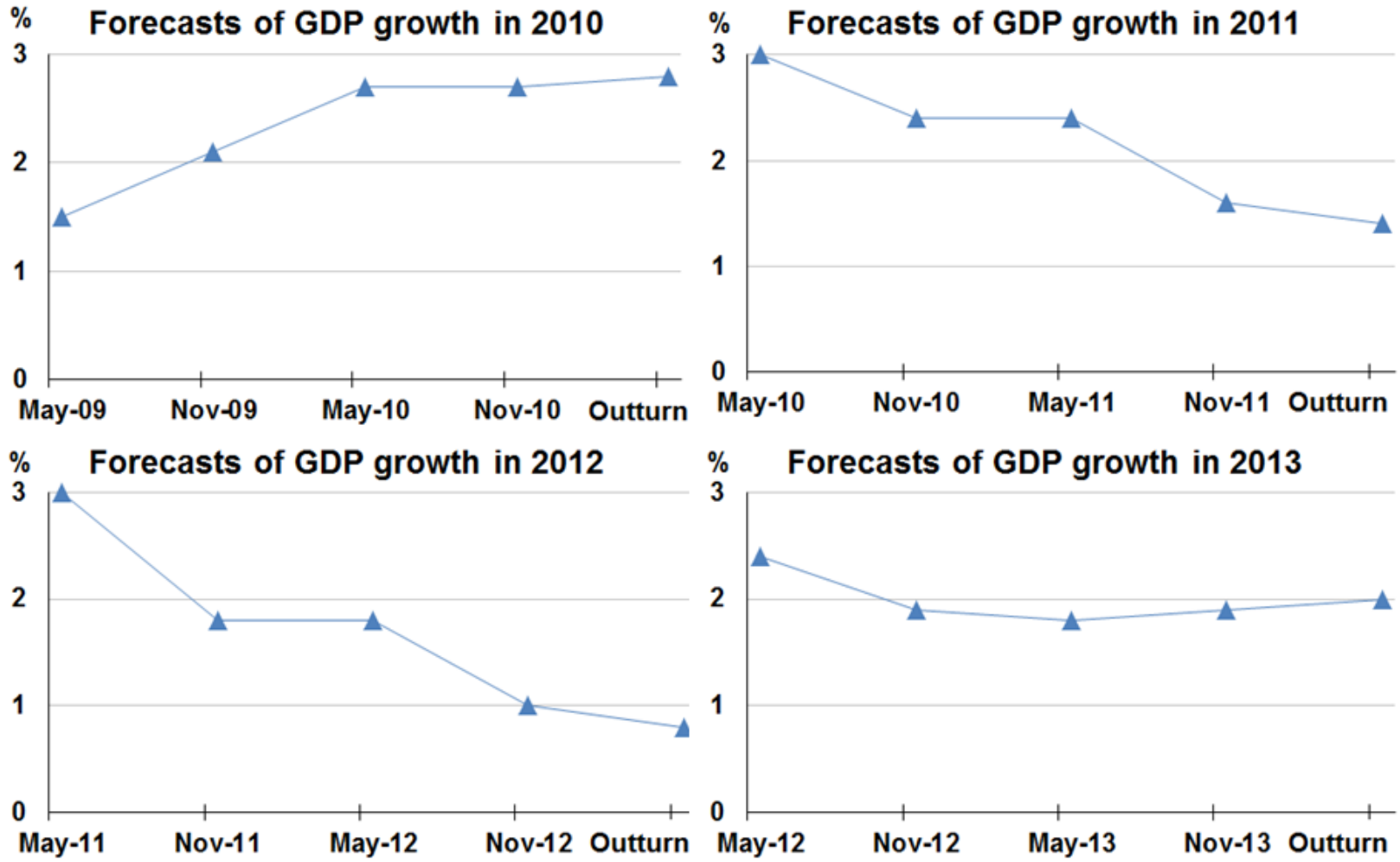
The downturn was not foreseen…





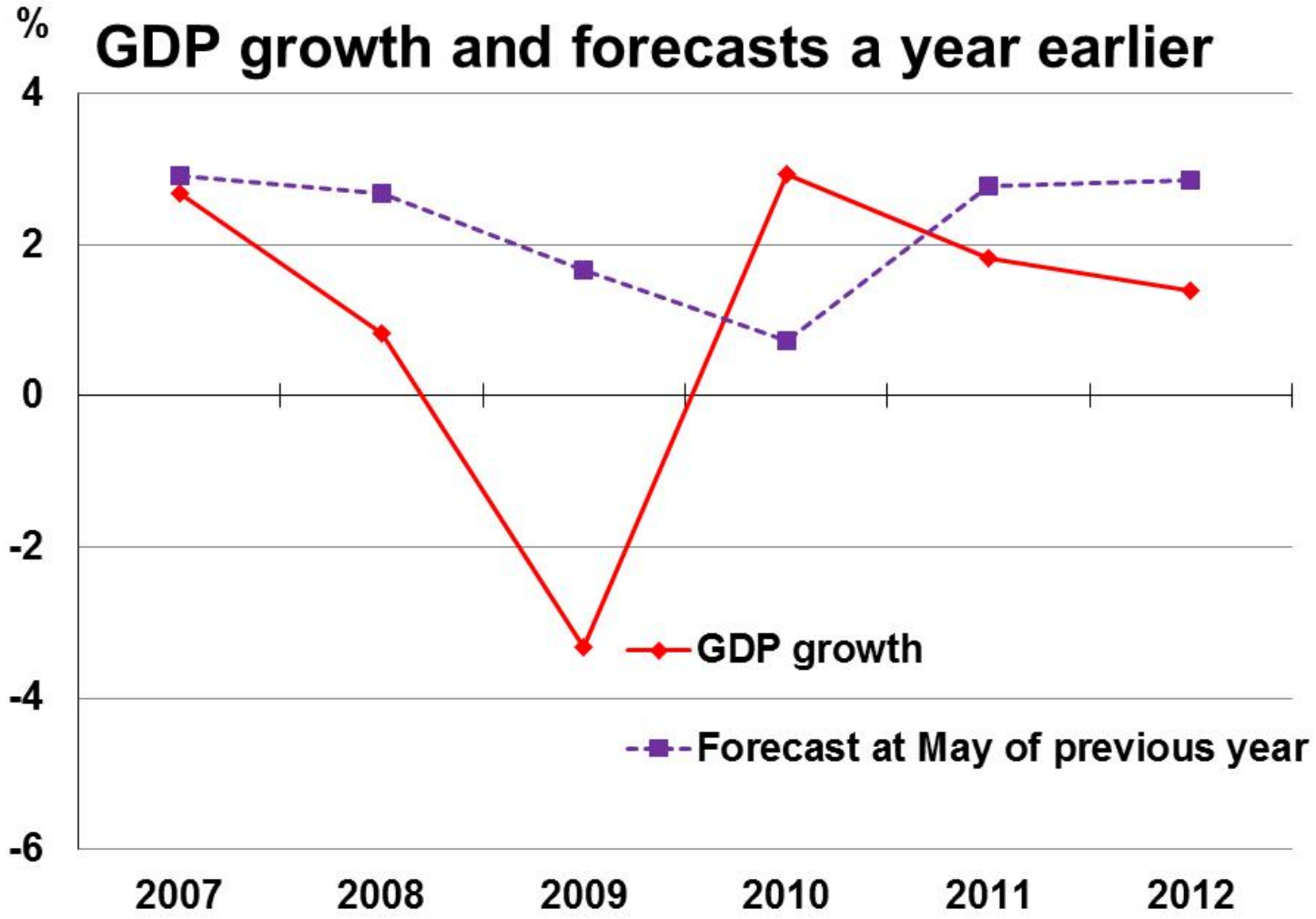
- Forecasts of (Q4/Q4) OECD GDP growth in 2008 and 2009 were revised down substantially.

…and accuracy has been mixed during the recovery

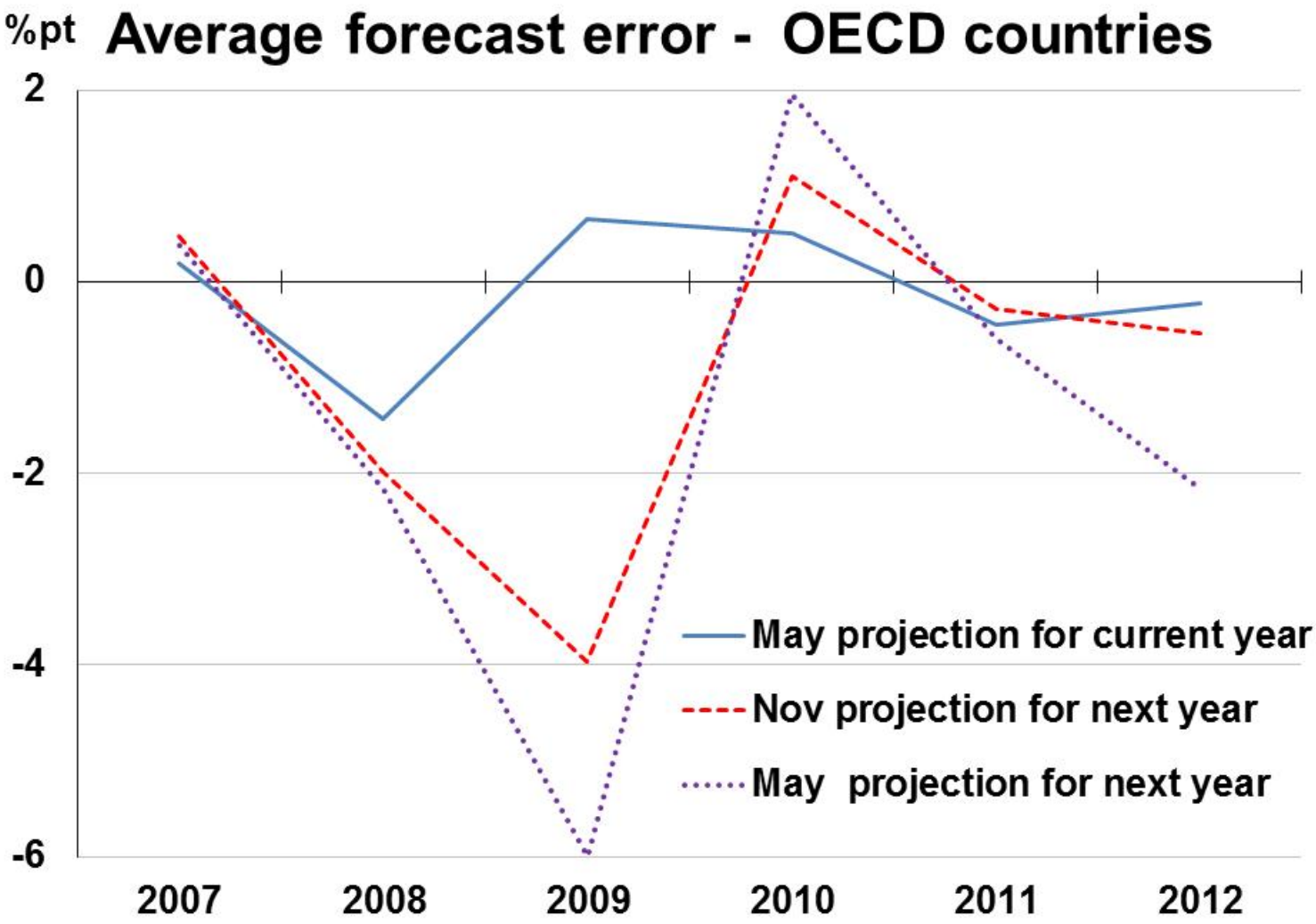


Successive forecasts of Q4-on-Q4 OECD GDP growth

The biggest error in the 18-month ahead calendar year growth forecasts was 2009

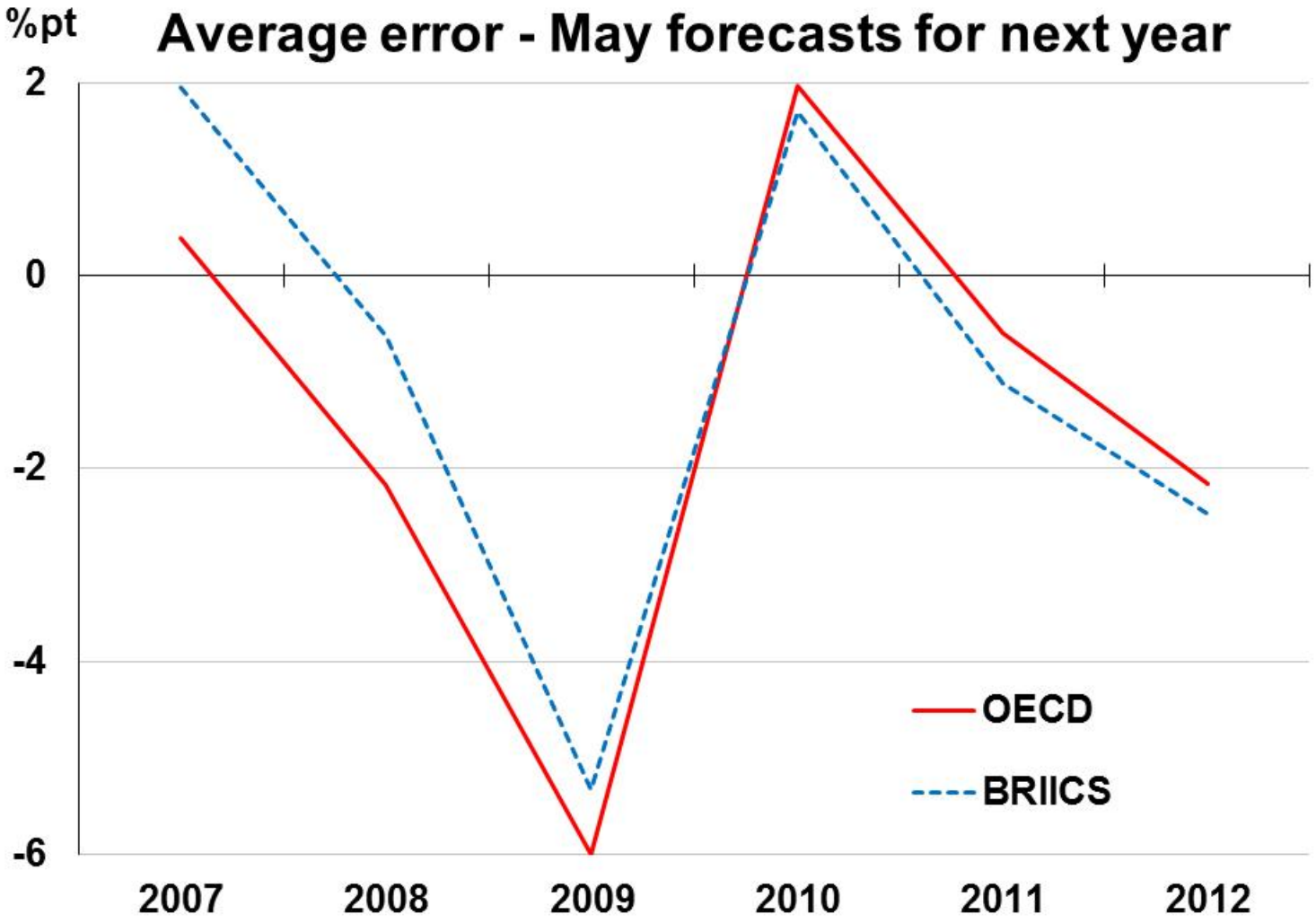


Errors are typically smaller at shorter forecast horizons



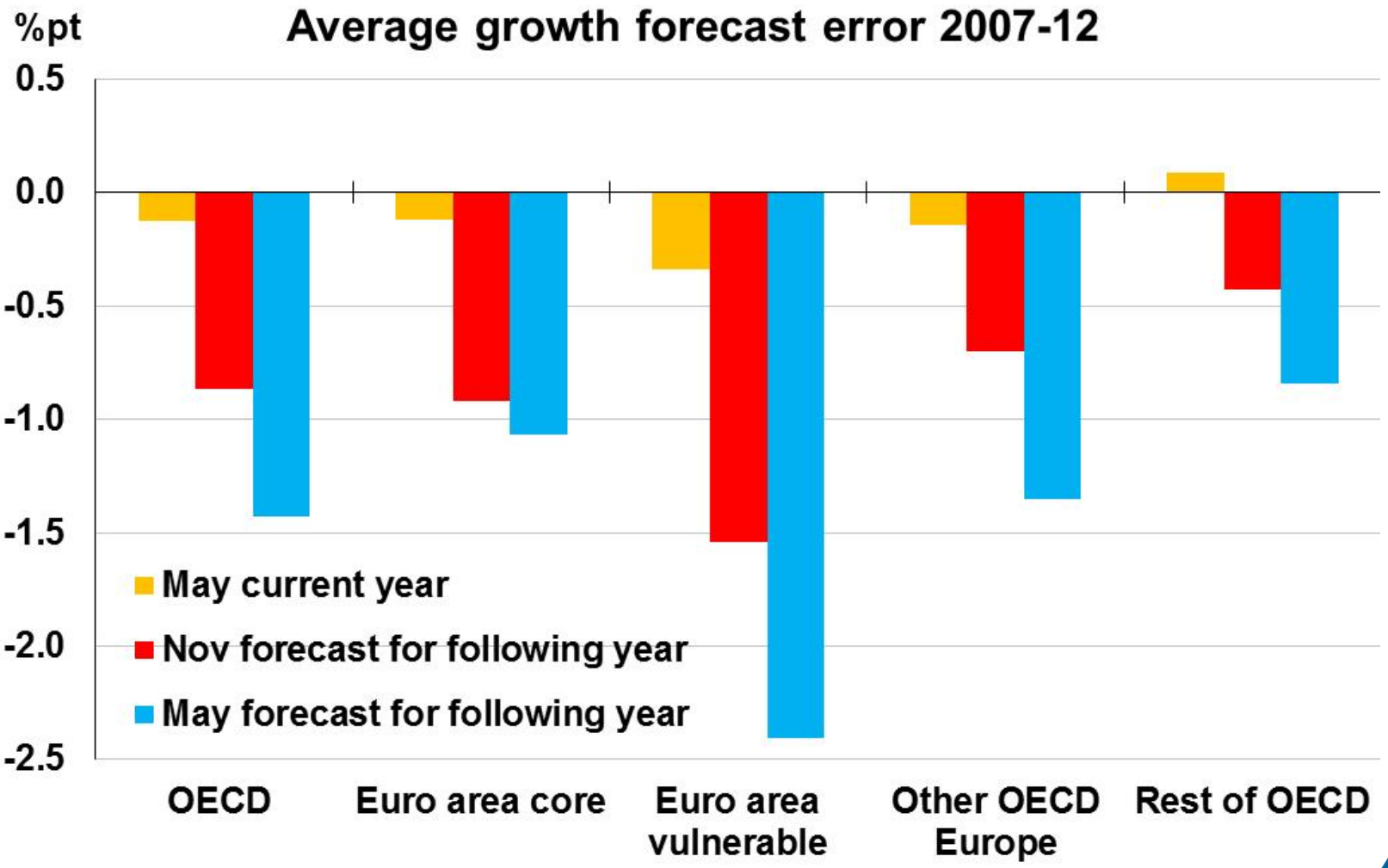
Forecast error = outturn less forecast

On average, the errors for the BRIICS are similar to those for OECD countries



Forecast error = outturn less forecast

Forecast errors were largest in the vulnerable euro area countries



Forecasting track record, pre-crisis period

- Unbiasedness?
  - Spring current year forecasts for OECD countries unbiased but year-ahead forecasts over-predict growth.
  - Forecasts for non-OECD countries unbiased.

- Current year forecast beats naïve forecast, but not following year.

- Current year forecast beats consensus forecast, but not following year.

- Directional accuracy good for current year, but miss downturns in following year.

Directional accuracy is good for growth accelerations, but less so for growth slowdowns

Directional accuracy of May growth projections

OECD countries: 2007-12	Increases	Decreases
% correct: projections for same year	86	88
% correct: projections for next year	91	48

G7 countries: 1982-2006	Increases	Decreases
% correct: projections for same year	79	83
% correct: projections for next year	74	45

Tools to help identify growth slowdowns are needed.

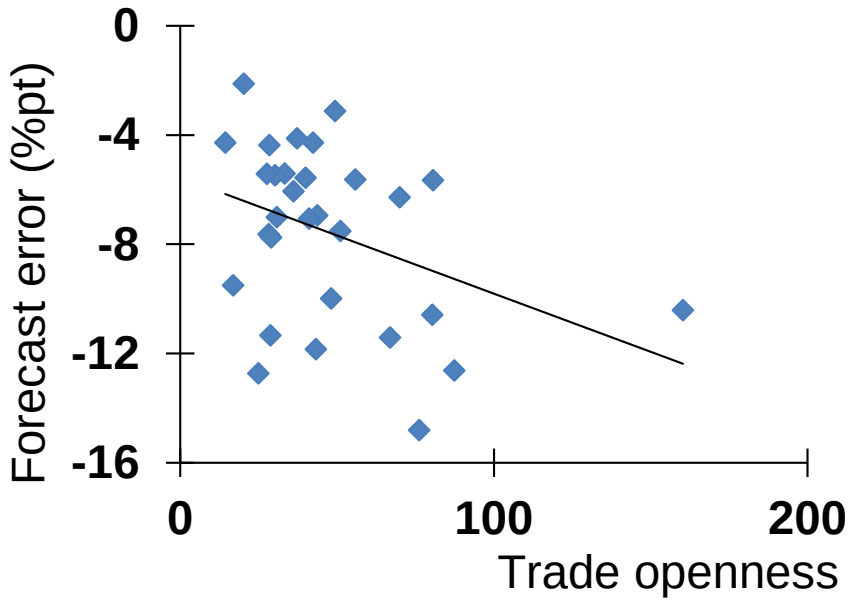
3. Explaining GDP growth forecast errors

What factors could be correlated with recent growth forecast errors?

- International trade and financial openness.
- Banking sector information.
- Economy-wide regulations.
- Pre-crisis imbalances.
- Survey information.
- Fiscal consolidation.
- The euro area crisis.

The downturn was stronger than projected in more open economies (negative spillovers)

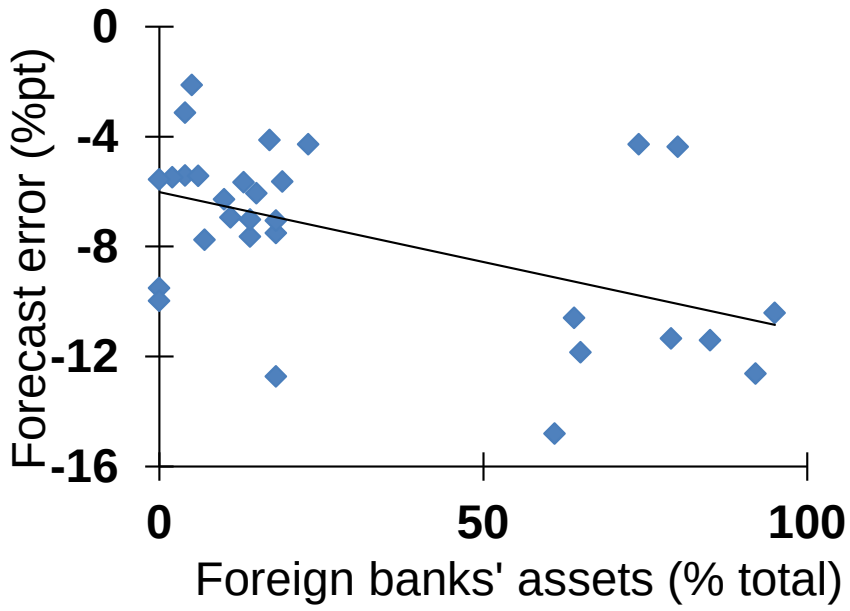
Cumulative growth forecast errors for 2008-09, made in May 2008



- Forecast error = Outturn - Forecast

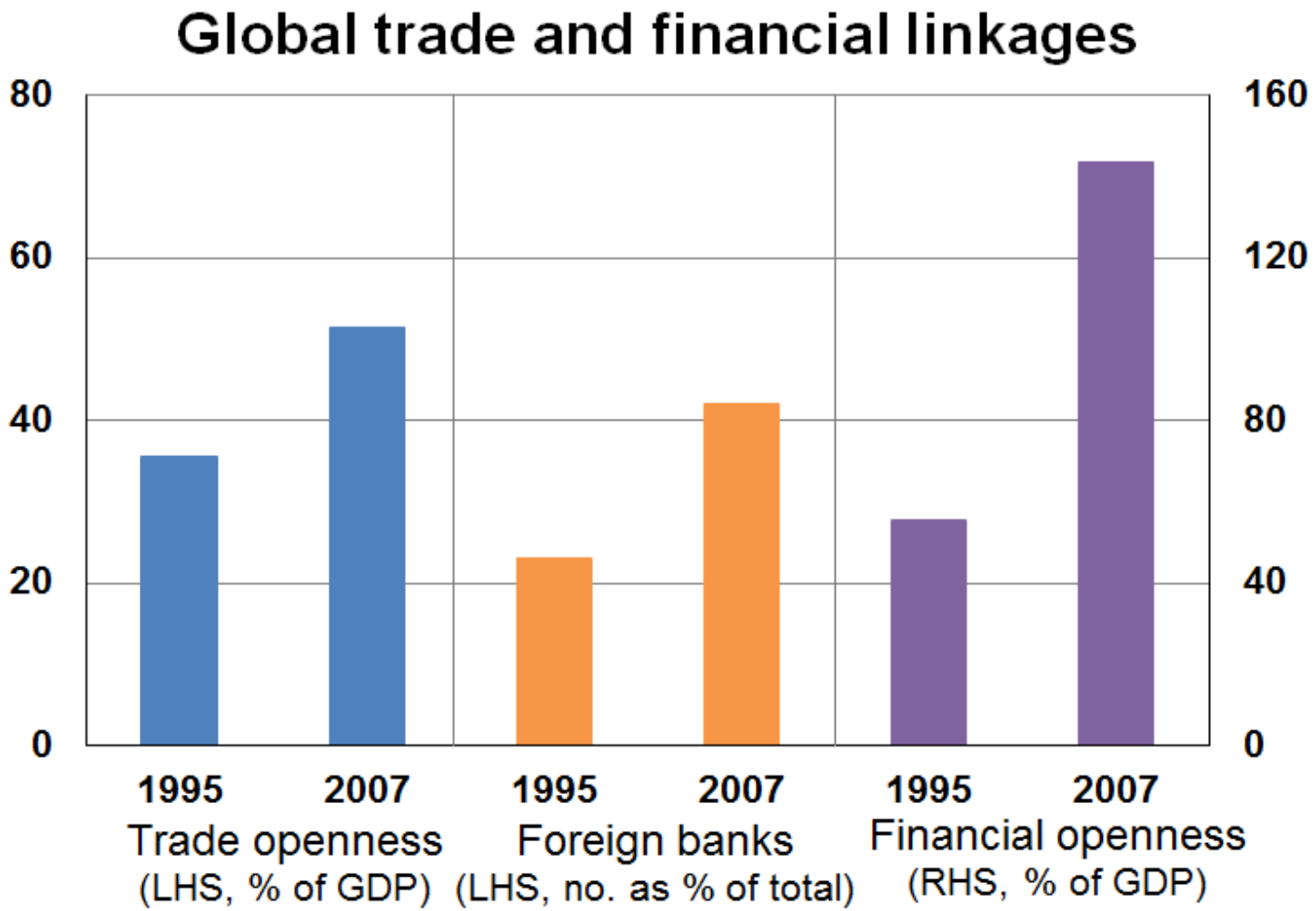
The downturn was stronger than projected in countries with greater presence of foreign banks

Cumulative growth forecast errors for 2008-09, made in May 2008



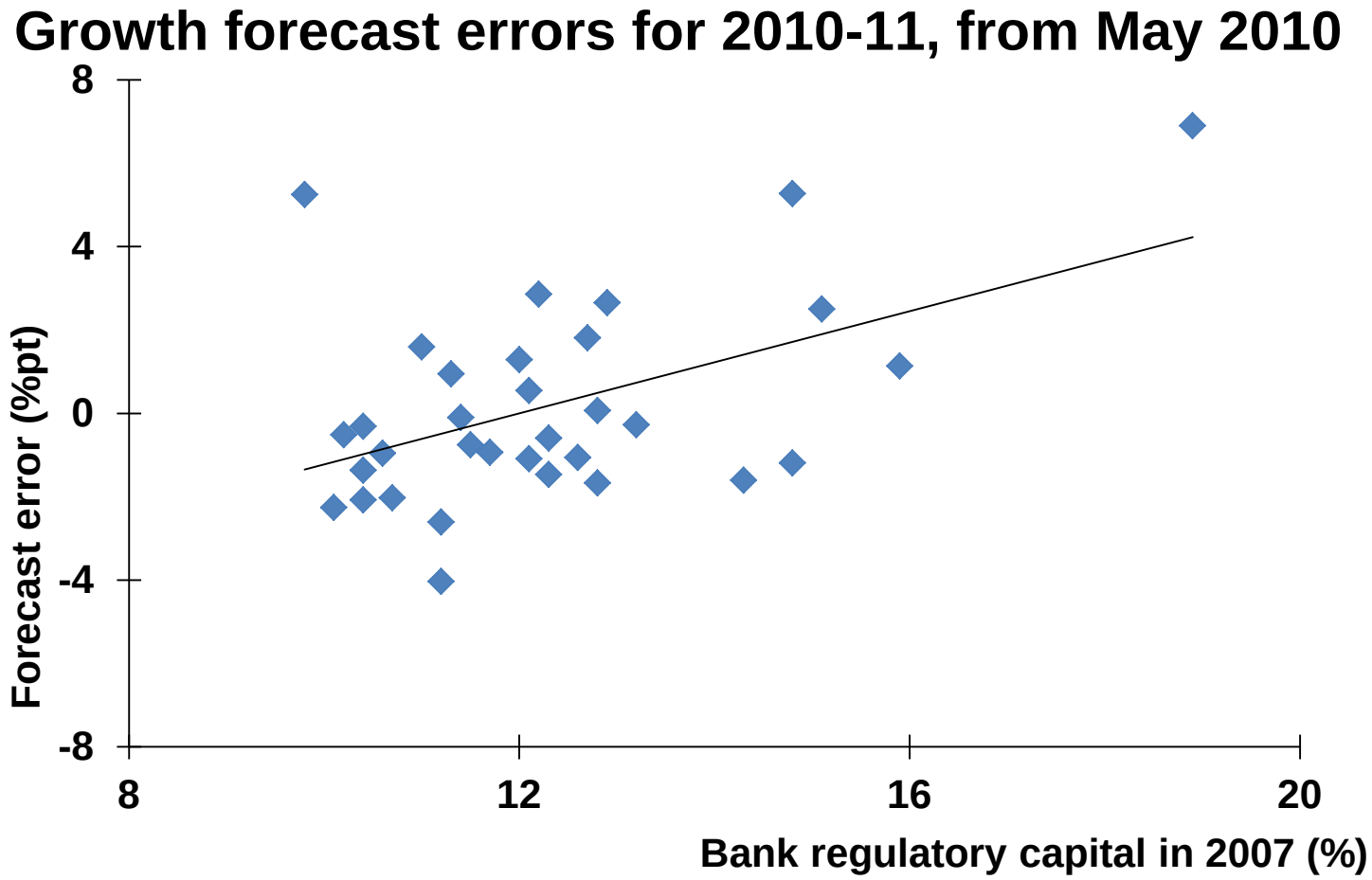
- Forecast error = Outturn - Forecast

Global interconnectedness rose substantially prior to the crisis, with rising global & national imbalances



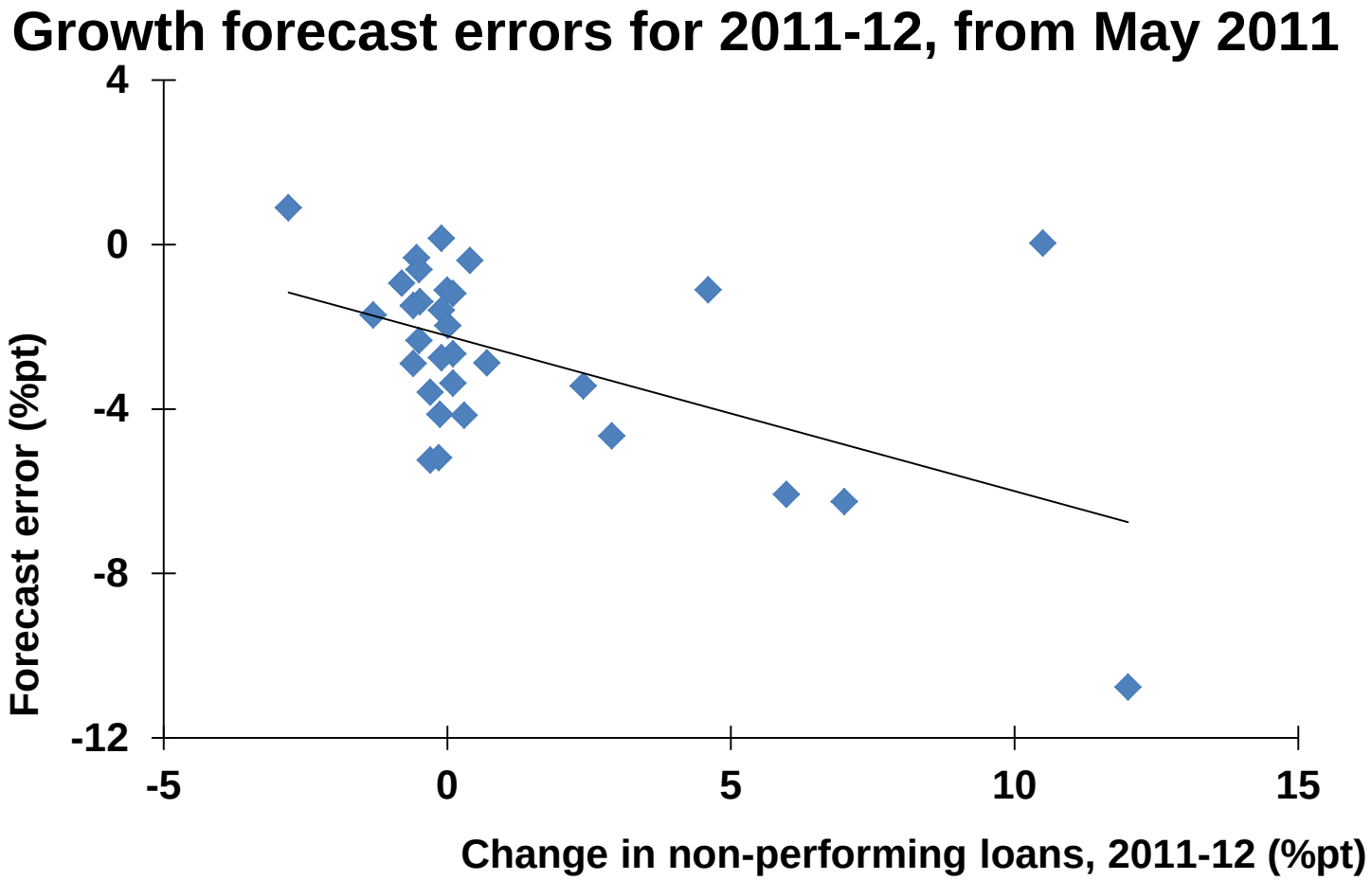
Note: Trade openness is the average of all countries; share of foreign banks is the median country; financial openness is the median OECD country.

There were downside surprises in 2010-11 in countries with lower pre-crisis bank capital

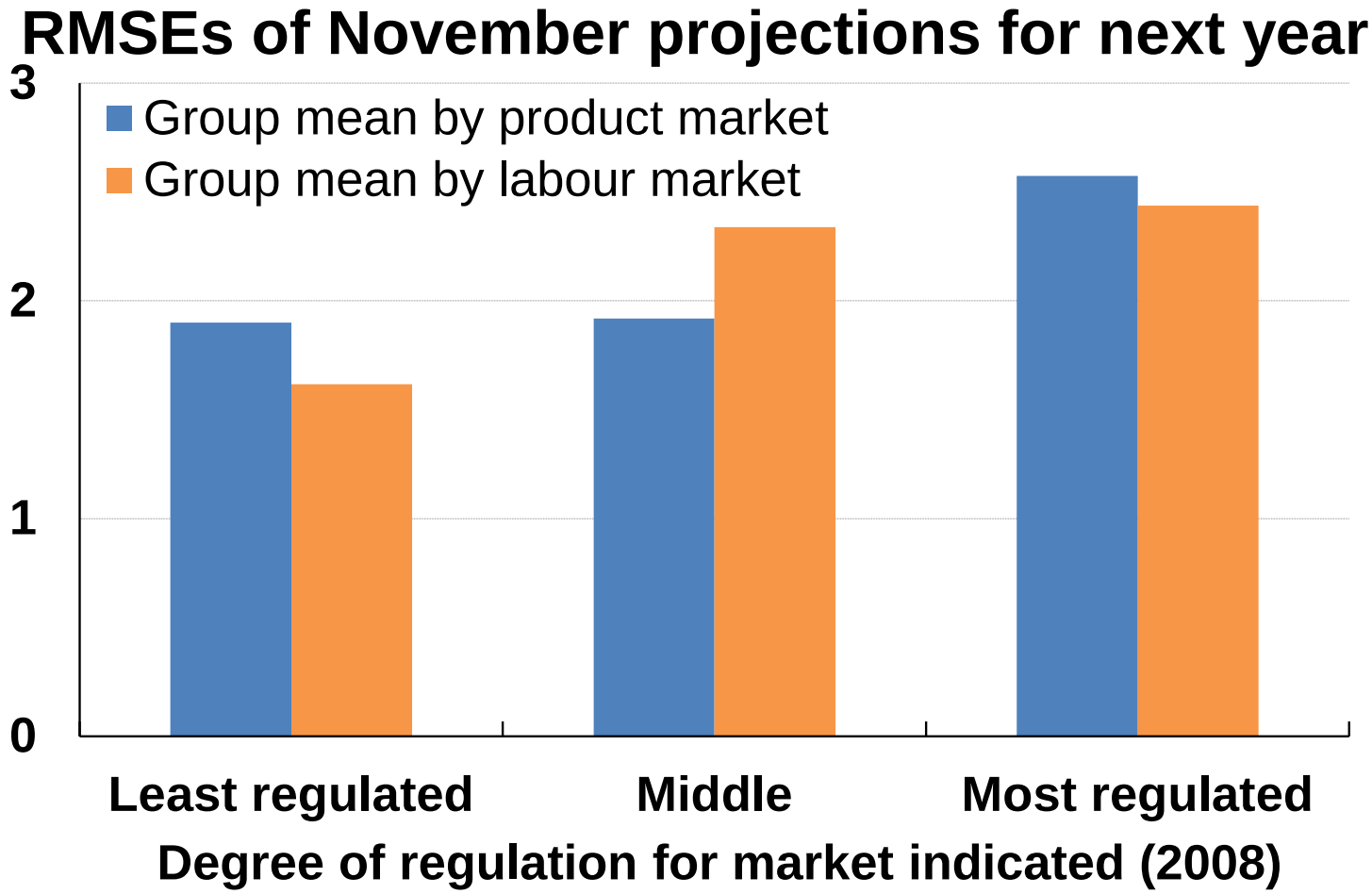


Bank capital is the capital adequacy of deposit-takers, measured as a ratio of total regulatory capital to risk-weighted assets.

There were downside surprises in 2011-12 in countries where the financial system was weakening

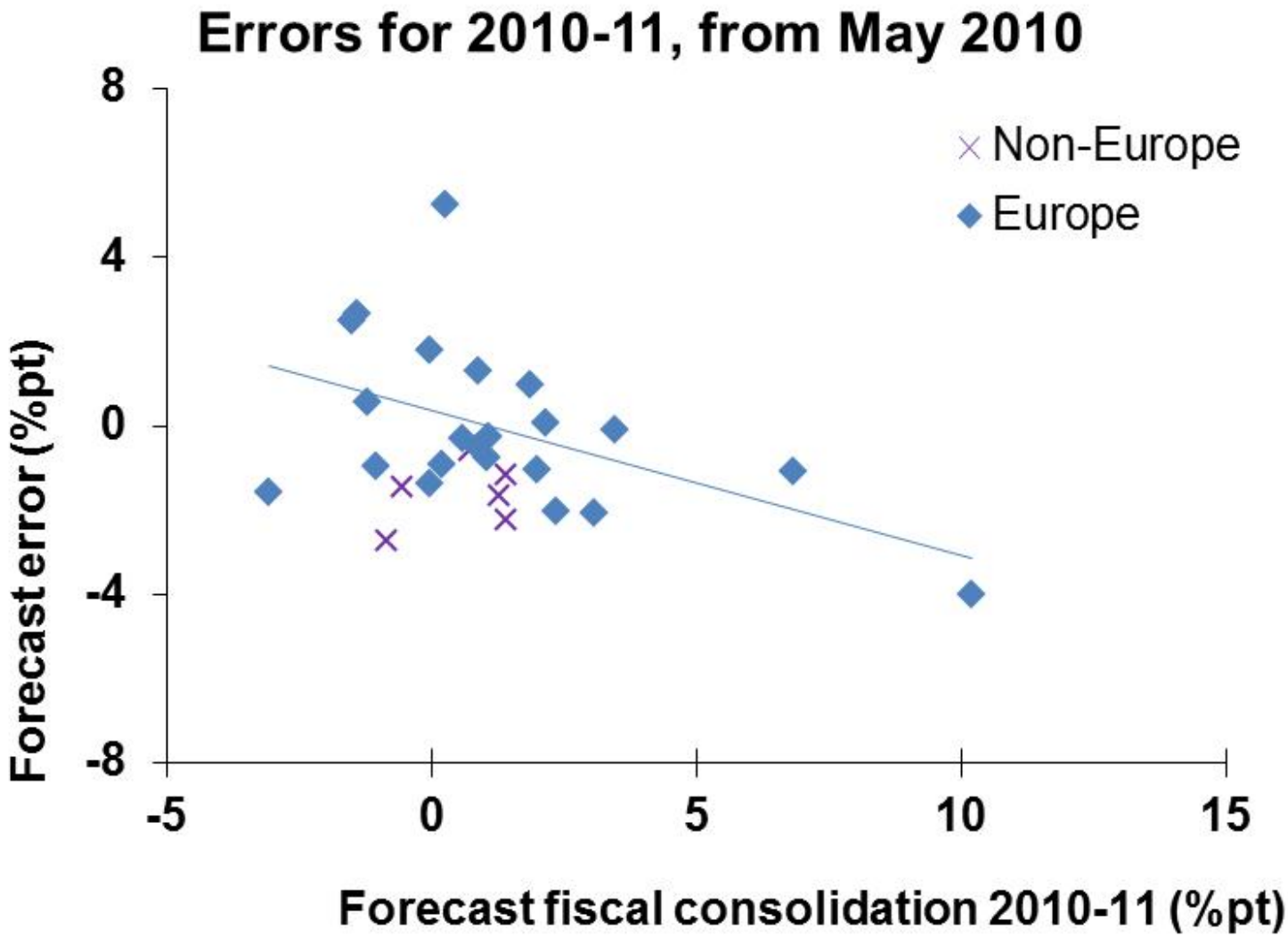


Growth forecast errors over 2007-12 were larger in more regulated economies

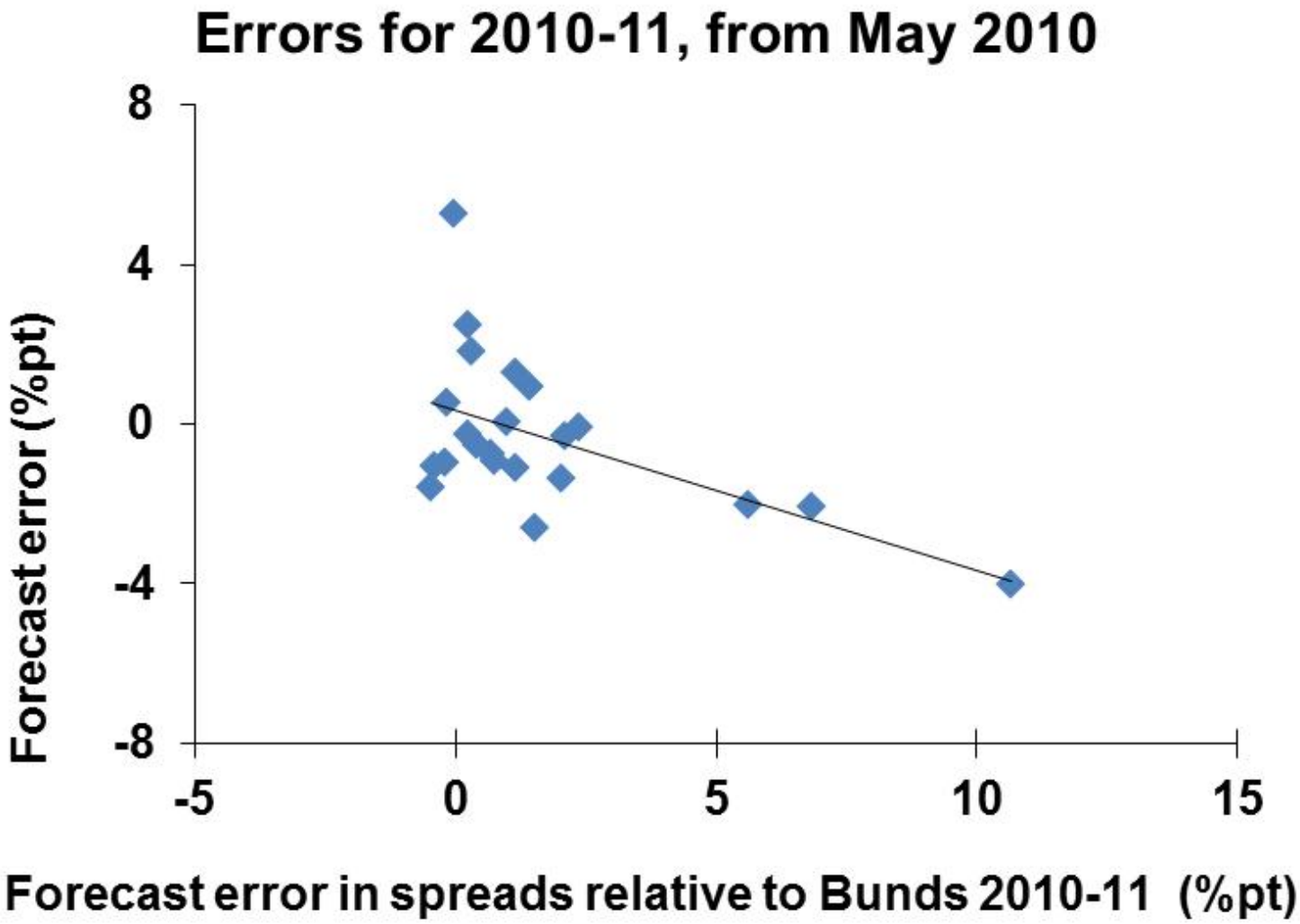


Indicators are the OECD product market regulation index and the OECD measure of the strictness of employment protection (for regular workers)

Growth was weaker than projected in countries with more fiscal consolidation, but only in Europe.

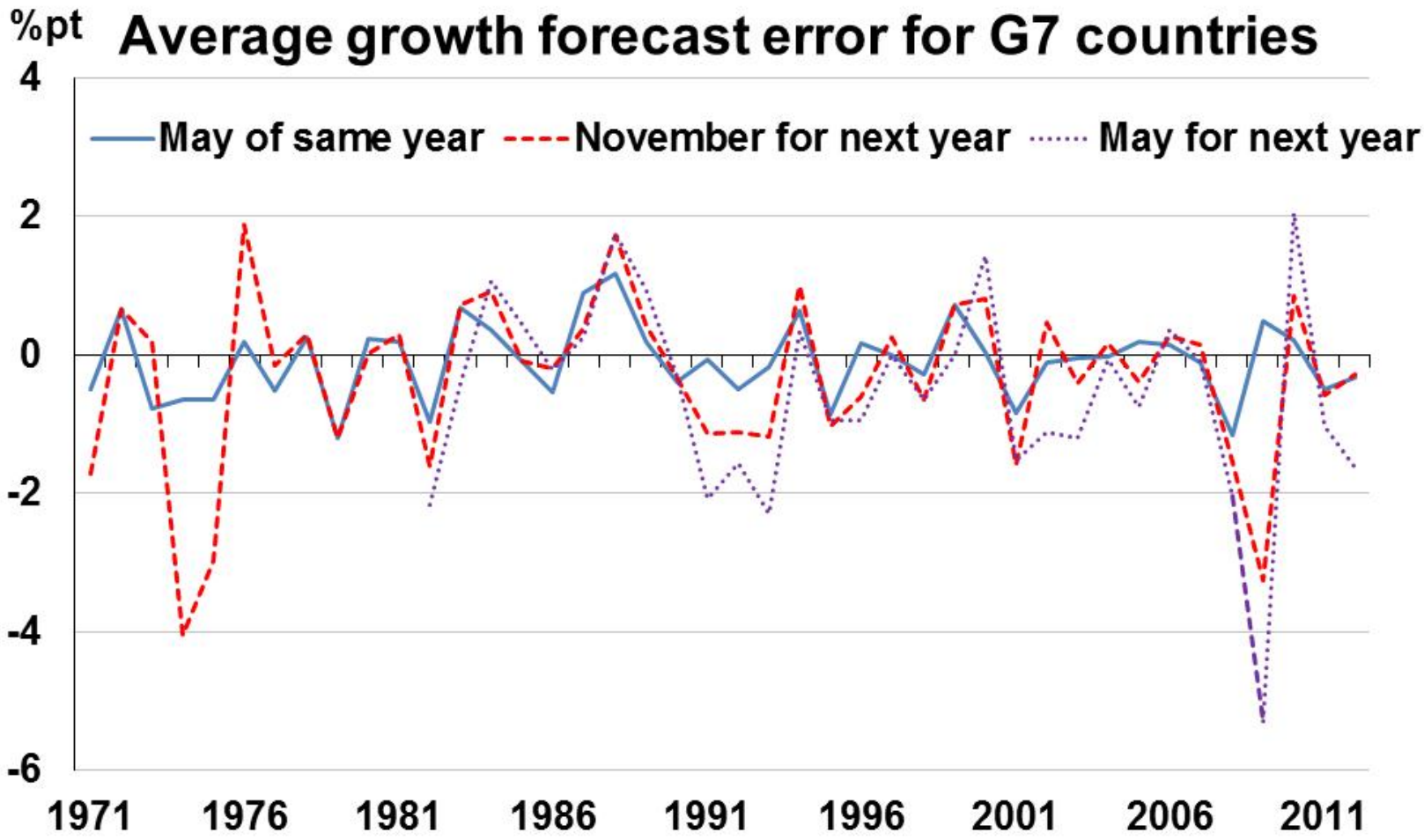


Incorrect assumptions about government bond spreads is a source of error too



4. Putting the forecast errors in context

An historical perspective: OECD growth forecast errors in 2009 and 2010 are similar to the early 1970s



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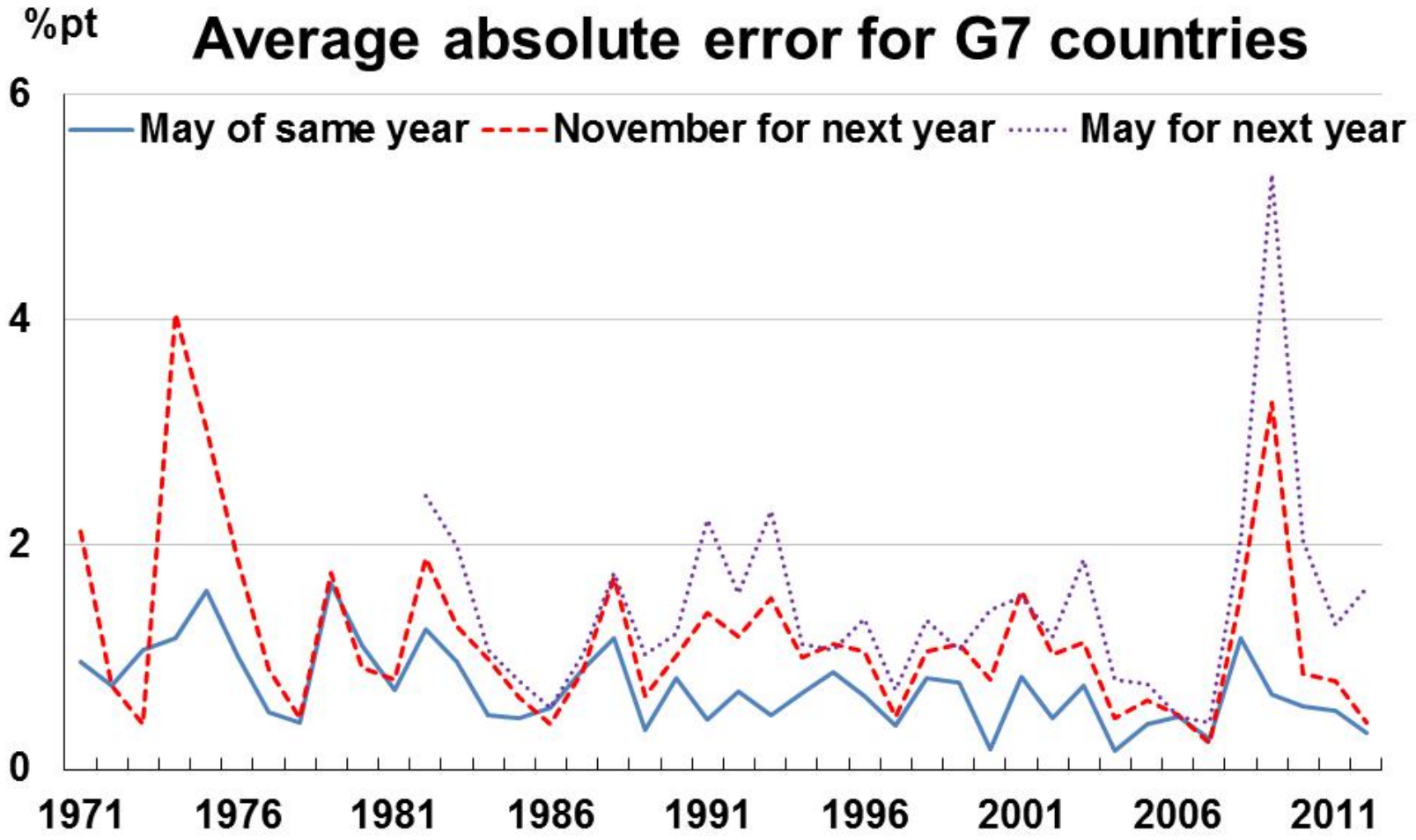
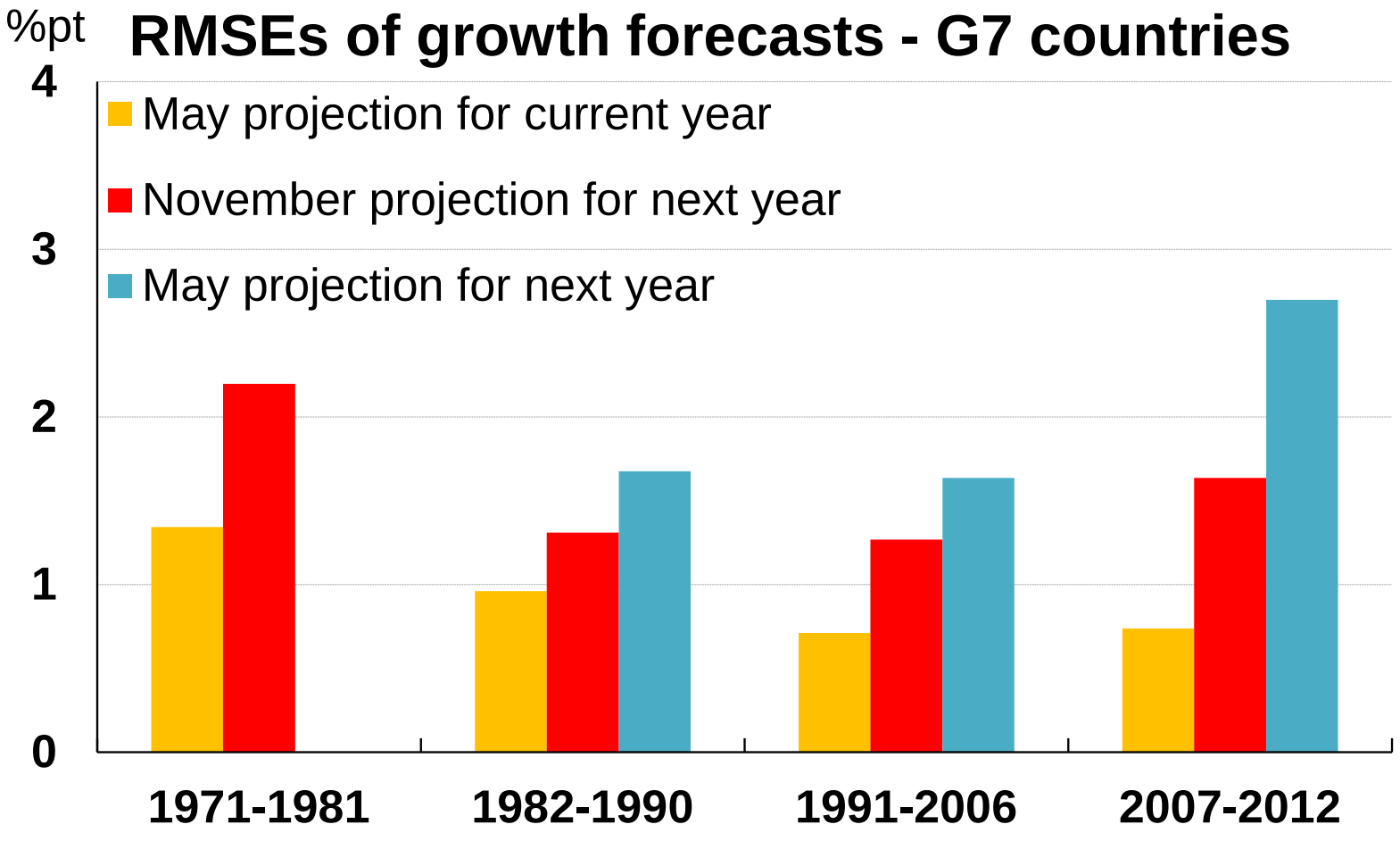
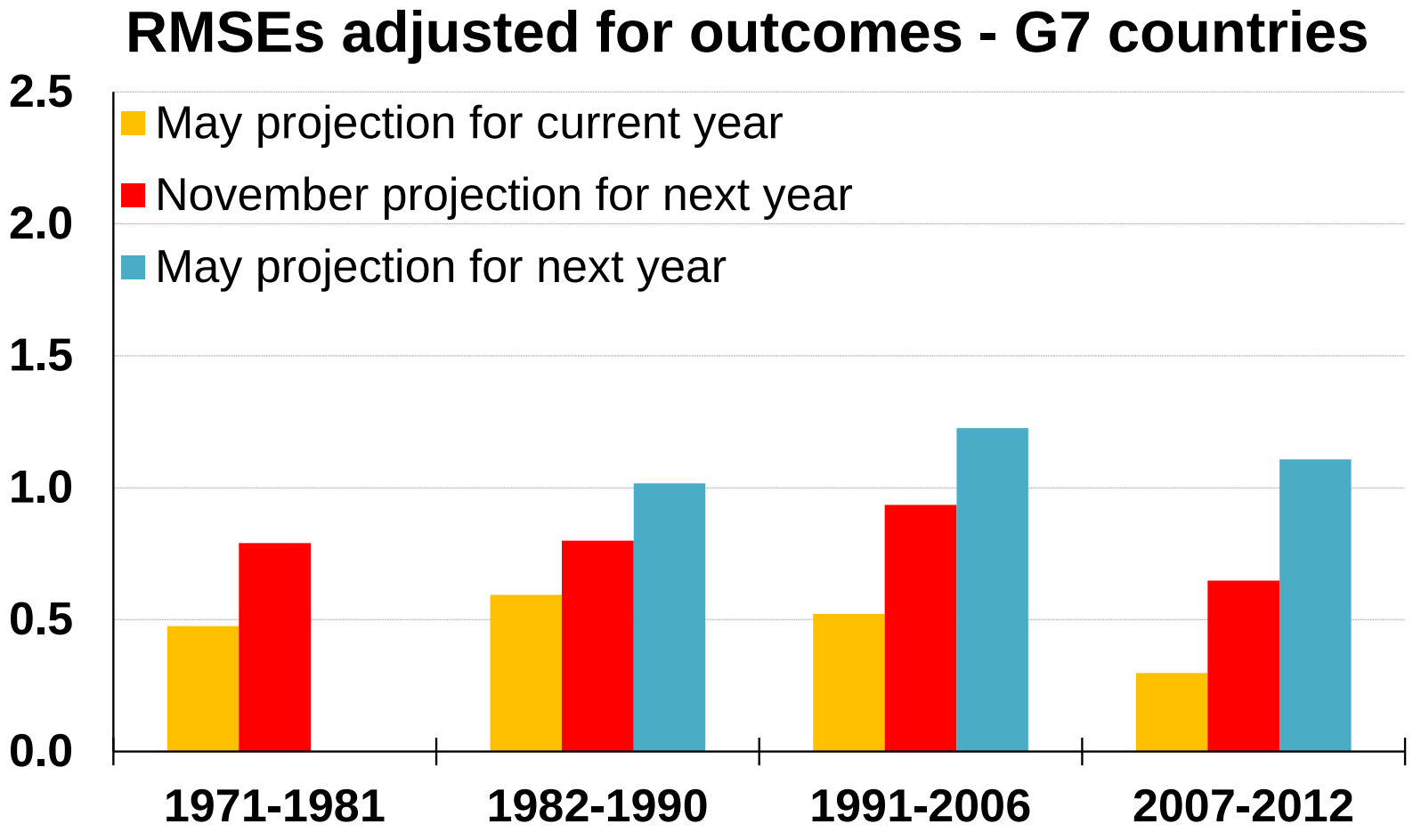


Recent errors were larger than in the “Great Moderation” but smaller than the 1970s…



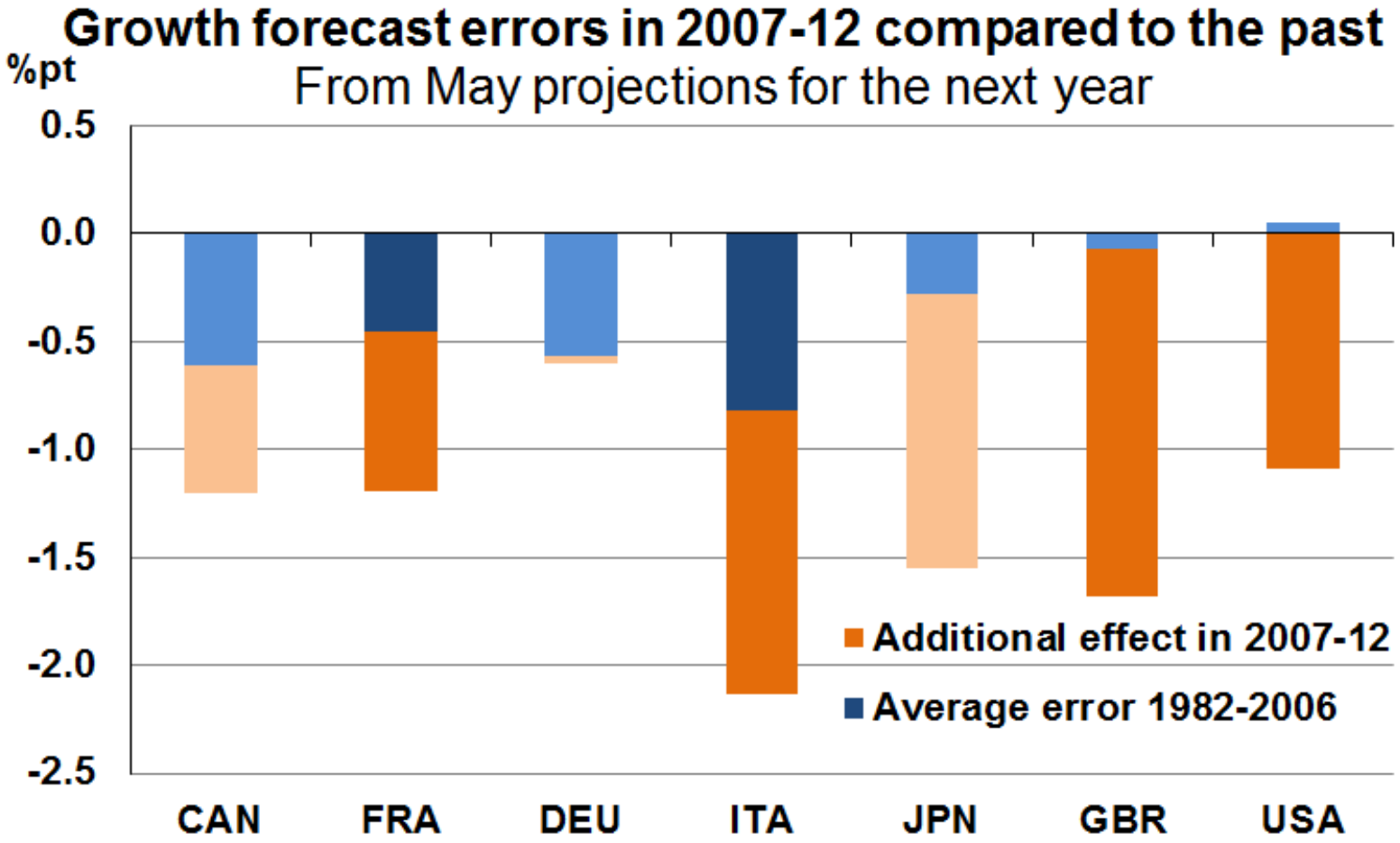
Unweighted average of errors in G7 economies

Similar picture if growth volatility is accounted for



Ratio of GDP growth RMSE to standard deviation of GDP growth

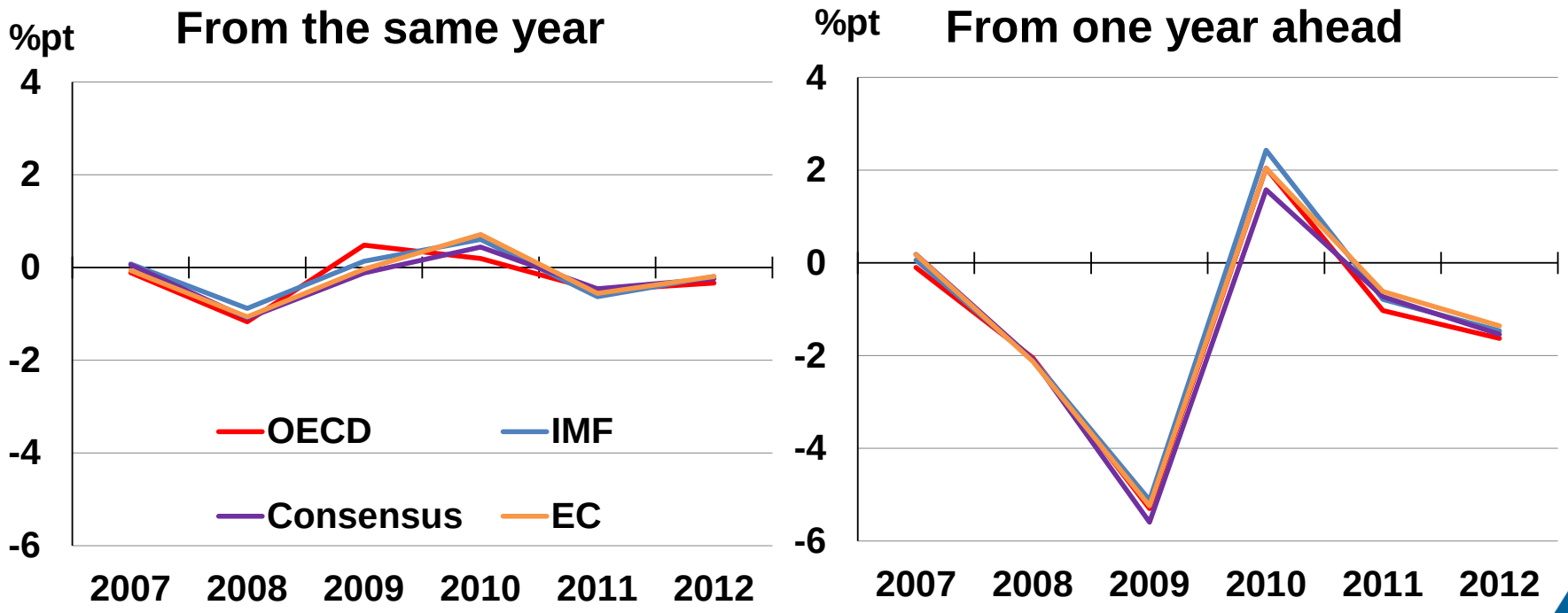
The forecasts were considerably worse than usual for some countries



Dark blue and orange indicate statistical significance (at the 10% level)

However, forecast errors were strikingly similar across forecasters (*also pre-crisis*)

Average errors in forecasts from May for the year ahead - G7 countries (unweighted average)



"Groupthink" needs to be avoided in the future

5. Lessons for forecasting practises

Post-crisis changes in OECD forecast practices

Ongoing changes

- Greater centralisation of the forecast process.
- Enhanced monitoring of near-term developments.
- Increased attention on financial sector.
- Tools to help identify growth slowdowns.

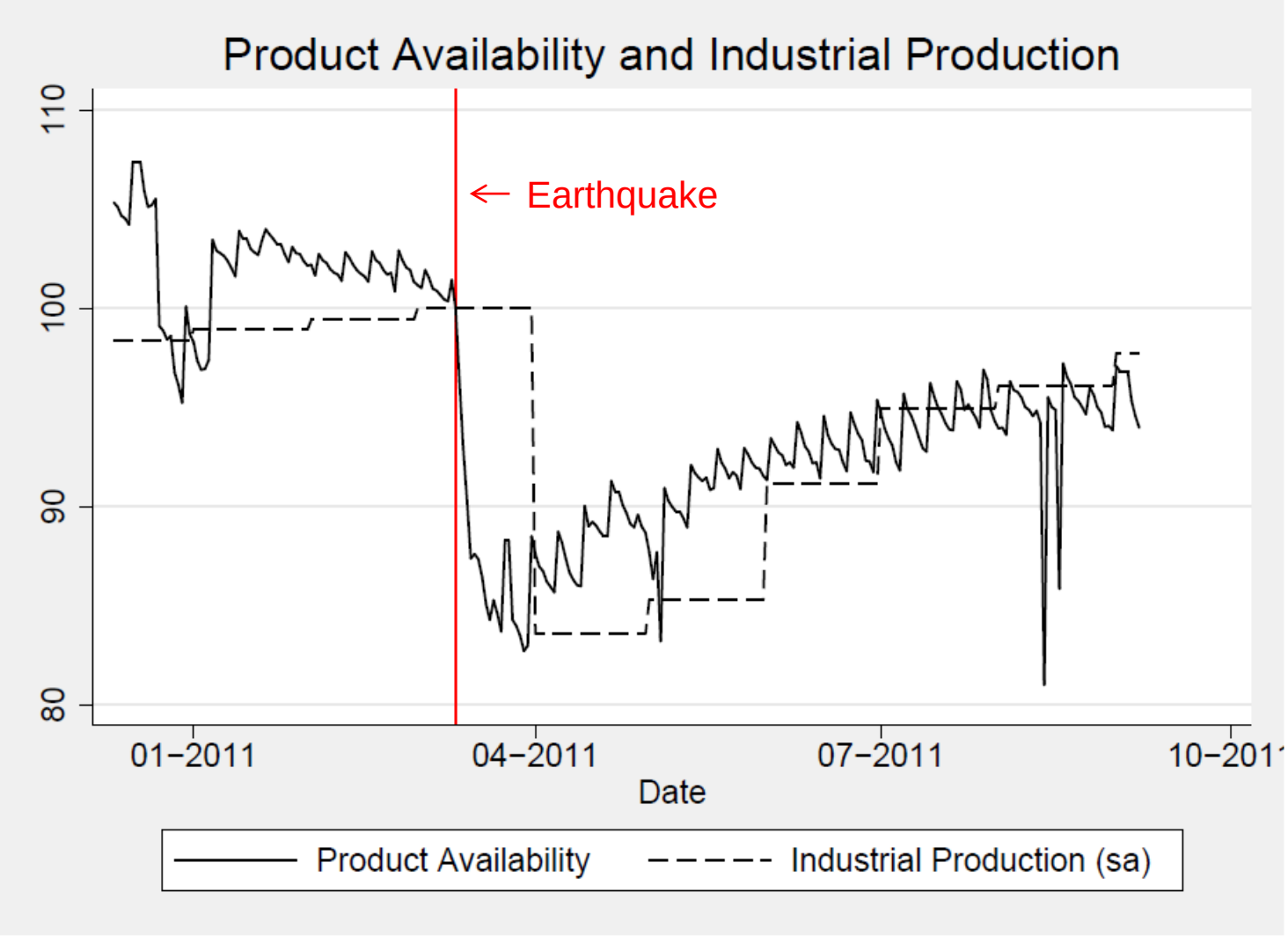
Increased centralisation of the forecast process

- Reflects the importance of global financial and trade interconnections and spillovers.
  - Early view on global developments and risks and their implications.
  - Early guidance via “top down” projections bringing together information from different sources and models.

Enhanced monitoring of near-term developments

- Surveys and high frequency data can provide early signals of big changes.
  - Nowcasting (OECD indicator models).
  - Composite leading indicators.
  - Evidence from business contacts.
  - Exploring DFM, MIDAS.
  - Use of internet-based indicators (“big data”)

Big data gave a useful early signal of Japan after the tsunami



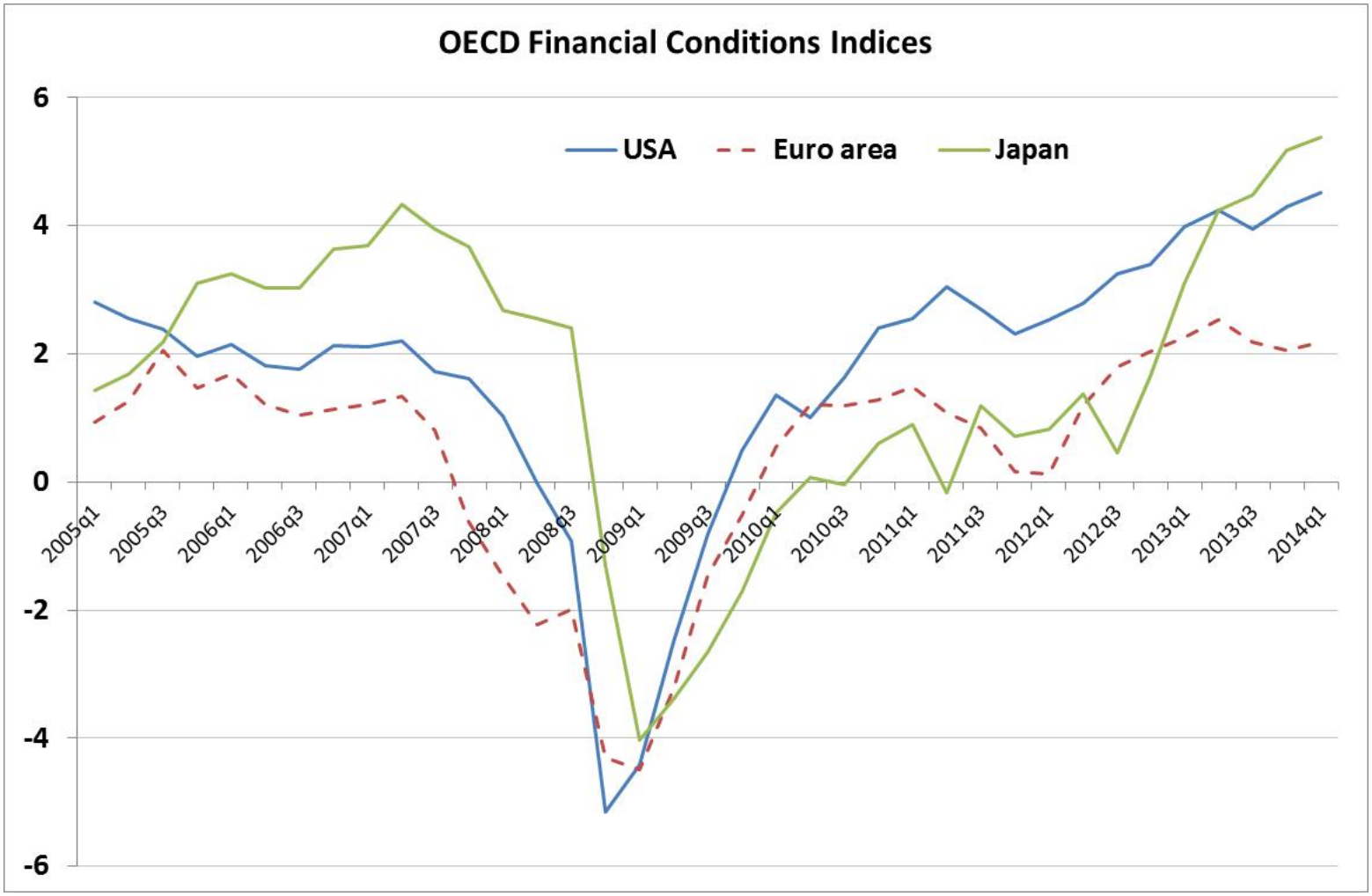
Source: Cavallo, Cavallo and Rigabon (2013); NBER paper no. 19474

Include more information on financial developments

Ongoing changes

- OECD aggregate financial conditions indices.
  - Incorporation of broader range of financial variables in projections.
- Enhanced discussions with internal/external financial market specialists.
- Incorporating banking sector and global interconnectedness in macro models.

OECD financial conditions indices



Preliminary estimates for 2014Q1. The FCI index weights together a large number of financial variables (asset prices, interest rates, credit conditions, exchange rate). A unit change in the FCI changes the level of GDP by 1% after 6 quarters.

Further details

OECD Economics Department Policy Note No. 23

OECD Economics Department Working Paper No. 1107

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