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Commodity Price Analysis at the Bank of Canada

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Disclaimer: Presentation reflects author's view and not necessarily
those of the Bank of Canada



Commodity Analysis at the Bank of Canada

Demand

New Commodity Projection Model

Supply

Complementary Analysis



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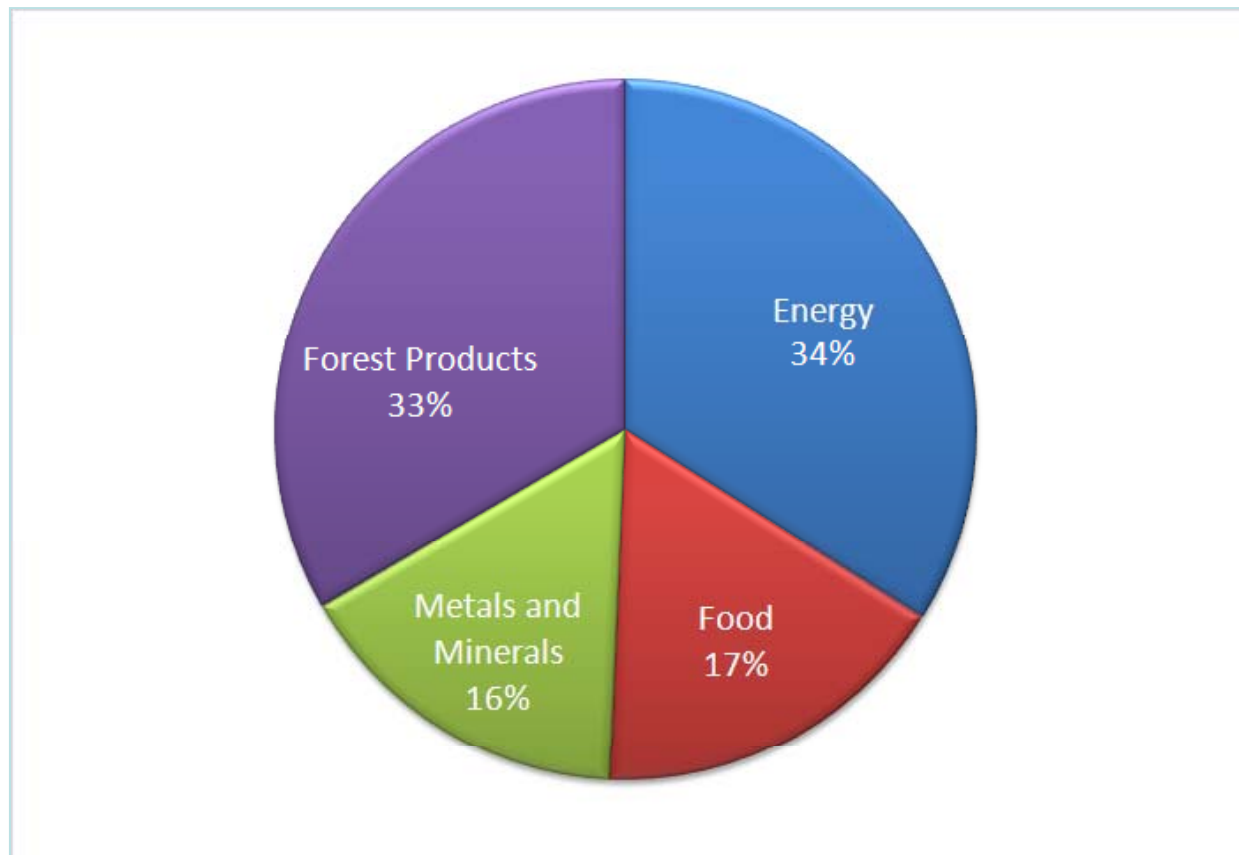
Supply

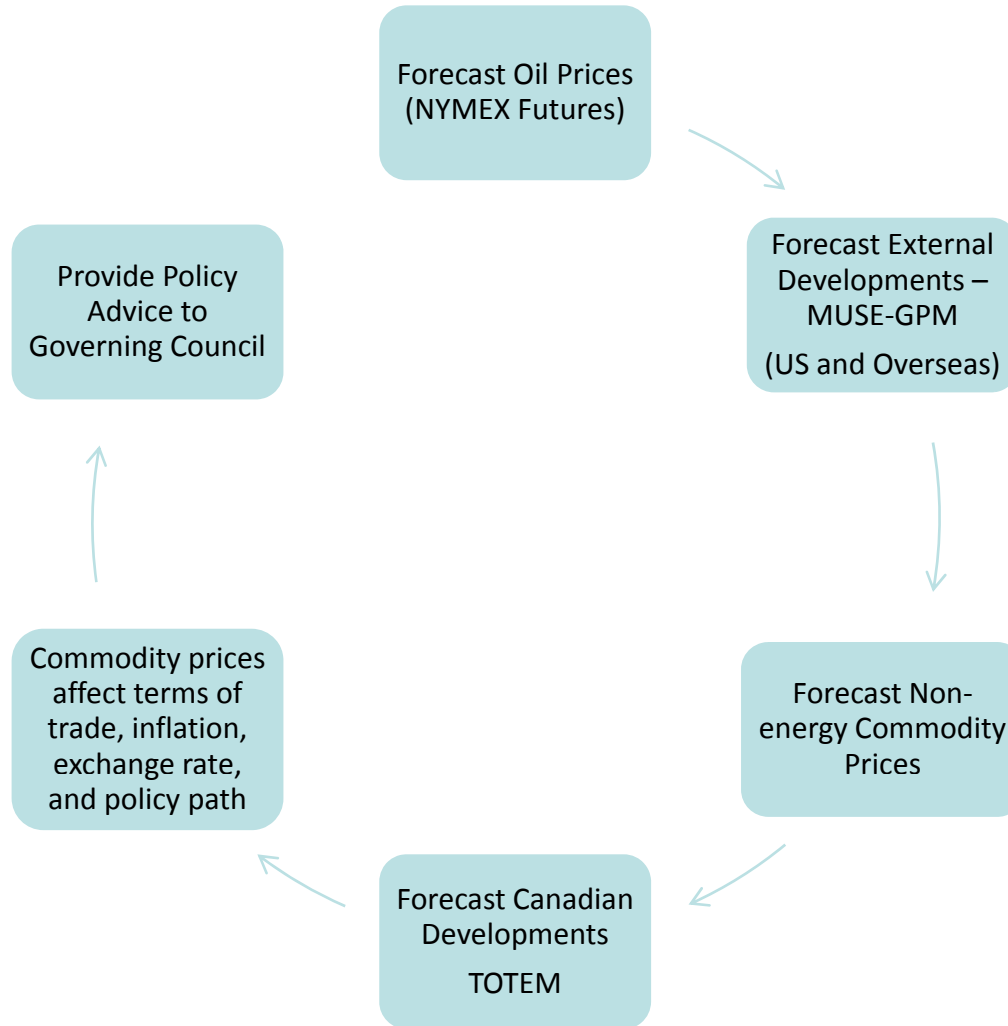
Complementary Analysis



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Bank of Canada Commodity Price Index (BCPI)







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The Bank of Canada's Commodity Price Projection Model (2.0)

1. Demand matters: Previous BoC commodity price projection models explained movements using a measure of the world output gap (Demers, Lalonde, Zhu, 2003).
2. Emerging Asia matters: for commodity prices, not just a general measure of slack in the global economy.
3. Intensity of use matters: The new CPPM also takes into account the intensity of use among the important emerging Asian economies.

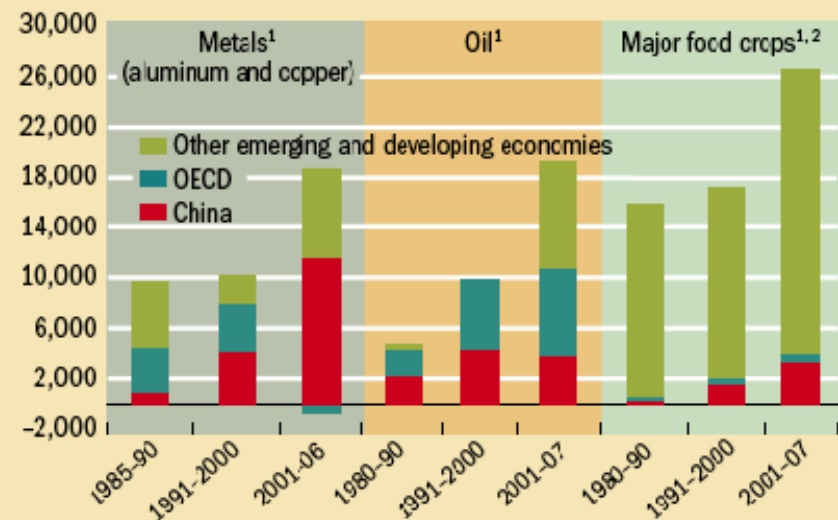
Emerging Asia accounts for larger slices (intensity) of a growing pie (growth).

Chart 2

Rising demand

Increased demand, especially in emerging markets, is a key factor pushing up prices of commodities.

(contributions of selected regions to annual consumption increase; period average)



Sources: U.S. Department of Agriculture; World Bureau of Metal Statistics; British Petroleum; and IMF staff.

¹Metals are in hundreds of thousands of metric tons. Major food crops—corn, rice, soybeans, and wheat—and oil are in thousands of metric tons.

²Major food crops are corn, rice, soybeans, and wheat.



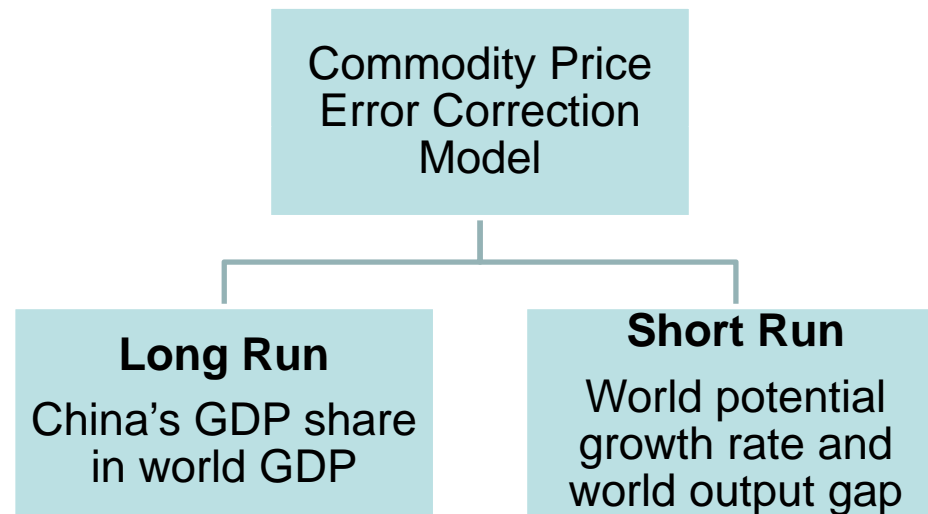
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The New Model: Motivation

The goal of the model is to capture the role of emerging Asia (intensity and growth) on the projection of commodity prices, while at the same time capturing the impact of global GDP growth on commodity demand.



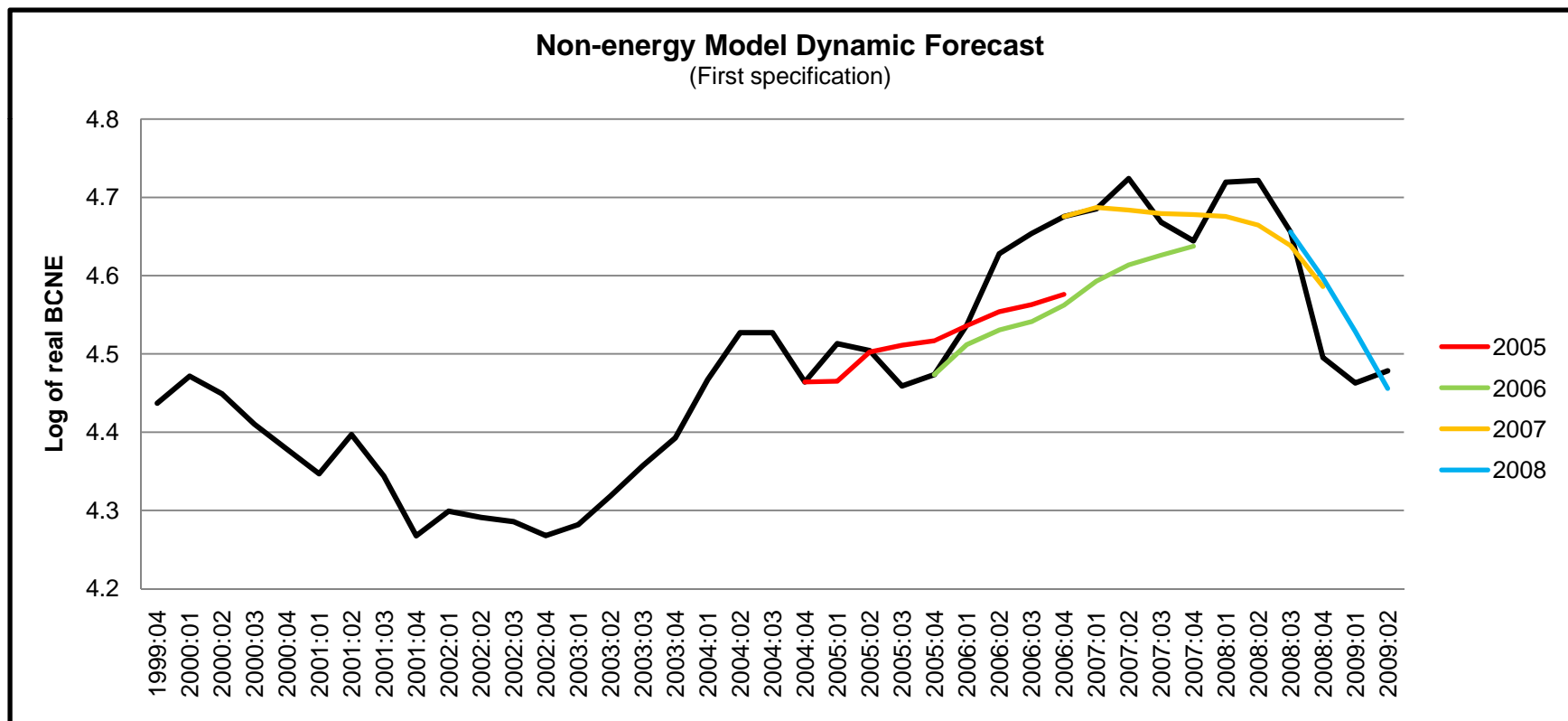
The New Model: Structure



$$\Delta BCPI_t = \alpha(BCPI_{t-1} - \beta GDP_ch_share_{t-1} - \delta) + \lambda \Delta BCPI_{t-1} + \phi \Delta Pot_wld_t + \theta Gap_wld_t + \varepsilon_t$$

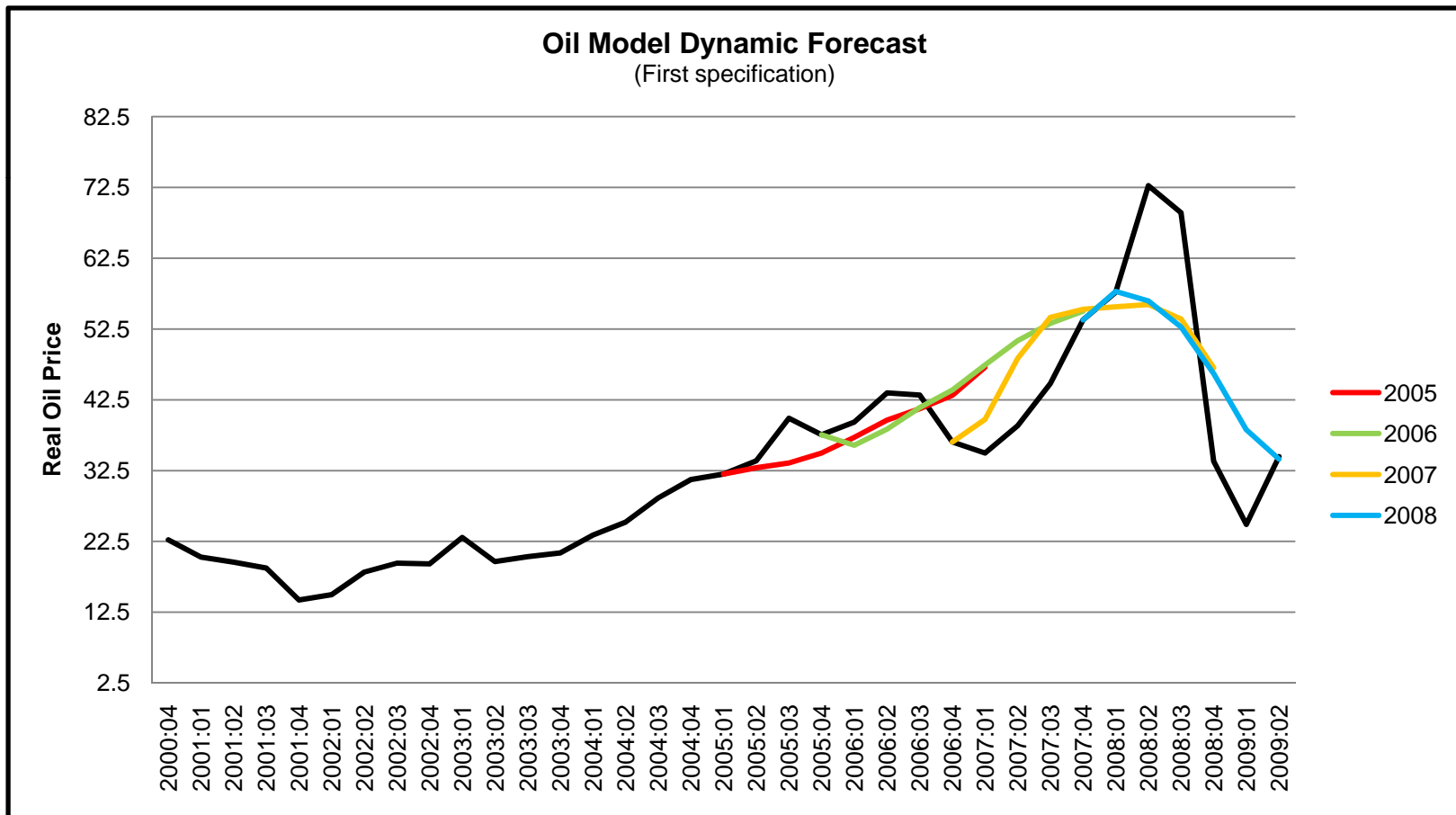


The New Model: Forecast Errors





The New Model: Forecast Errors





The New Model: Pros and Cons

Pros

1. Ease of explanation
2. Model can capture different elasticities and shocks from different regions
3. Good properties
4. Explicit role for emerging Asia

Cons

1. Estimation begins in 1996 due to limited data availability
2. Supply conditions are not explicitly introduced
3. Can other variables affect commodity prices (financial factors, interest rates)?
4. Emerging Asia may not always be the key driver.



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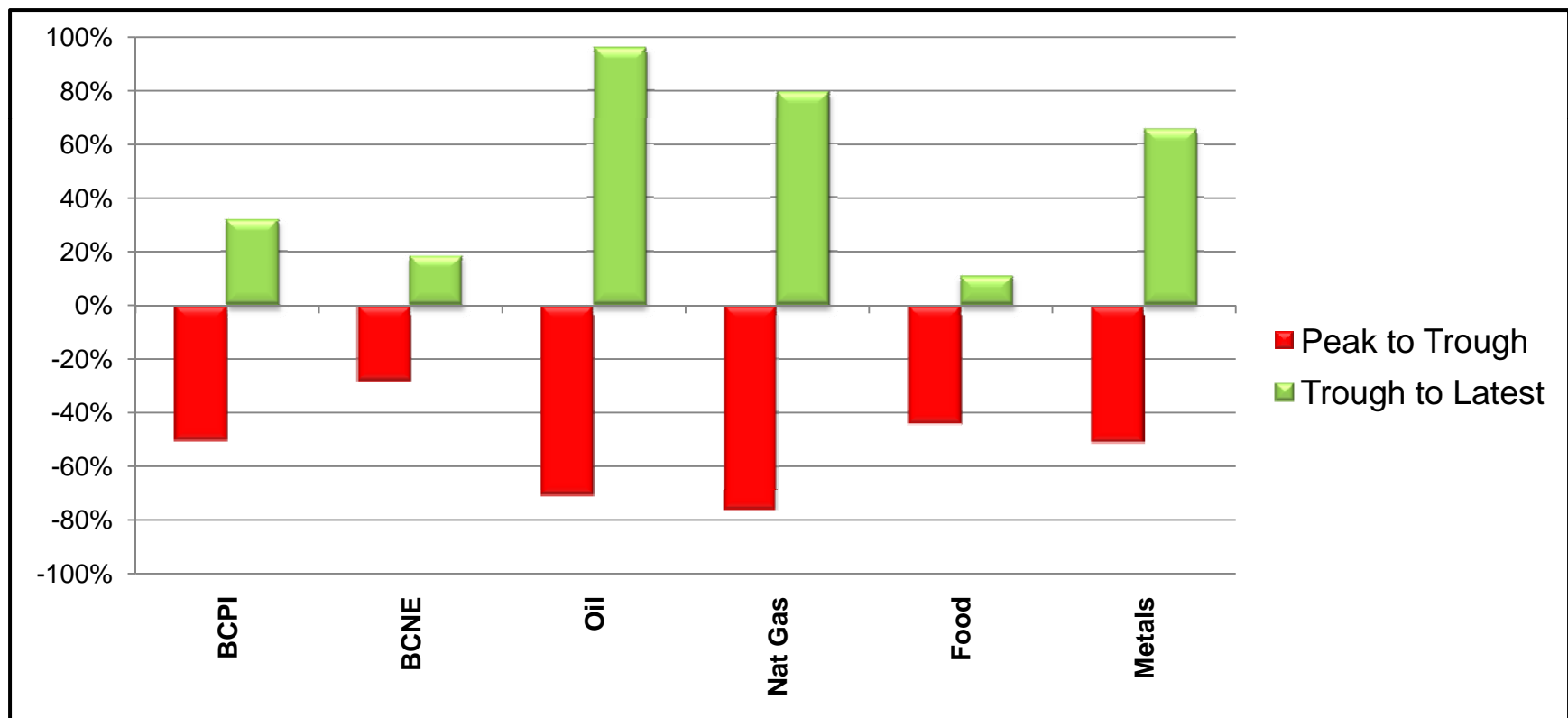


Supply

- The CPPM is focused on demand side drivers of commodity prices.
- What about supply?
- The Staff complement the quarterly projection round with a detailed examination of various supply indicators / discussions with industry experts → not captured in the model.



Commodity Price Changes





Supply: Some of the questions

1. What are the long-term prospects for oil supply?
2. “Game changer” in natural gas
3. Has Chinese stockpiling driven up commodity prices?
4. How important is the latest round of OPEC supply cuts?



How important were the latest round of OPEC supply cuts?

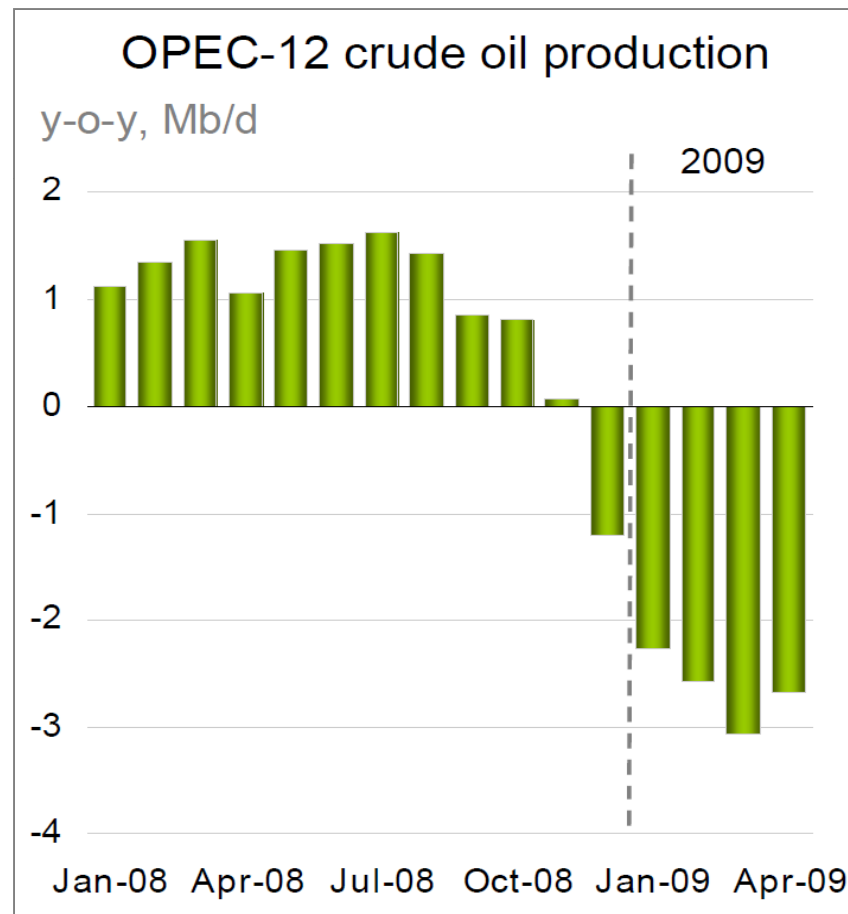




Chart 4a: U.S. GDP began falling in 2008...

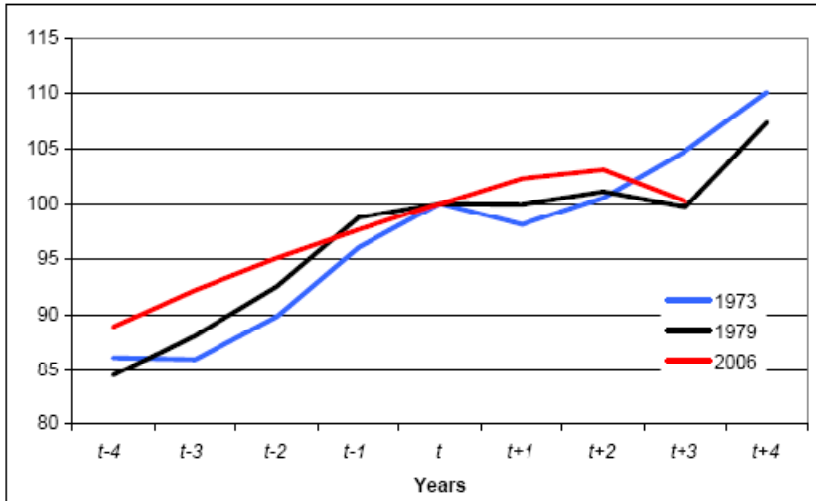


Chart 4b: ...which reduced oil demand...

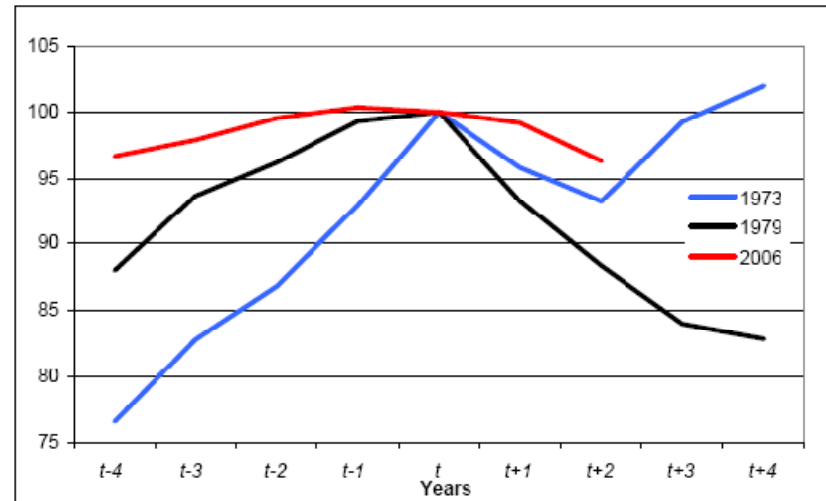


Chart 4c: ...which forced prices lower

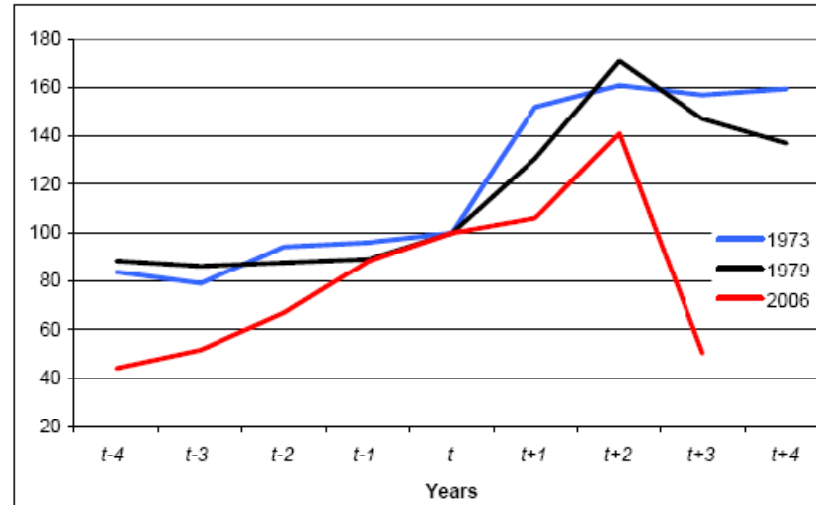
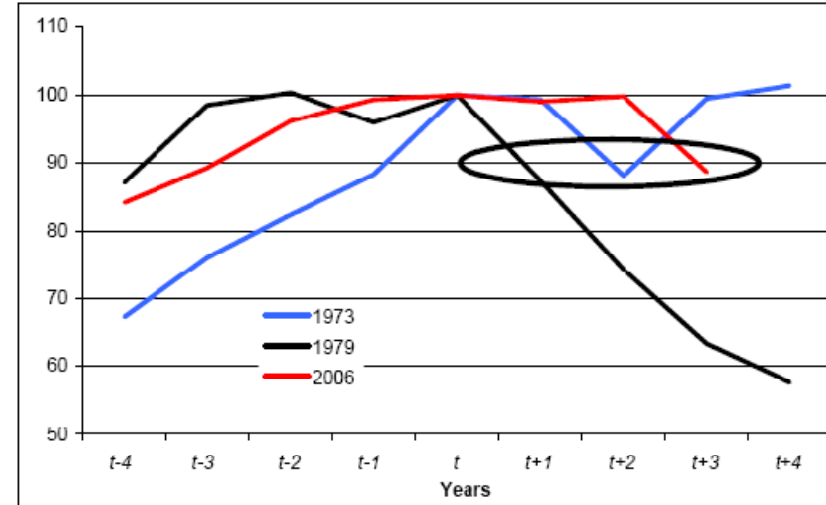


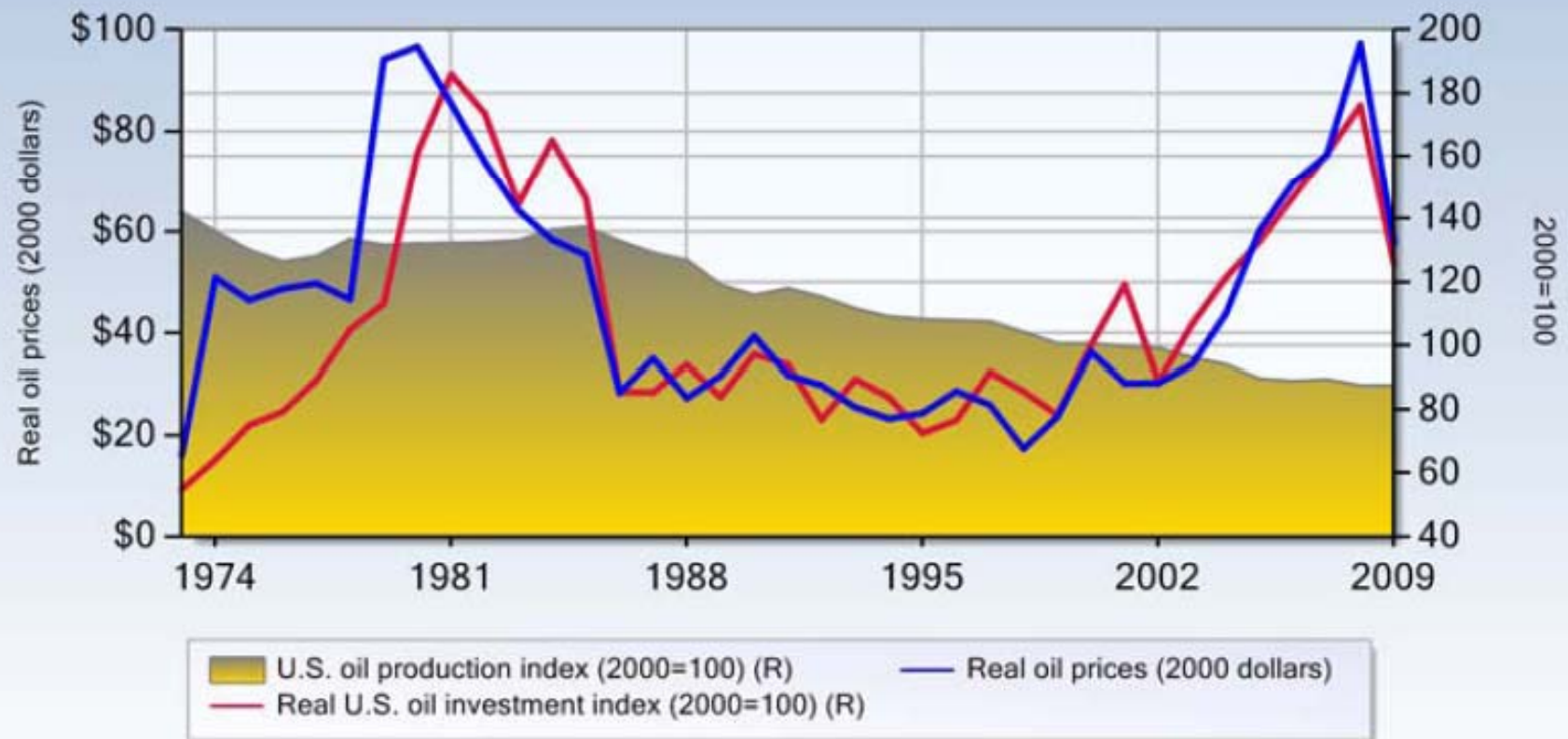
Chart 4d: ...leading to OPEC's reaction



Note: In these charts, U.S. GDP is assumed to fall by 2.8% as forecasted by the IMF (2009).



Chart 6: The increase in investment has not resulted in greater oil production in the United States



Sources: Bureau of Economic Analysis, IHS Global Insight, authors' calculations



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Thank You

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