

# Optimizing Demand Planning as a Key Tool to Sense & Identify Demand Changes Earlier and Respond Accordingly

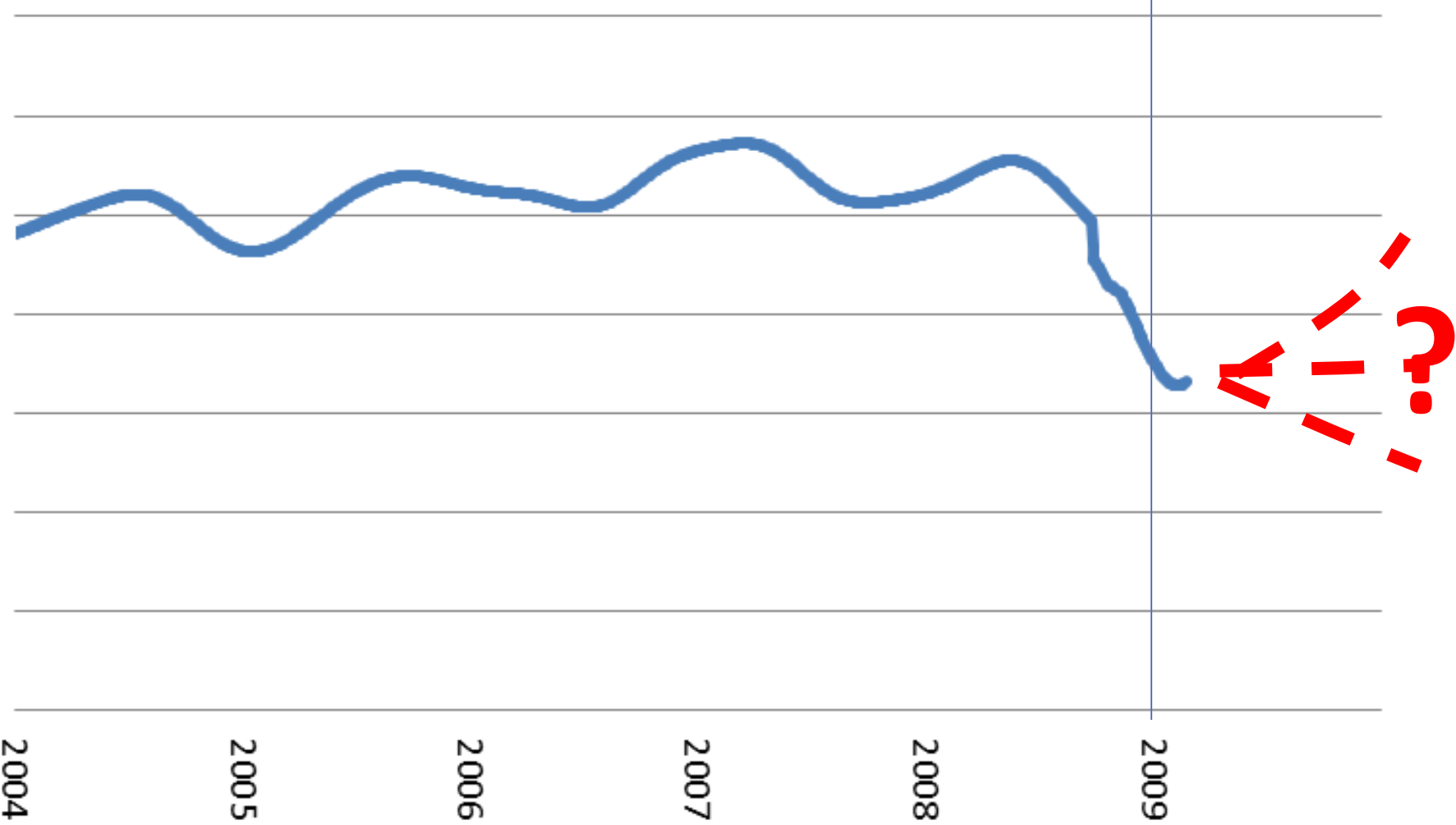
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Logichem April 2012

**flostock**  
stock & flow analyses

# Summary

- Two strategies: A and B
- Computer model
- Reality.

# Info available to Company B early 2009



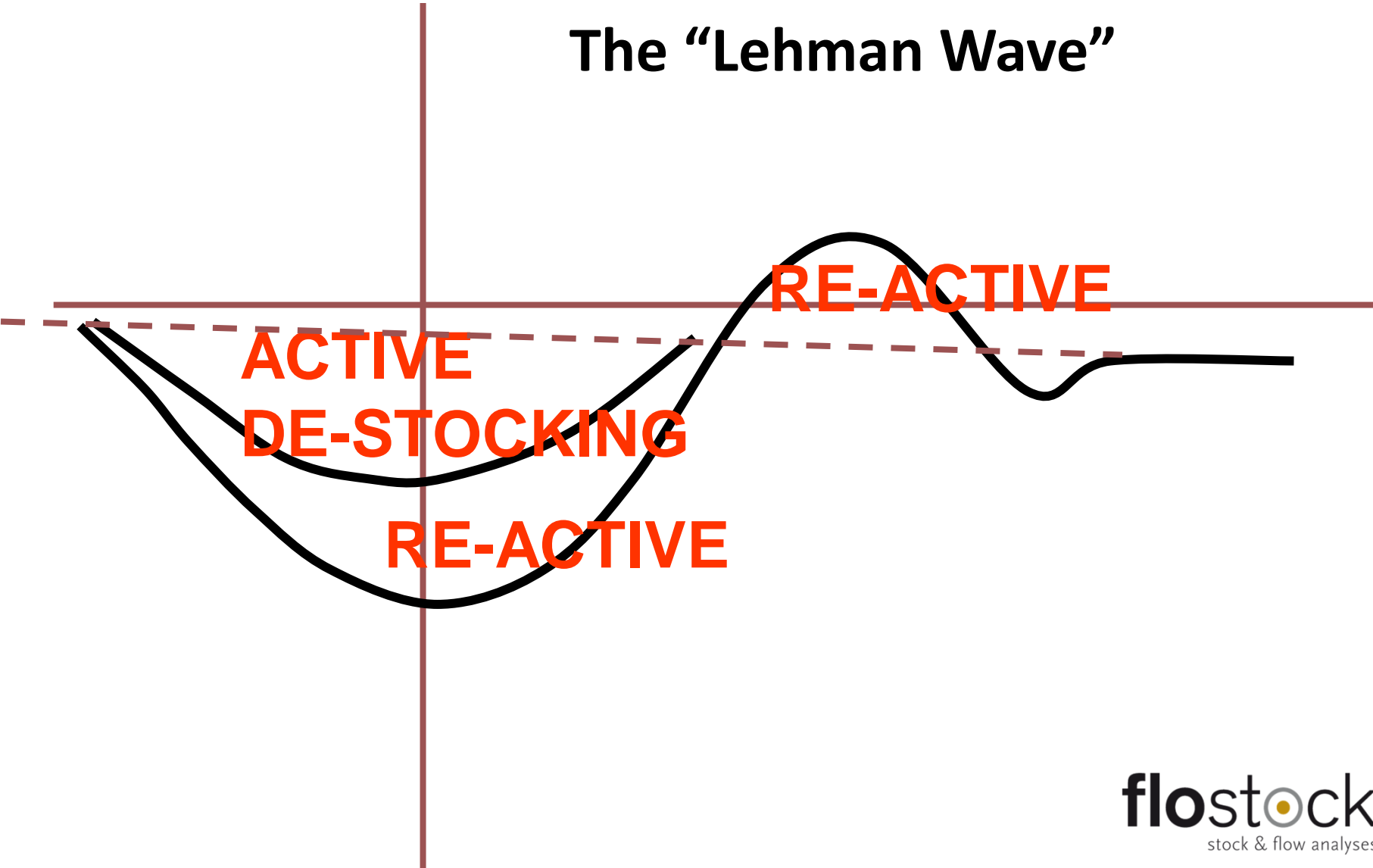
# Strategy B: Fast & Flexible

Without proper forecast a company has to be flexible:

- Cash = King
- Fast reduction of stock
- Fast reduction of workforce
- Fast demolishing of capacity

# Company A had a theory

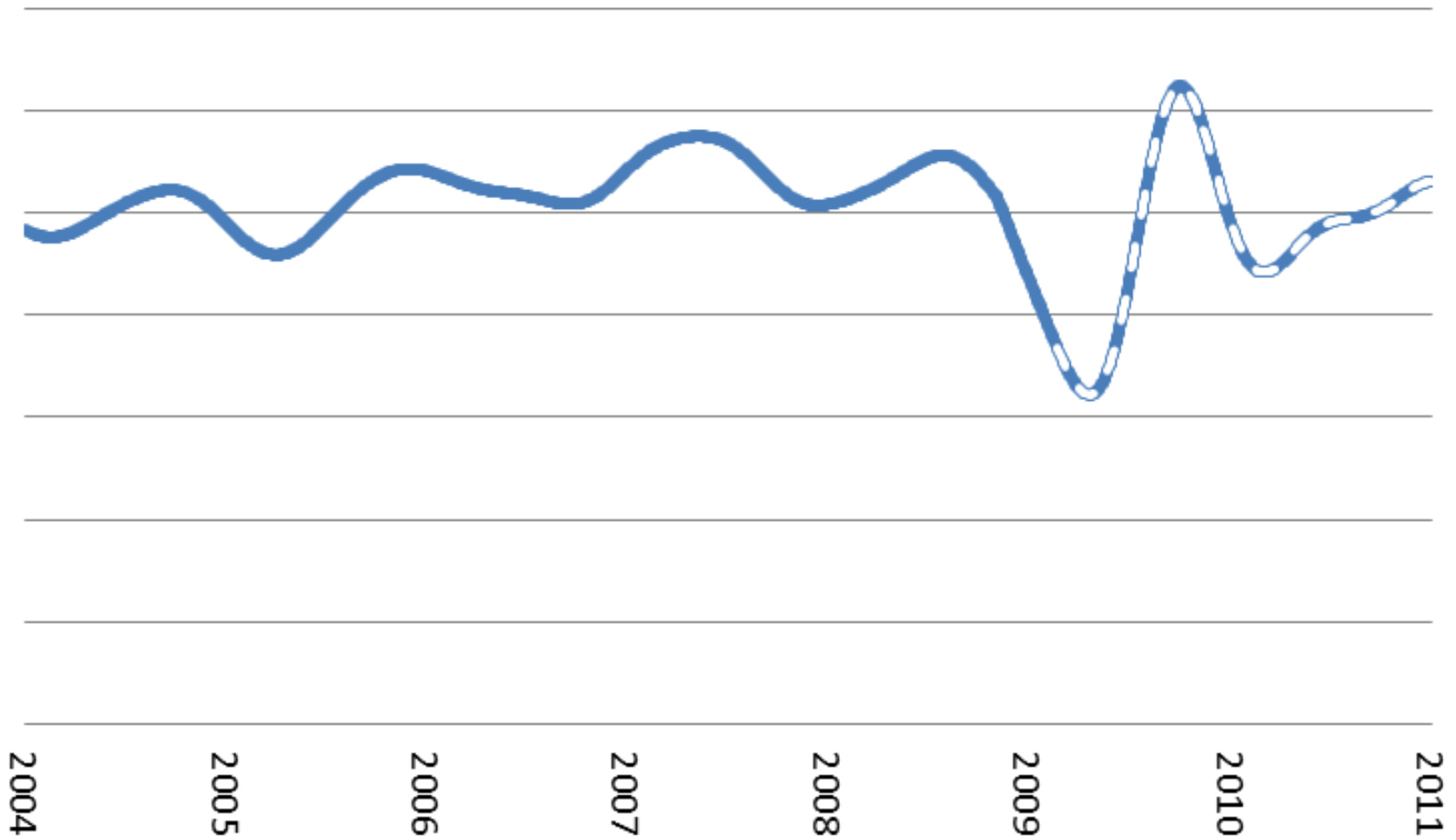
## The "Lehman Wave"



# Company A made a forecast with a Computer Model

- Beer distribution game (MIT)
- System Dynamics
- Unique in the world
  - Developed by TU/e & Flostock
  - End market determines upstream demand
  - The chain buffers and modifies

# Info available to Company A early 2009



# Strategy A: Forecast & Delayed Response

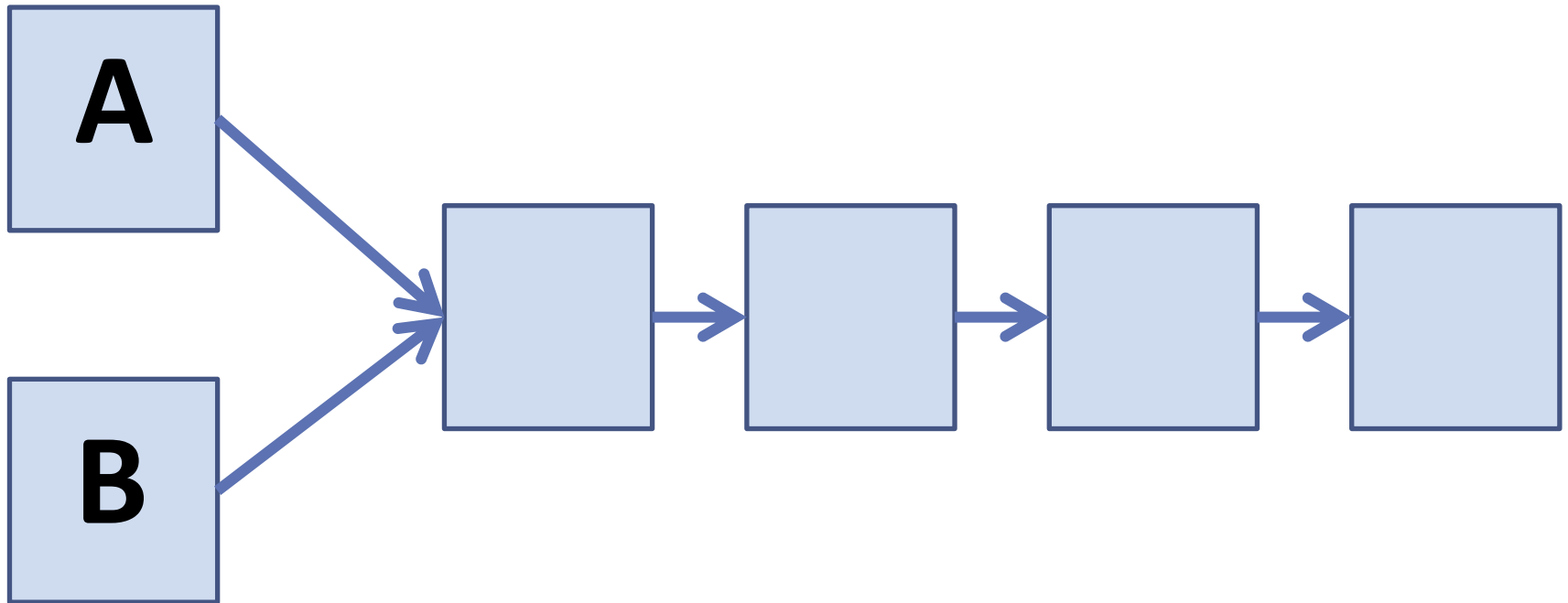
Based on assumed Lehman Wave:

- Staying the course
- Build-up of stock
- Slow reduction of workforce
- Slow demolishing of capacity

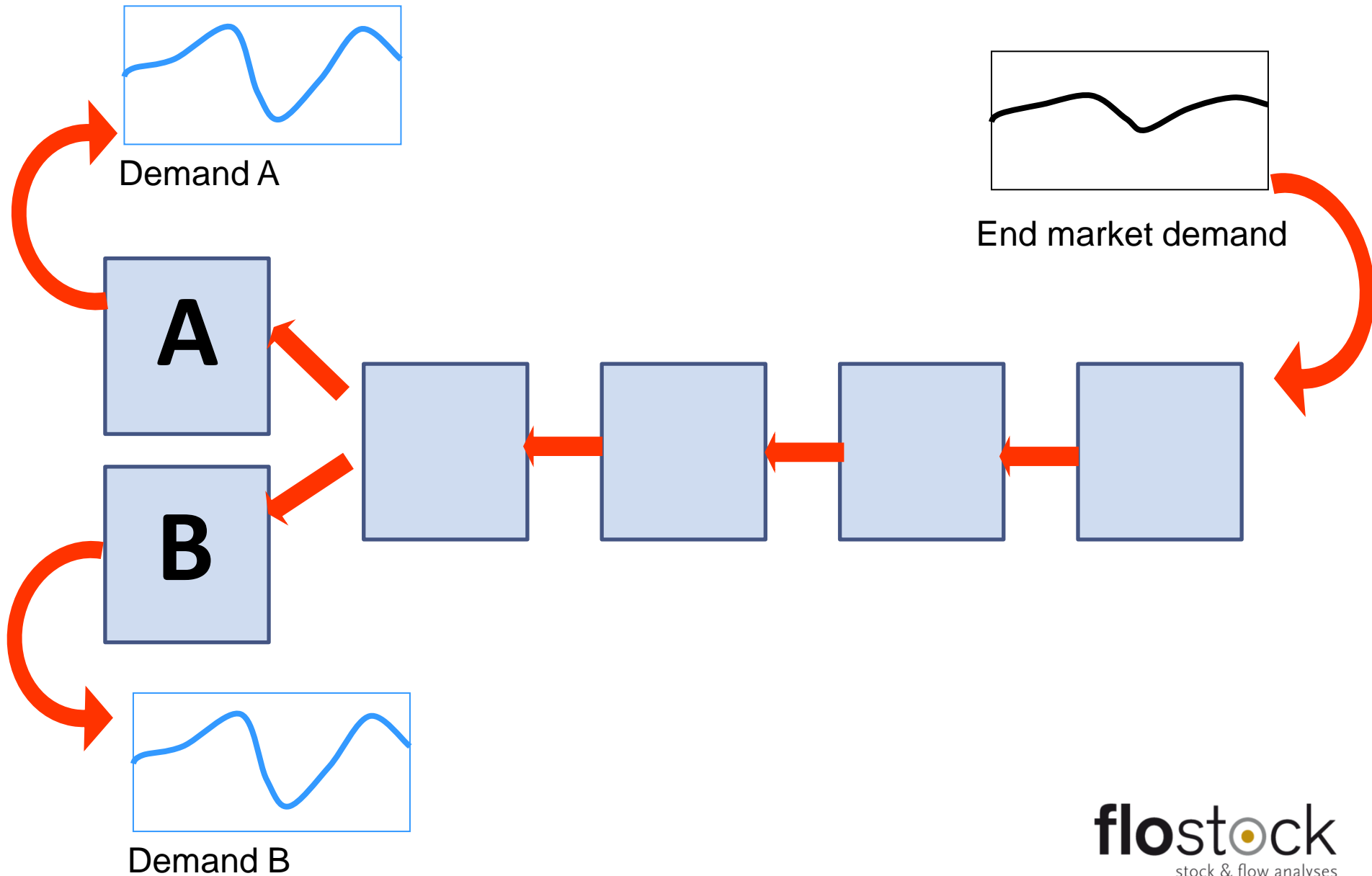


# MODEL STUDY

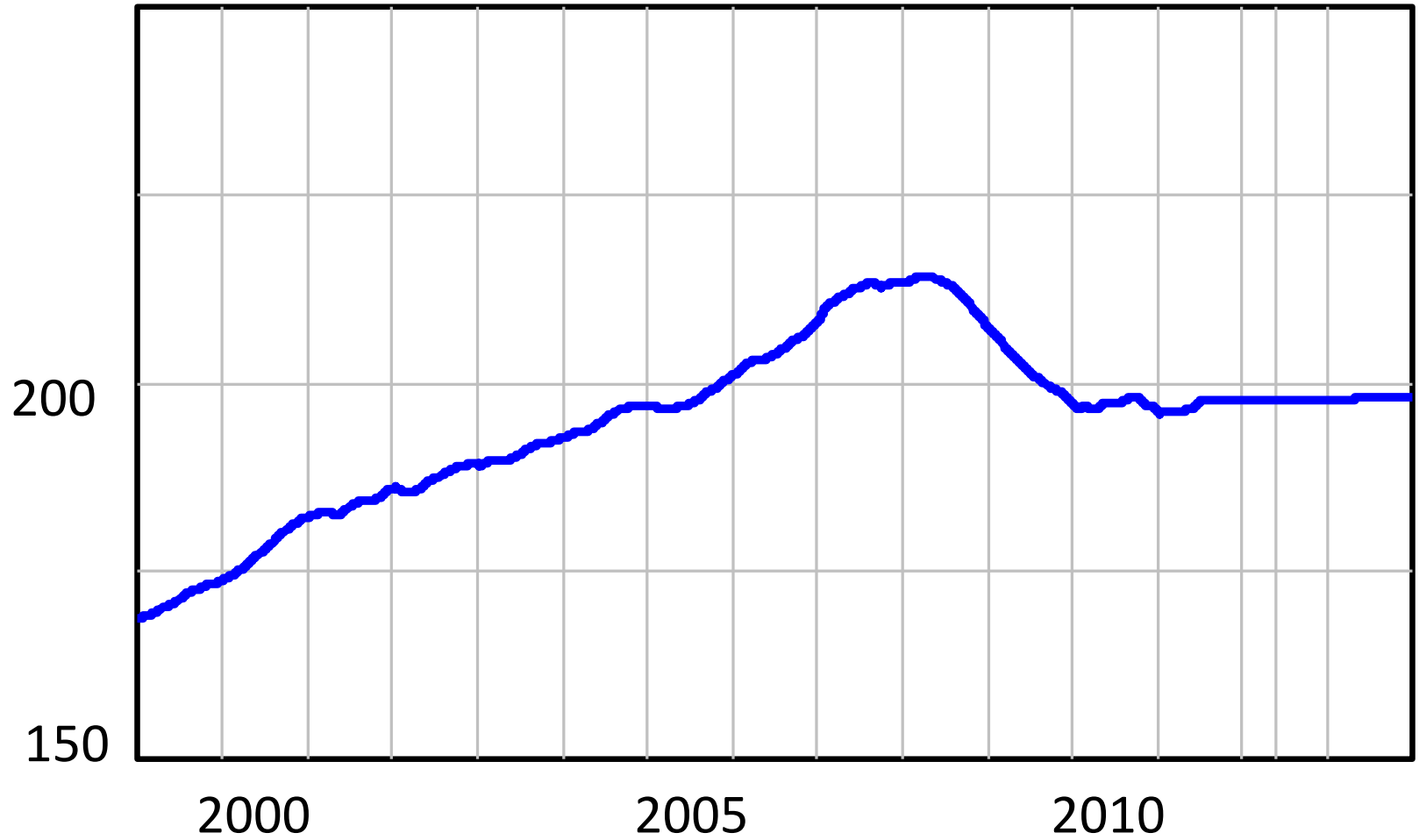
# Flostock Model



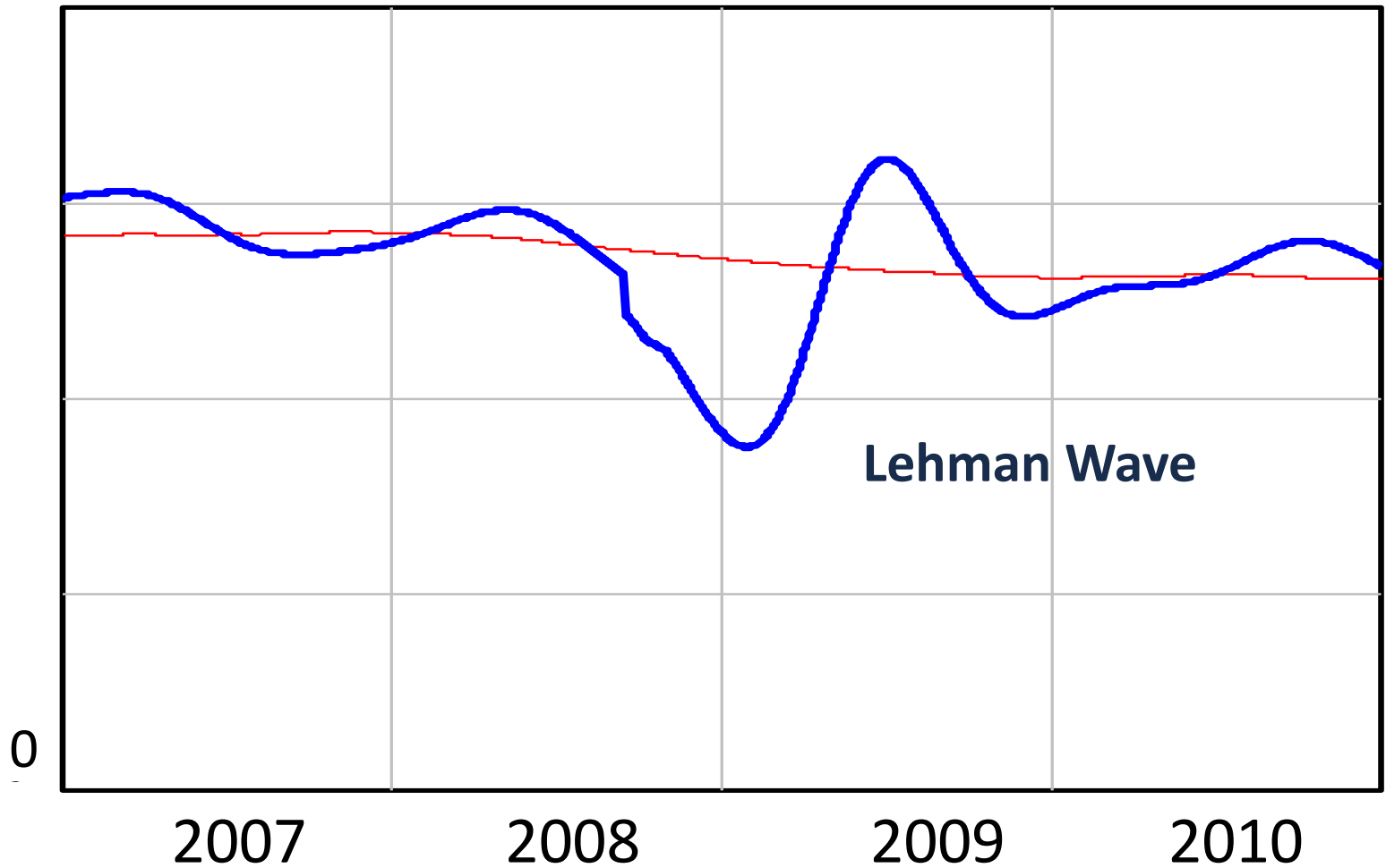
# Flostock Model is demand driven



# End market



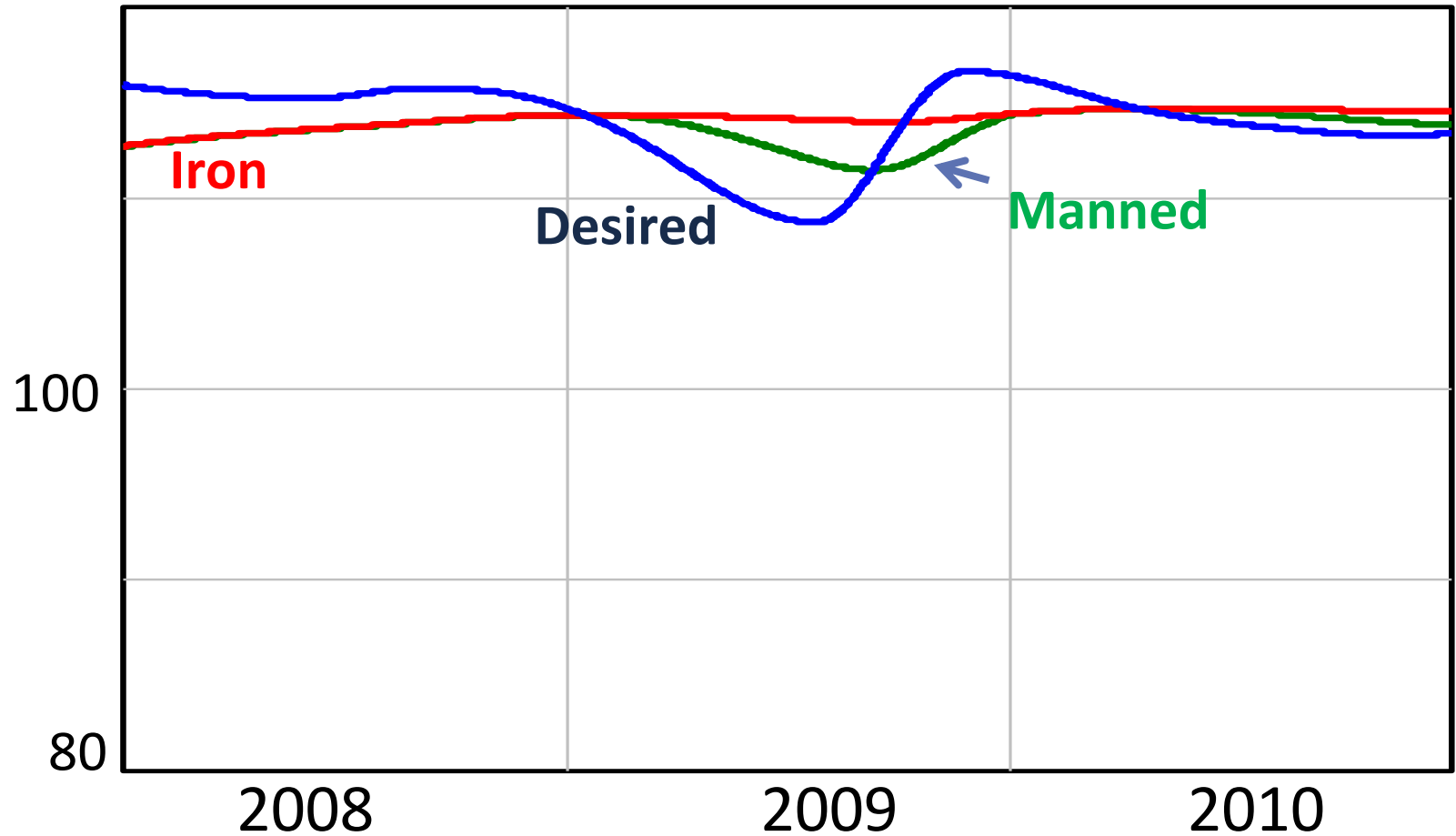
# Demand for A and B



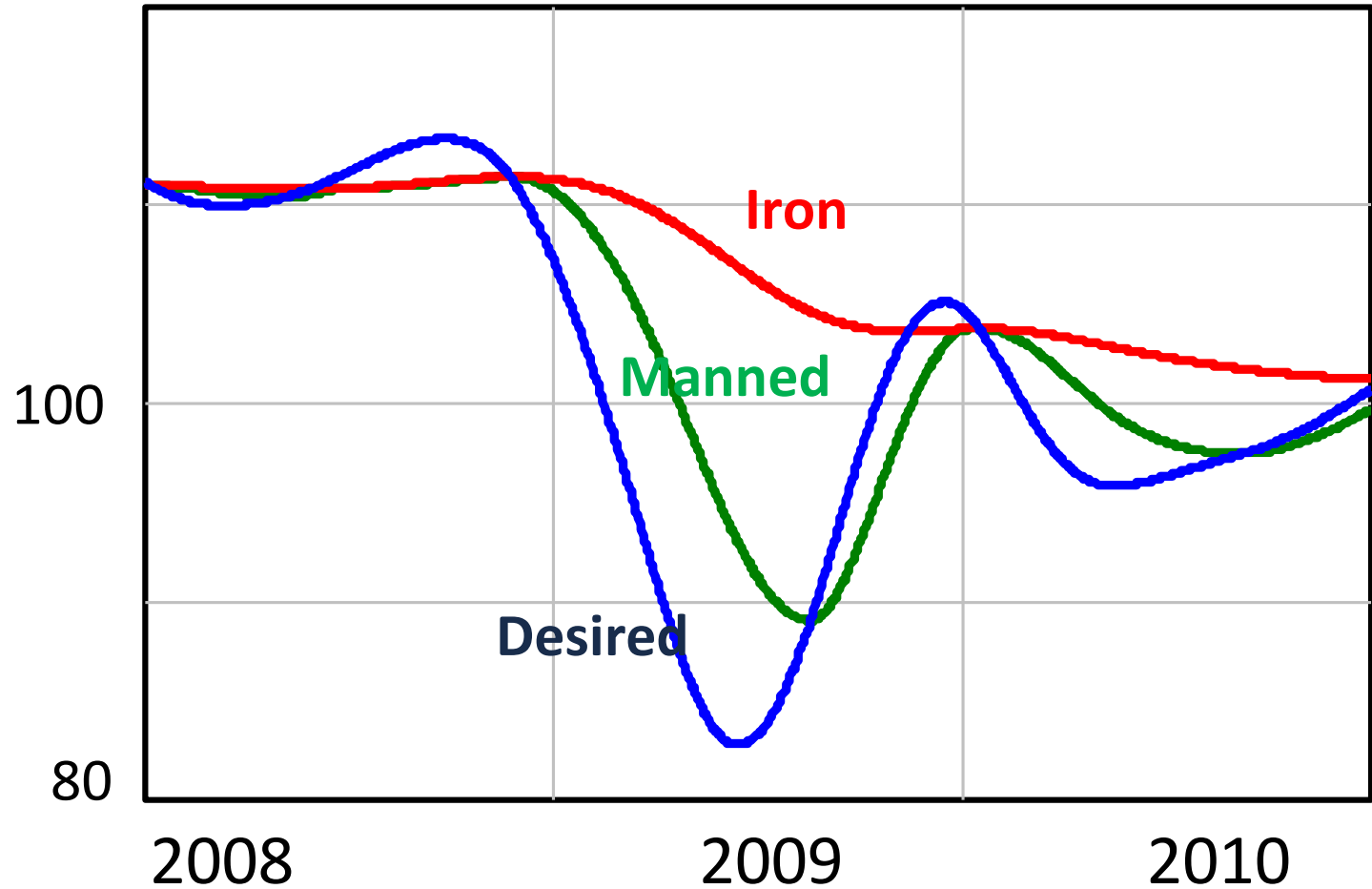
# Different response times

	<b><u>A</u></b>	<b><u>B</u></b>	
Stock	100	30	days
People	6	1	months
Capacity	6	2	years

# Capacity Company A

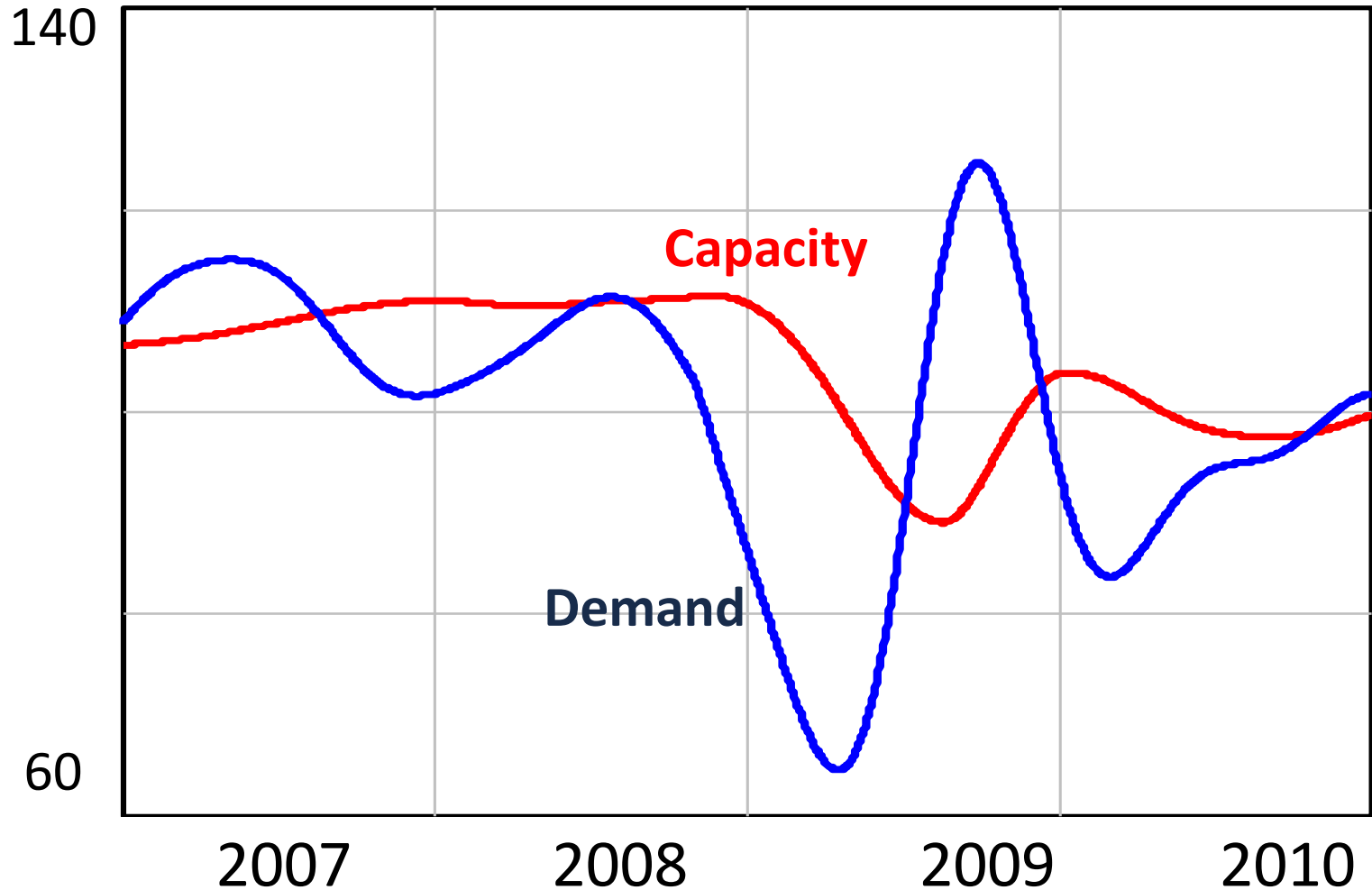


# Capacity Company B

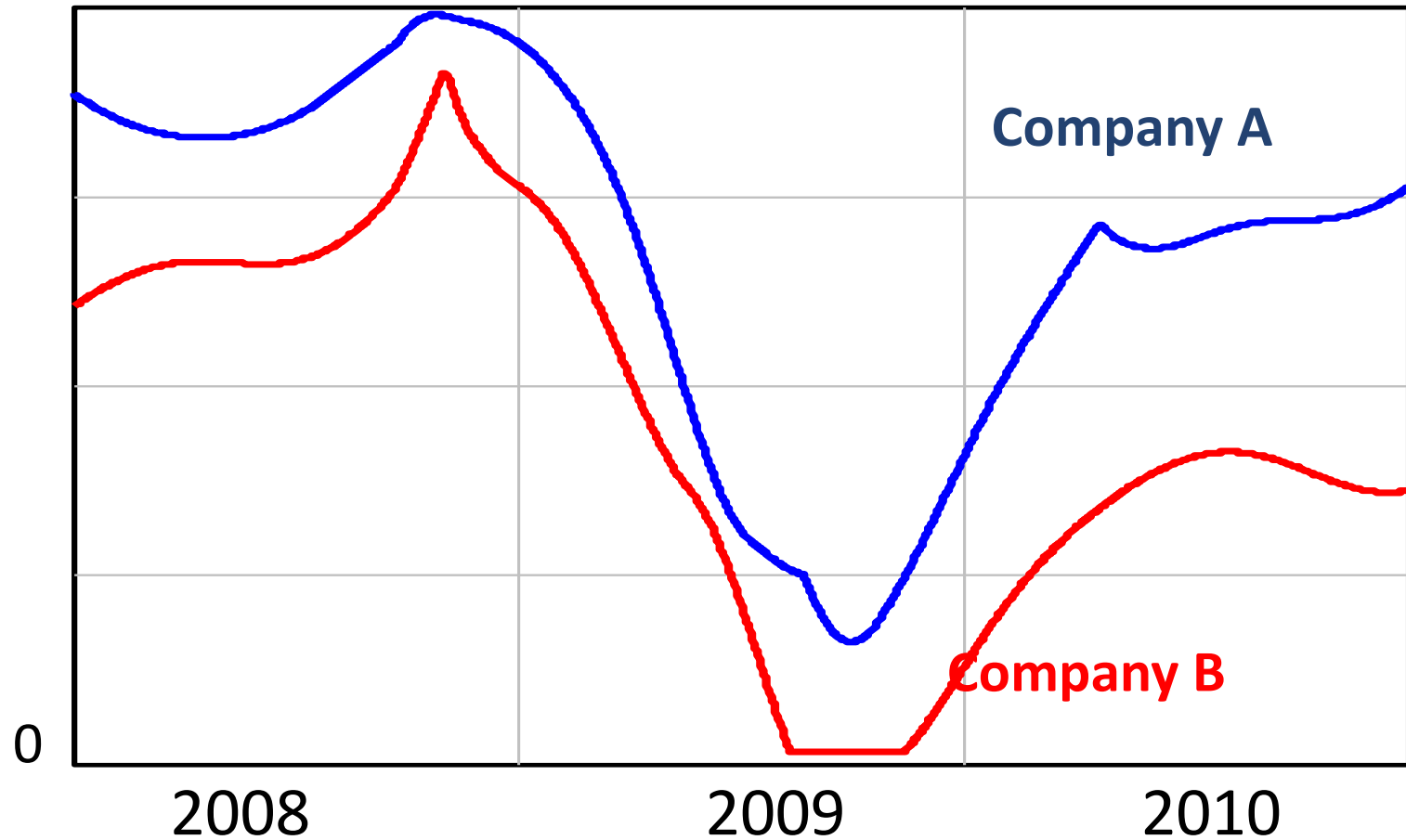




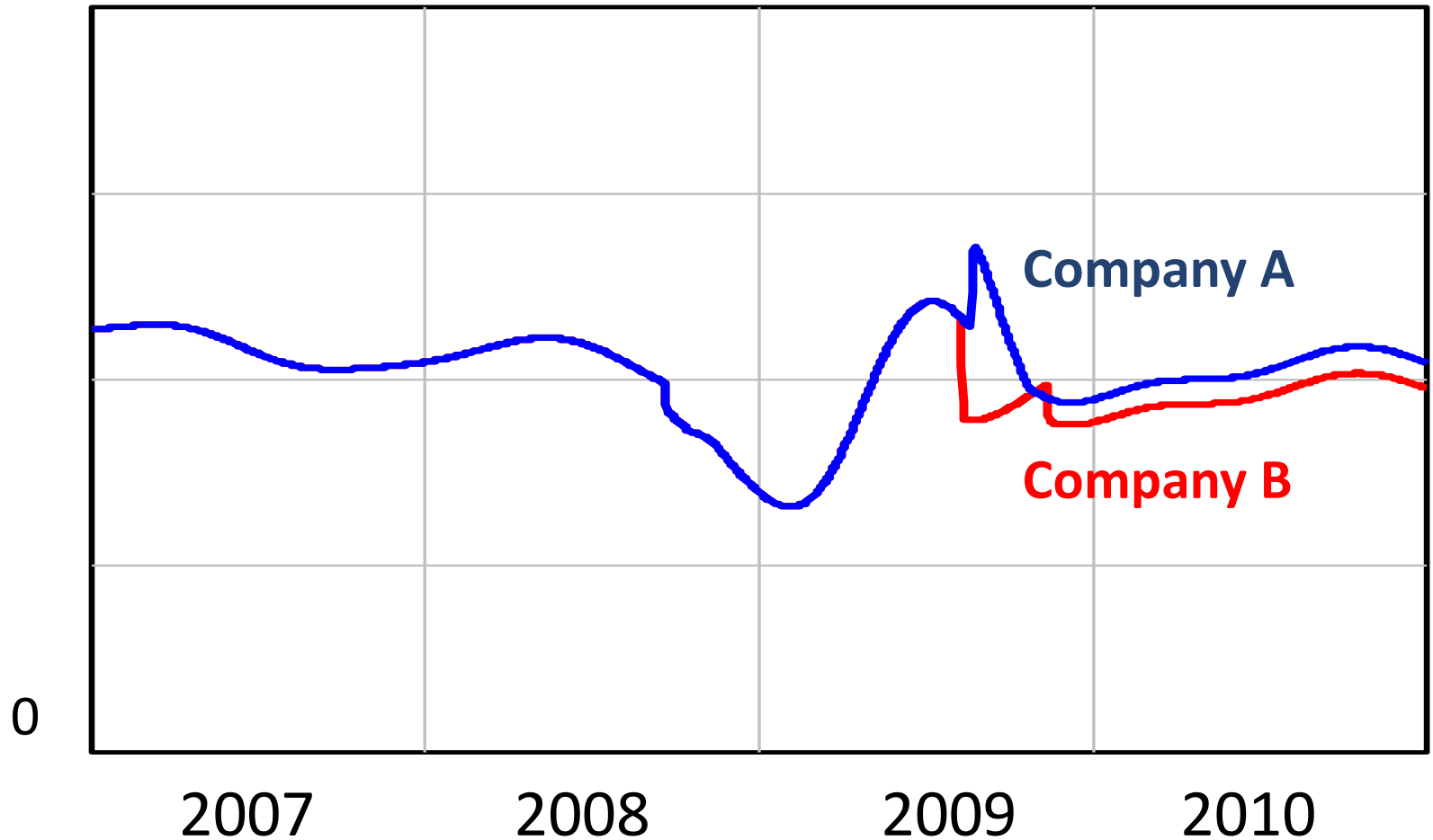
# Demand was larger than Capacity B



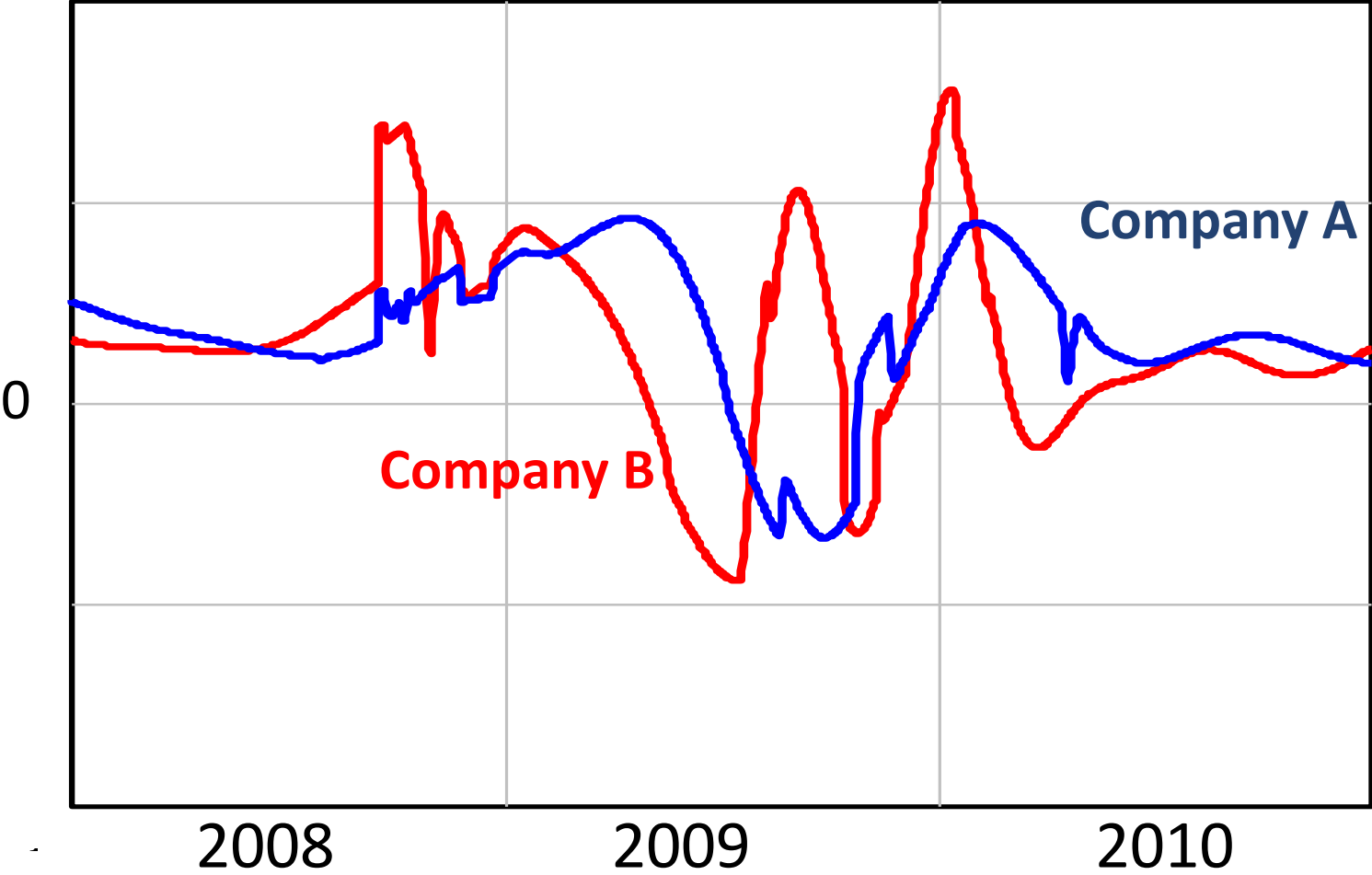
# Stocks



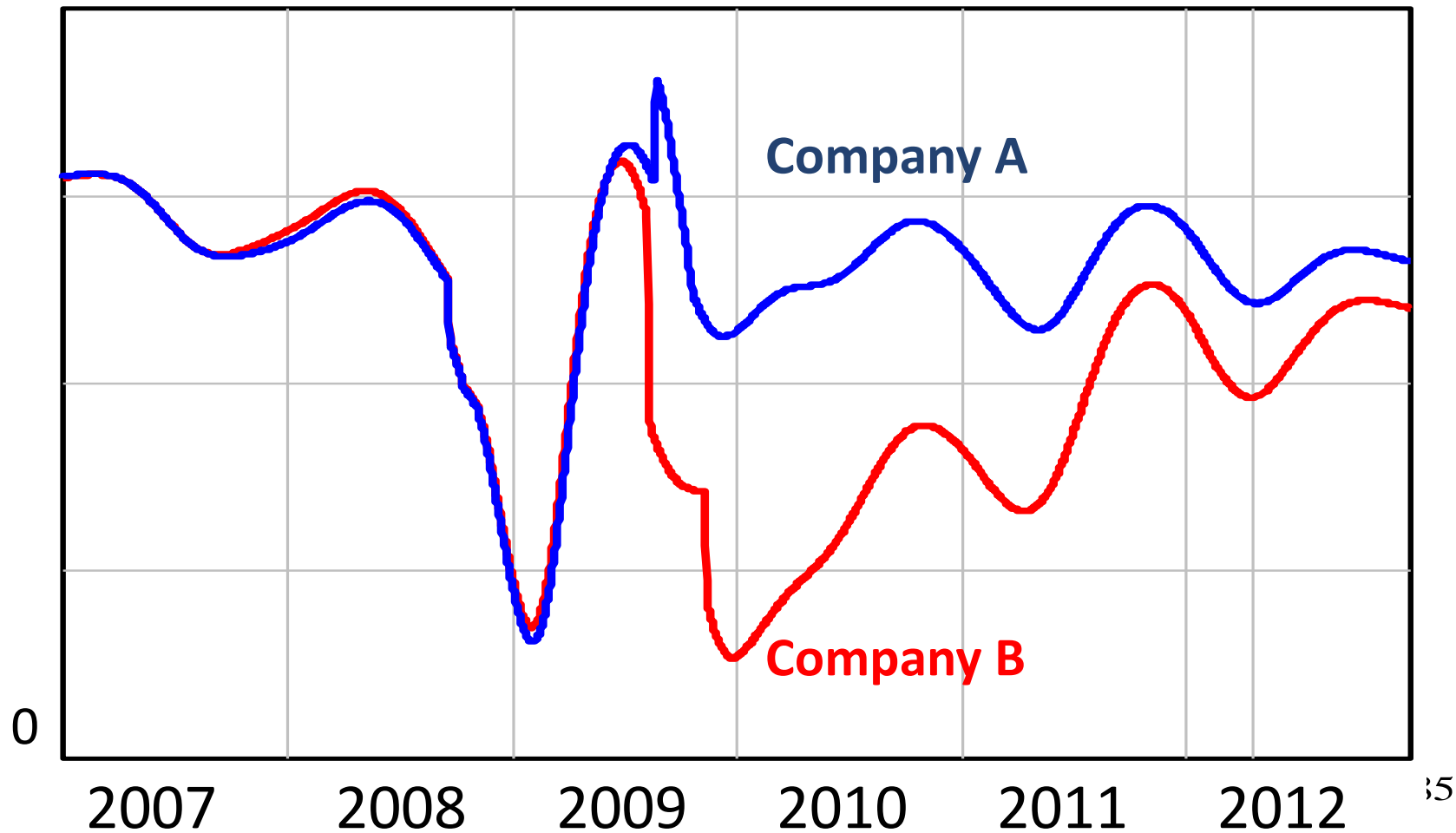
# Sales: Company B lost Market Share



# Cash flow

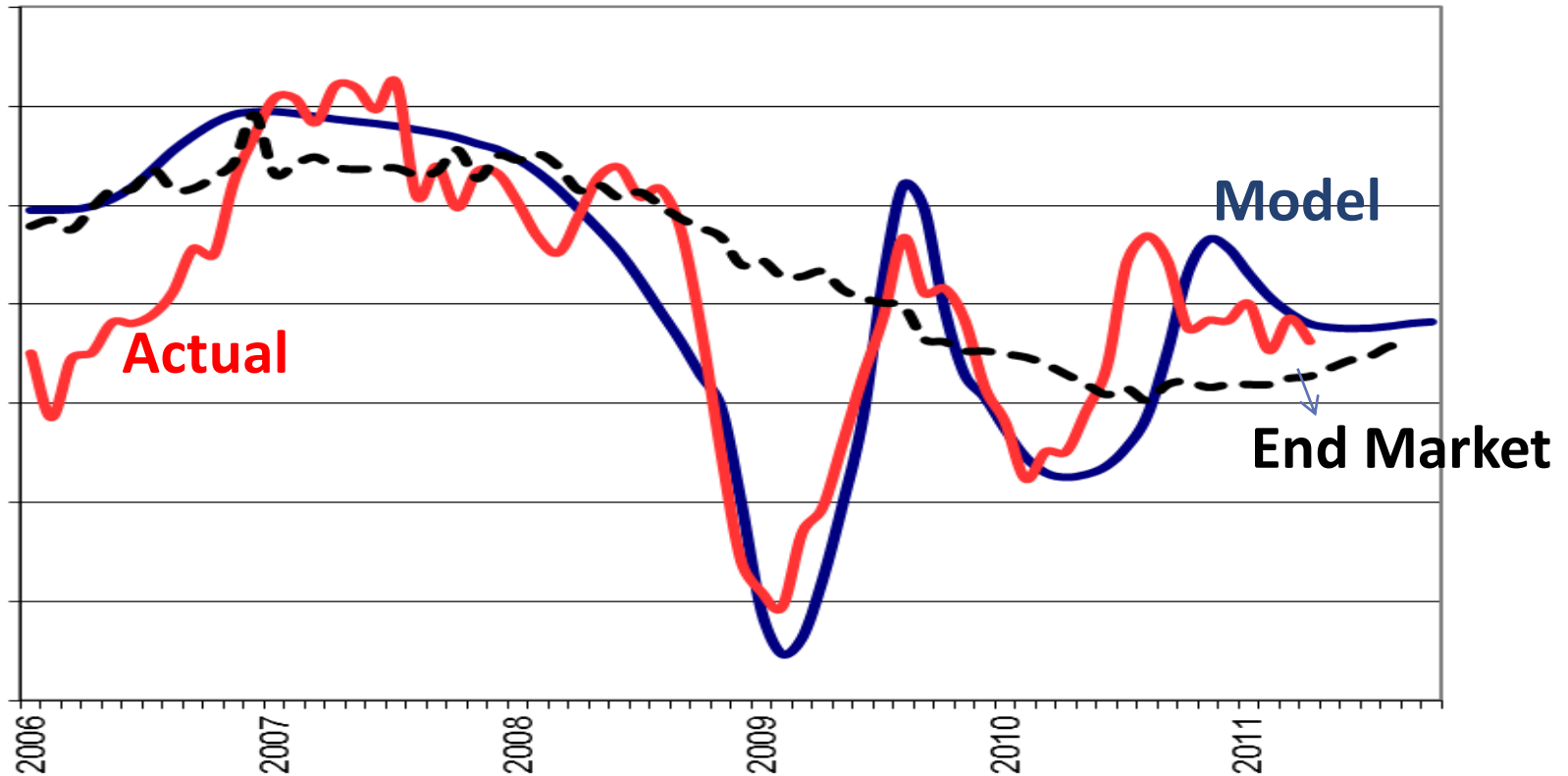


# EBITDA%

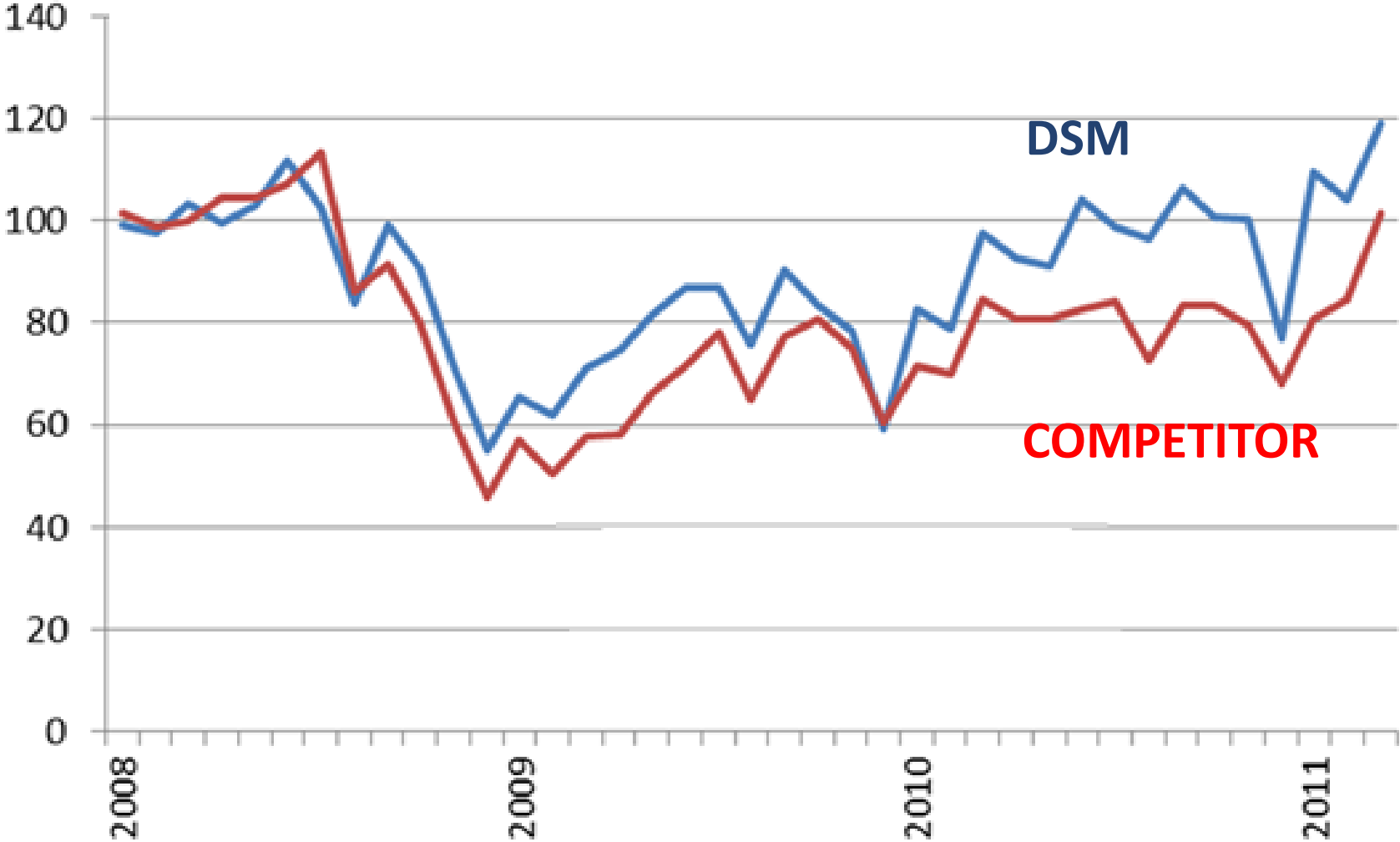


# COMPARISON WITH ACTUAL

# Sales in DSM's Joinery business



# Sales of DSM and Competitor in Coating Resins





# Operational Takeaways

**Fast crisis response** is not good if market is volatile  
and you cannot cope with demand

**Slow responses** reduce the bullwhip

**Management Gaming** can bring logistics into the  
board room

# Strategic Takeaways

**End market** determine your demand

**Supply Chains** create waves around the end market

**Forecasting** based on end market and supply chain gives  
essential steering information



# flostock

stock & flow analyses

We predict what you promise...