



Committee On Marine Transportation System

Measuring Performance


Uses/Misuses of Marine Transportation Statistics


Introduction (Types of Data)

Analytical Sins

Hybrid Approach

Types of Data/Information

 **Primary Data:** Actionable data collected for a specific purpose, usually collected through focus groups, customer surveys/feedback surveys....., customer commitments.

 **Secondary Data:** Data that was originally collected for another purpose, usually collected on forms, such as vessel manifests, customs documents, SEC filings, vessel registrations. Secondary data are records of market transactions.

Analytical Sins – Secondary Data (pro-investment biases)

Elastic Expectations

Up-turns will continue; down-turns are temporary!

Market by Inference

Project will succeed because things (GDP, Trade) are growing, but even if things aren't growing, the project will steal market from others? Project is good no matter what happens!

Supply/Demand Matching

Trade (~~demand~~) is growing so we need more transportation assets (~~supply~~). Or, transportation assets are wearing out. In either case, more assets are required!

False

Elastic Expectations/Market by Inference and Forecasting

In the 1970's, Data Resources Inc. introduced analysts to statistical software (Least Squares, ARIMA) for do-it-yourself forecasts.

$$\text{U.S. Domestic Trade} = 413.18 + 0.12 \times (\text{real GDP}) + \text{error}$$

(24.20) (23.52)

Interval: 1948-1975

$$R^2 = 0.95$$

$$\text{Elasticity (\% change trade/\% change GDP)} = 0.49$$



“Persons pretending to forecast the future shall be considered disorderly under subdivision 3, section 901 of the criminal code and liable to a fine of \$250 and/or six months in prison”

Section 889, New York State Code of Criminal Procedure

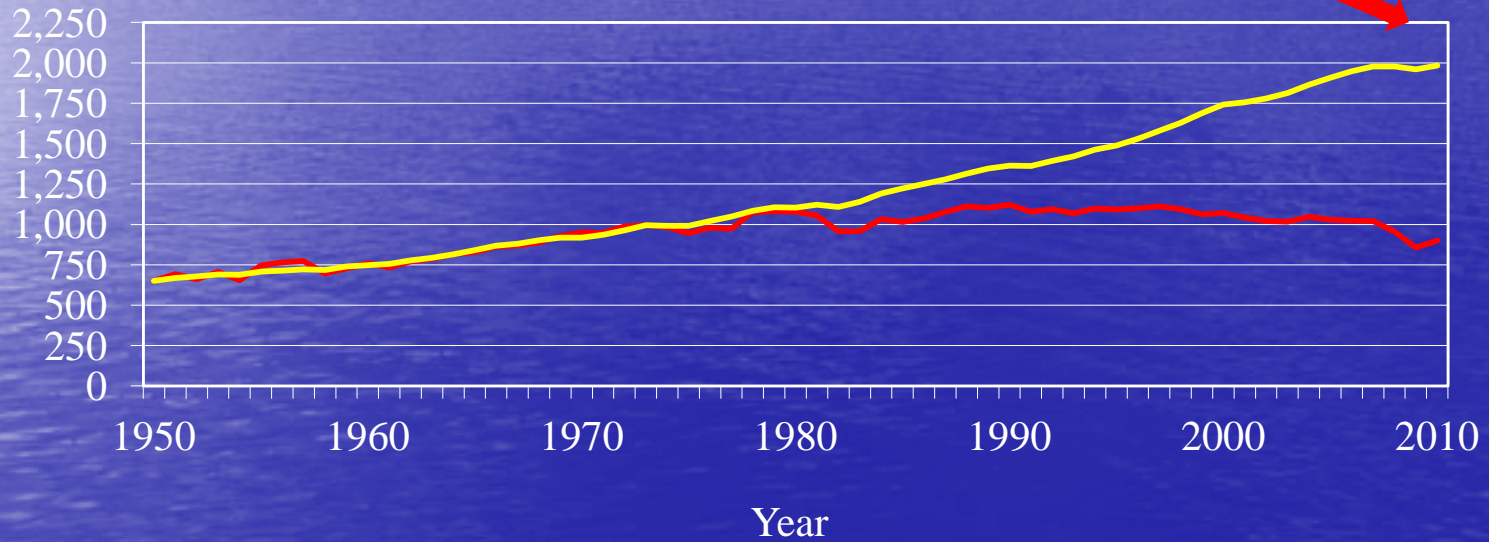
Cited by Pindyck, R. and Rubinfeld, D, Econometric Models and Economic Forecasts, 1998, p. xiii.

The Forecast

U.S. Domestic Trade, Actual and Forecast

Million Tons

Difference:
1,084 million tons



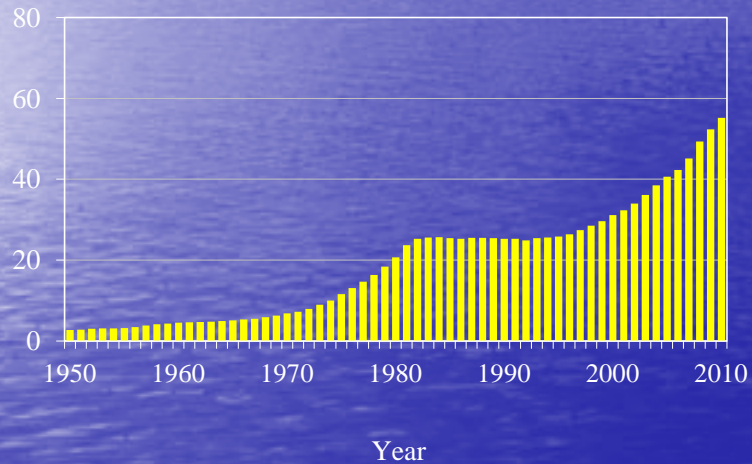
— Domestic Trade, Actual

— Domestic Trade, Forecast

The Result

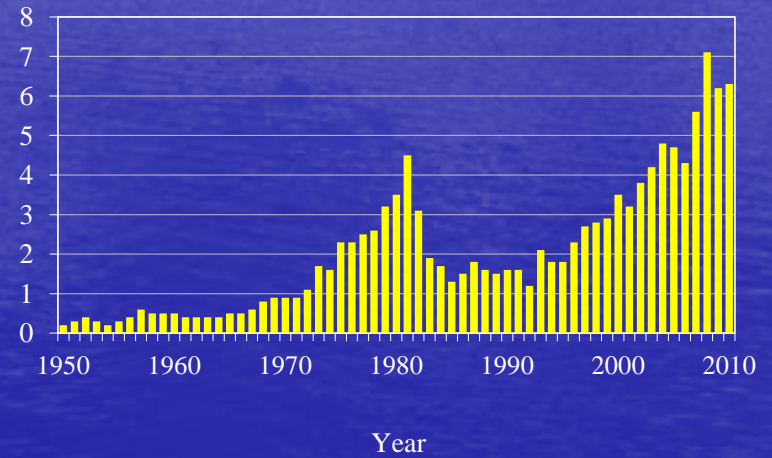
Vessel Assets, 1950-2010

Billion
Dollars



Investment in Vessel Assets, 1950-2010

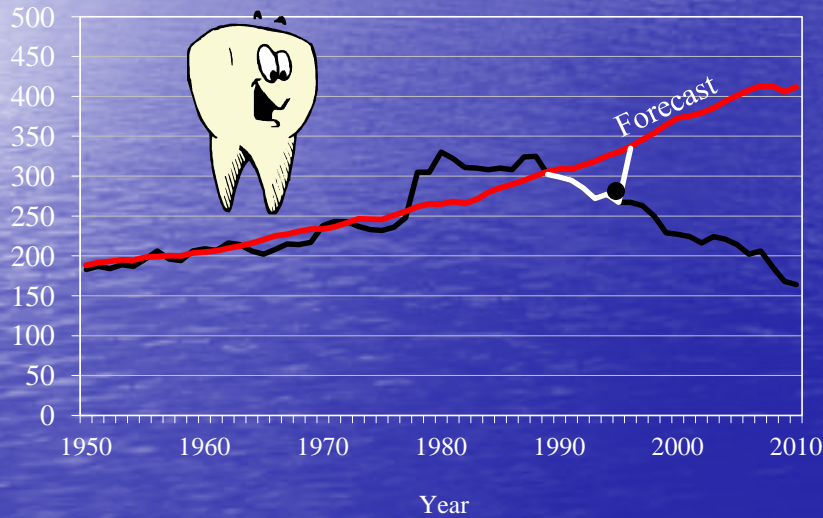
Billion
Dollars



Typical Forecasts Fang & Cone

U.S. Coastwise Trade, Actual and Fang-cast

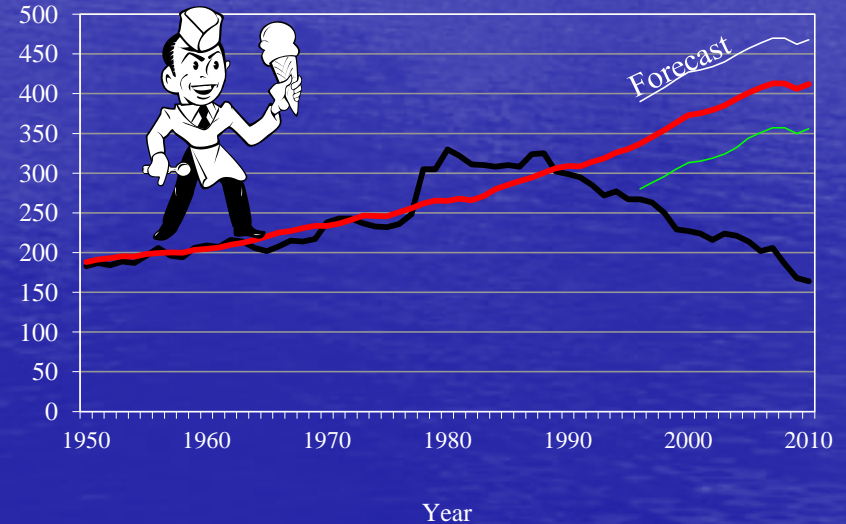
Million Tons



— Coastwise Trade, Actual — Coastwise Trade, Forecast
— Fang

U.S. Coastwise Trade, Actual and Cone-cast

Million Tons



— Coastwise Trade, Actual — Coastwise Trade, Forecast
— Upper Limit — Lower Limit

Conclusion, Hybrid Approach

Investment Decision



Long Term Customer Commitments



Primary Data Collection and Analysis



Secondary Data Analysis

Bottom Line

Start with secondary data, finish with primary data and Customer Commitments.

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