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Forecasting Affected Populations for Benefit-Cost Analyses

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Agenda

- Importance of Forecasts
- U.S. Coast Guard Examples
- Issues for Forecasting
- Summary
- Appendix – Web sites

Importance of Forecasts

- Required for Federal Rulemakings
- Typically 10-years, but not mandated
- Basis for discounted benefits & costs
- Should not assume steady-state population

USCG Example 1
Inspection of Towing Vessels Rulemaking

- Base population from government & industry sources

- 10-Year Analysis

- From base population calculate average new builds per year

USCG Example 1
Inspection of Towing Vessels Rulemaking

- Other industry sources for deletions
- Annual deletions = Annual new builds
- Derived steady-state population

✓ Key point: Net annual change can be difficult to calculate

USCG Example 2
Cargo Securing Manuals Rulemaking

Photograph from Cedre

- Rule targets containers lost at sea
- Base is current estimate of worldwide losses
- Used global port calls to estimate base U.S. traffic

USCG Example 2
Cargo Securing Manuals Rulemaking

- Estimate base containers lost in U.S. traffic
- Tioga Group forecasts 4.9% annual growth in container traffic
- Forecasted growth in lost containers

✓ Key point: Context & background are critical

Forecasting Human Populations

- Generations – Baby boomers retiring

- Current demographic changes
  - Fertility
  - Life expectancy
  - Economic impact: housing, health, consumer spending

✓ Account for population changes

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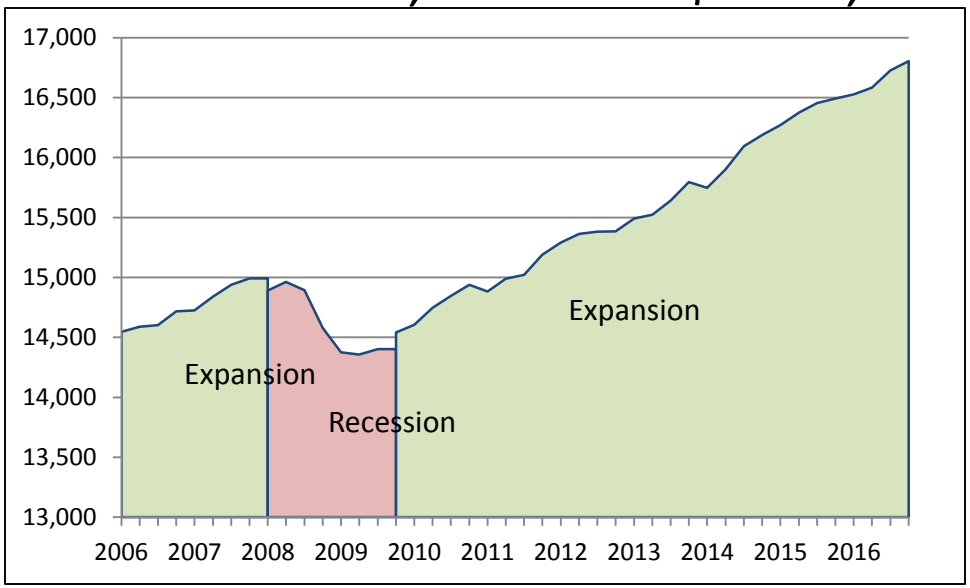
Forecasting Economics

GDP 2006-2016, Constant $2009, billions



- Business cycle context
- Compare similar points in cycles
- Check trends in prices, interest rates, and employment rates

✓ Economic activity is not linear

Forecasting Specific Industries

- Commodity prices /market structure
- Technology developments
- Government policies & regulations
- ✓ Identify industry change agents

Summary

- ✓ Deriving and projecting affected populations may require working with disparate information sources

- ✓ Problems? See your friendly expert demographer, economist, statistician

- ✓ Well-developed affected population is foundation for robust cost-benefit analysis

Appendix

Data sources for

- Demographics
- U.S. economic data
- International economic data
- Industry/company information

Demographics

- U.S. Census Bureau, www.census.gov
- U.S. Centers for Disease Control and Prevention, www.cdc.gov
- Population Reference Bureau, www.prb.org

U.S. Economic Data

- National Bureau of Economic Research, www.nber.org
- Bureau of Economic Analysis, www.bea.gov
- Bureau of Labor Statistics, www.bls.gov

International Economic Data

- Organization for Economic Co-operation and Development (OECD), www.oecd.org
- World Bank, www.worldbank.org
- International Monetary Fund, www.imf.org

Industry/Company Information

- Appropriate government agency
- Trade journals & trade associations
- Company web sites, annual reports, SEC filings