

Macroeconomic Impacts of Terrorist Attacks

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DHS University Network Summit

March 16, 2007

Key Resource Allocation Questions

- **How much should we spend to protect against terrorism?**
- **Should the spending come from the private or public sector?**
- **How should funding be distributed among potential targets?**
- **How should funding be distributed among alternative approaches to limiting damages from terrorism?**

How Much Should Be Spent?

- **Economic theory says spend until the expected value of the reduction in damages from the last dollar spent is equal to \$1**
- **Requires measures of both the **damages** from a terrorist event and the **probability** that a terrorist event occurs**
- **Currently the amounts spent to protect various types of targets varies greatly**

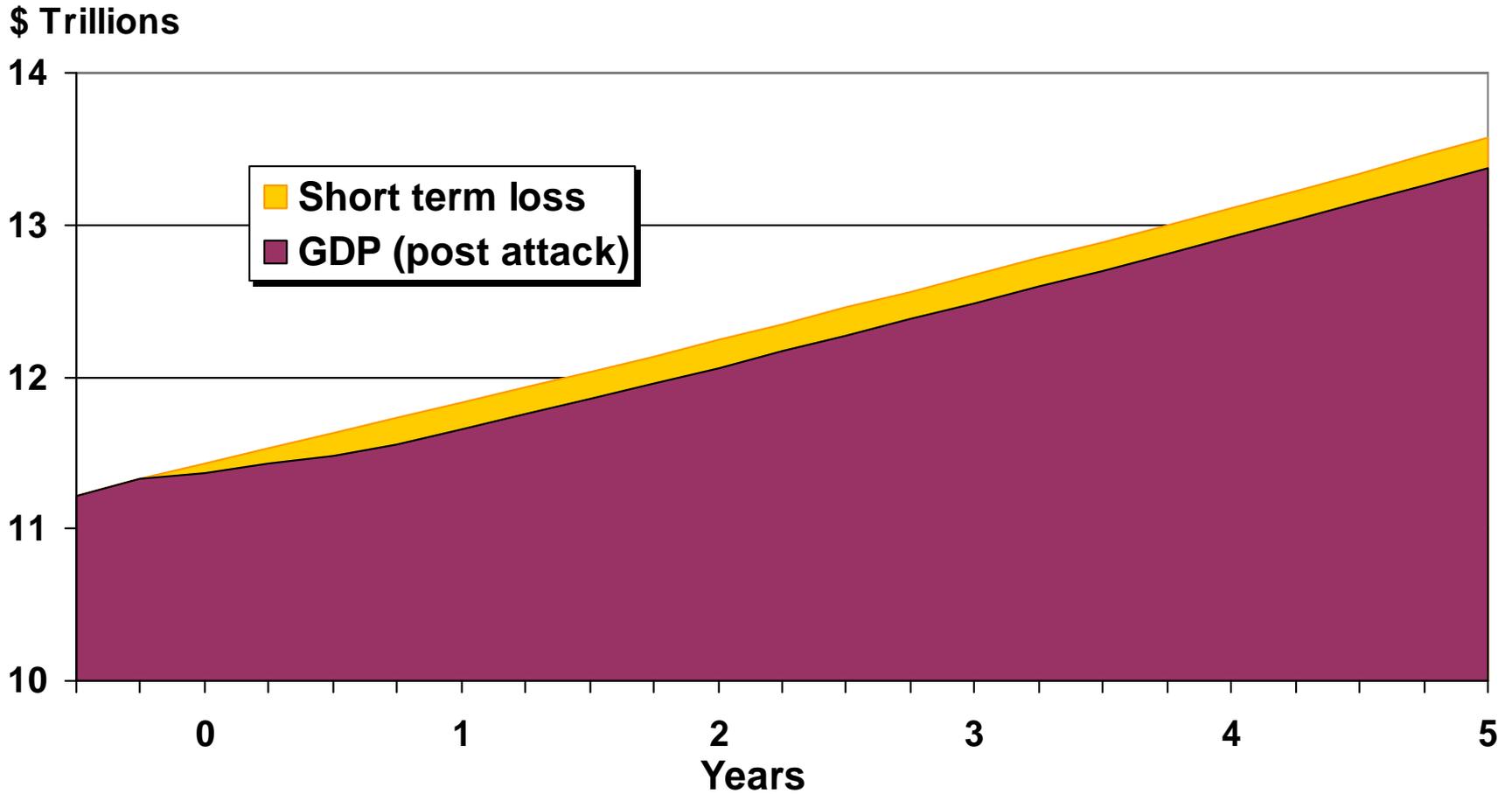
Estimating Potential Economic Losses from a Terrorist Attack

- **Value of lives lost**
- **Costs to affected firms and industries**
- **Disruption of international trade**
- **National economic impacts**
 - **Short-term macroeconomic impacts**
 - **Longer term macroeconomic losses due to reduced productivity**

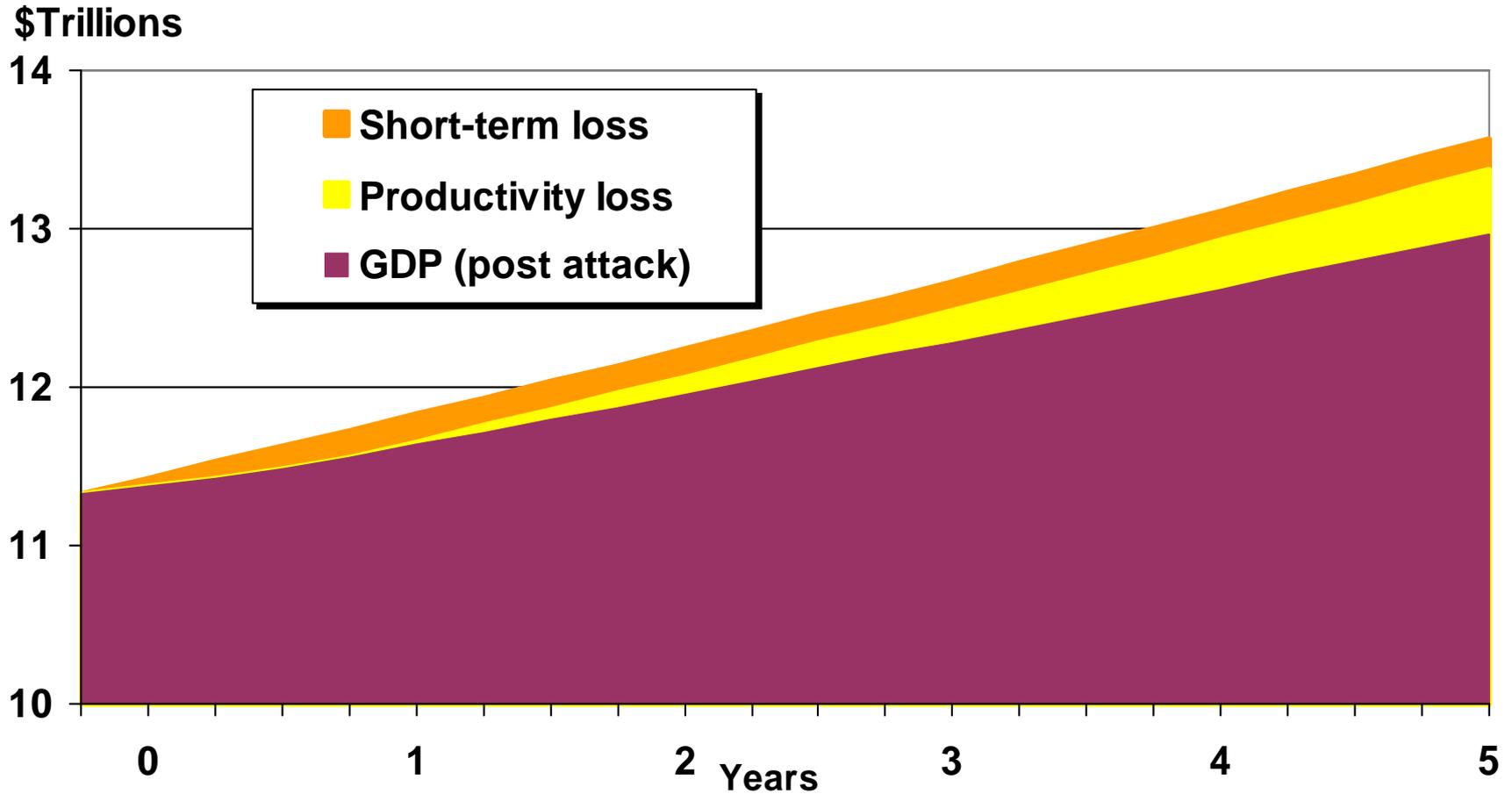
Macroeconomic Impacts Likely to Dwarf Other Impacts

- **Slower short-term growth and lower productivity will reduce economic output now and into the future**
- **Economic activity lost due to the terrorist action will not be regained**
- **Unlike natural disasters terrorism does not carry with it forces which automatically re-stimulate the economy**

Short Term Economic Losses Are Never Regained



Productivity Losses Grow into the Future



Study Design

- **Objective:** Provide estimates of GDP lost due to terrorist attack
- **Method:** Simulate short-term economic impacts of a terrorist act using large macro-economic model
- **Assume:** Attack occurs in summer 2005, examine only changes in major macro variables
- **Future Research:** Impacts of productivity changes, sector specific changes

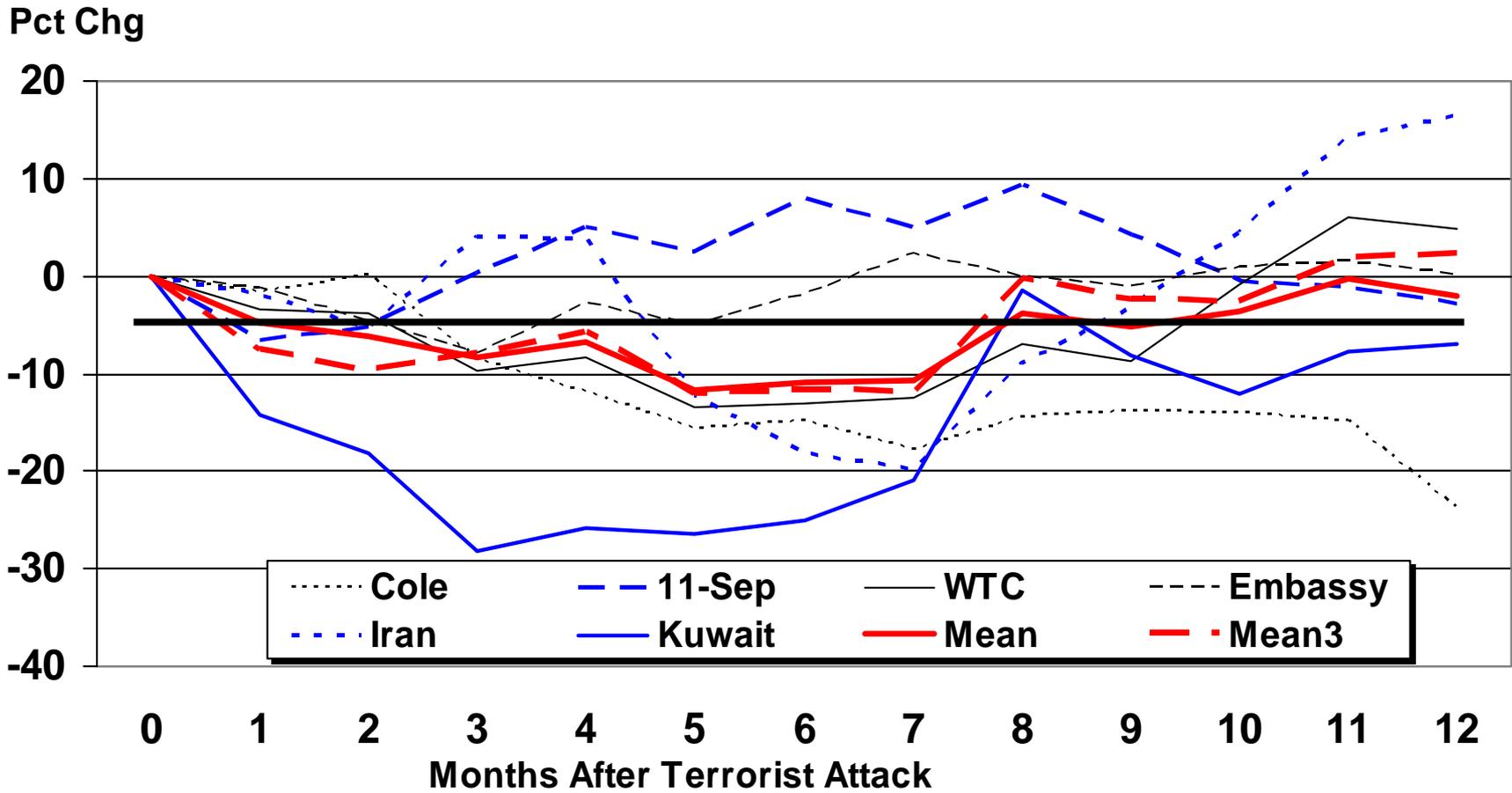
Key Variables Shocked in Model

- **Consumer sentiment**
- **Stock market**
- **Interest rates**
- **Value of the dollar**

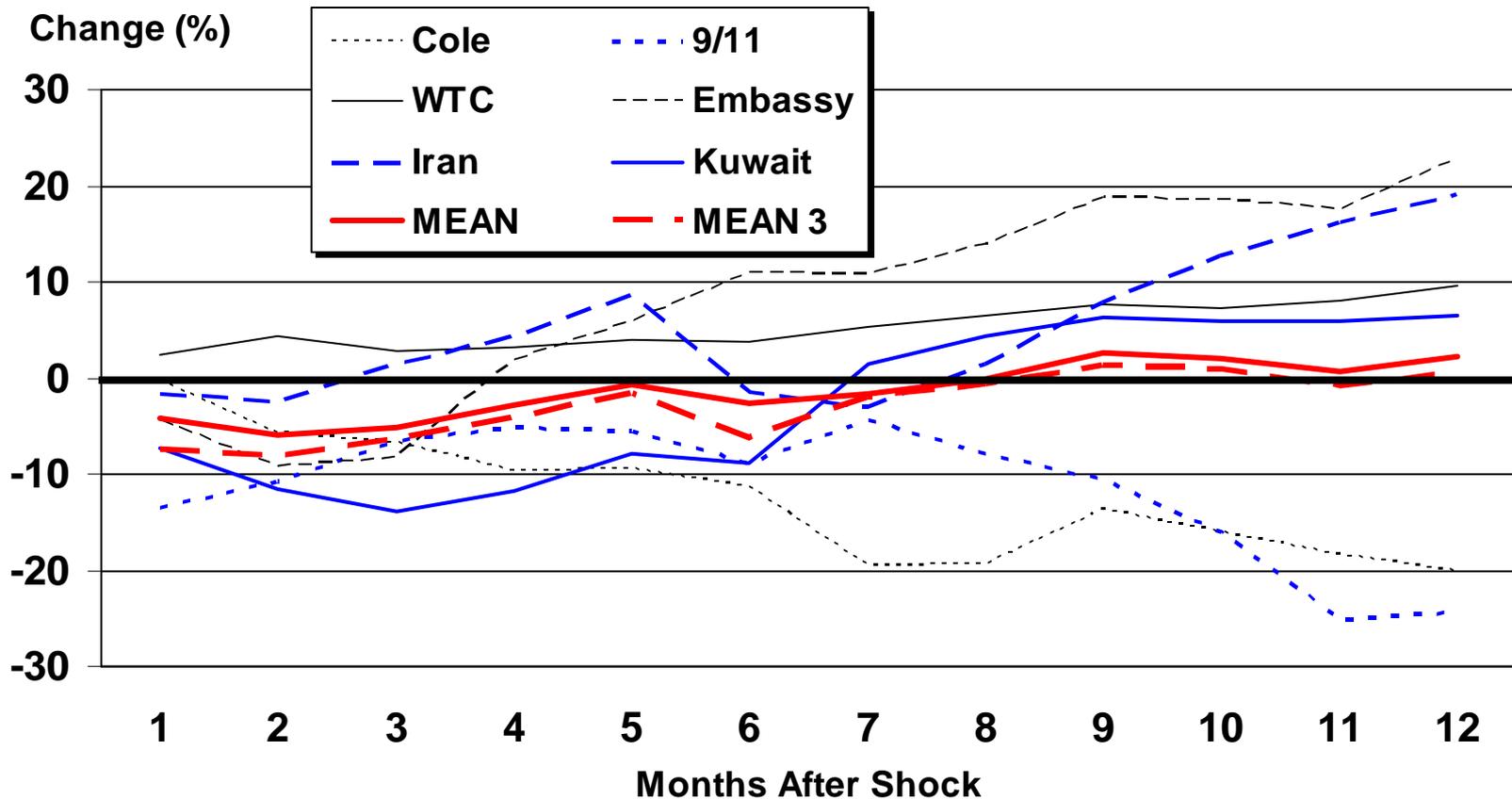
Shocks to Economic Variables Based on Past Responses

- **Six geo-political events identified**
 - **9-11**
 - **Iraq Invasion of Kuwait**
 - **Iranian hostages**
 - **USS Cole**
 - **Embassy bombings**
 - **First World Trade Center bombing**
- **Average of 3 large shocks and average of all 6 events used in simulation**

Consumer Sentiment Falls 10% in Q1, Q2; Recovers by End of Year



S&P 500 Declines Slightly, Recovers Within Six Months

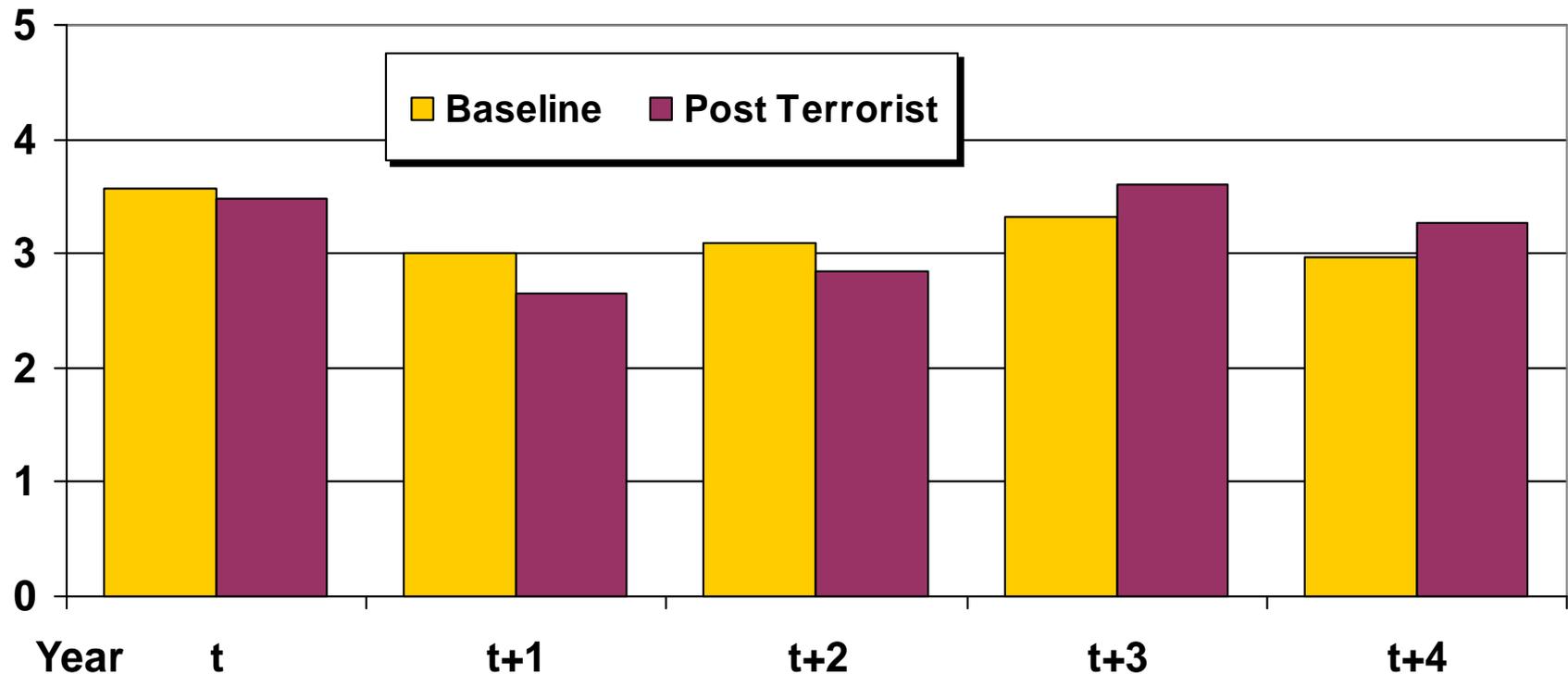


Results

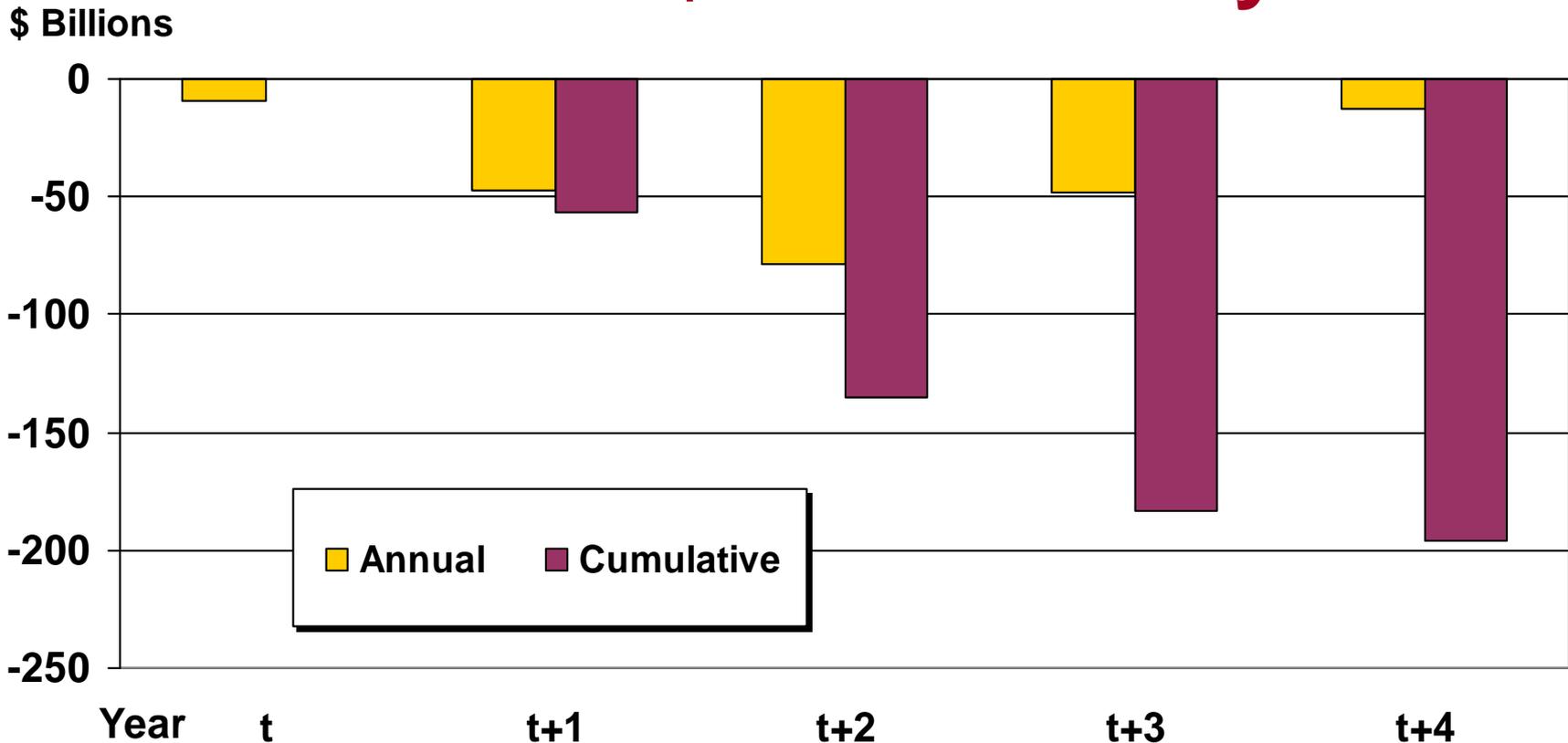
- Terrorist attack slows real GDP growth rates (4Q/4Q) by 25 b.p. in year t and 33 b.p. in year t+1
- Cumulative current value losses in real GDP exceed **\$190 billion** by year t+4
- Lost economic output exceeds **\$500 billion** under other assumptions
- Estimates do not include productivity losses, value of lives lost, or damage to existing capital stock

A Terrorist Attack Will Reduce Short Term Real GDP Growth

Pct Chg (SAAR)



Cumulative Short-term Loss of Real GDP Exceeds \$190 Billion by 2009



Conclusions

- **Indirect impacts will dominate other economic losses from terrorism**
- **Short-term losses will be substantial – \$190 billion over 5 years**
- **Productivity losses are almost certain to be much larger since they grow over time**