The National Economic Impact of a Food Terrorism Event: Preliminary Estimates

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Short Term Economic Losses Are Never Regained

![Graph showing the comparison between short term and base economic losses over two years. The graph indicates that short term losses increase linearly, while base losses remain constant.](image-url)
Productivity Losses Grow in the Future

Short term Loss
Productivity and Short term
Base
Study Design

• **Objective:** Simulate short-term economic impacts of food terrorism
• Large, U.S. macro model used
• Attack occurs in summer 2005
• Only major macro variables changed from baseline scenario
• No productivity changes, no food sector specific changes
Standard Open Economy Model

\[ Y = C + I + G + NX \]

\[ C = a + b(Y-T) \]

\[ I = i_0 - i_1(r) \]

\[ NX = e_0 - e_1(FX) \]

\[ NFI = n_0 - n_1(r) \]

(G and T exogenous)
Add Factors Adjusted to Provide Shock to Baseline Forecast

\[ C = a_0 + a_1 \text{CS} + \alpha_1 \text{CS} + a_2 \text{W} + \alpha_2 \text{W} \]
\[ + a_Z \text{Z} + b(Y-T) \]
Six Shocks Affecting the U.S. Economy

- September 11, 2001
- Kuwait Invasion
- Iranian Hostage
- World Trade Center Bombing
- U.S.S. Cole
- Embassy Bombings
Consumer Sentiment Falls By 10 Percent in First Two Quarters, but Recovers within 12 Months
Average 10 Year Treasury Rates Increase Slightly, Then Fall
Corporate Baa - Aaa Spreads Widen After Terrorist Acts

Percen

Months After Shock

Cole  WTC  Embassy  9/11  Iran  Kuwait  Mean  Mean 3
S&P 500 Declines Slightly, But Recovers Within Six Months

![Graph showing the change in the S&P 500 index over time after various shocks. The graph includes lines for Cole, 9/11, WTC, Embassy, Iran, Kuwait, MEAN, and MEAN 3.]
Dollar Declines Slightly Against Other Major Trading Partners

Change (%)

Months After Shock

Cole  9/11
WTC  Embassy
Iran  KUWAIT
MEAN  MEAN 3

-10 -7.5 -5 -2.5 0 2.5 5 7.5 10

t -2 t -1 0 1 2 3 4 5 6 7 8 9 10 11 12
Dollar Gains Significantly Against Currencies of Other Important Trading Partners

Change (%)

Months After Shock
Terrorism Would Reduce Short Term Real GDP Growth

Pct Chg (SAAR)

- 2005: Baseline 3.5, Post Terrorist 3.0
- 2006: Baseline 3.0, Post Terrorist 2.5
- 2007: Baseline 3.2, Post Terrorist 2.8
- 2008: Baseline 3.3, Post Terrorist 2.7
- 2009: Baseline 3.1, Post Terrorist 2.6
Short Term Economic Impact of Terrorist Attack Would Be Small Compared to U.S. Economy
Cumulative Short-term Loss of Real GDP Exceeds $190 Billion by 2009

Cumulative Losses

$ Billions

2005 2006 2007 2008 2009

Annual  Cumulative

-250 -200 -150 -100 -50 0
Composition of Annual Losses in Real GDP Due to Terrorist Attack
Impact on Investment Lingers, Consumption Impacts Abate

Chg in Real GDP
$ Billions

Cons Sent  Interest  Stock Mkt  For Exch

12 Mo  24 Mo  36 Mo
48 Mo  60 Mo
Small Changes in Assumptions Produce Large Changes in Projected Losses

(Impact of Changes in Consumer Sentiment)
Summary

• Terrorist attack slows real GDP growth rates (4Q/4Q) by 25 b.p. points in 2005 and 33 b.p. in 2006
• Cumulative current value losses in real GDP exceed $190 billion by 2010
• Lost economic output exceeds $500 billion under other assumptions
• Estimates exclude productivity changes, loss of life, or damage to existing capital stock