

Resiliency: Preparing for Economic Disruption

C2ER

June 7, 2018



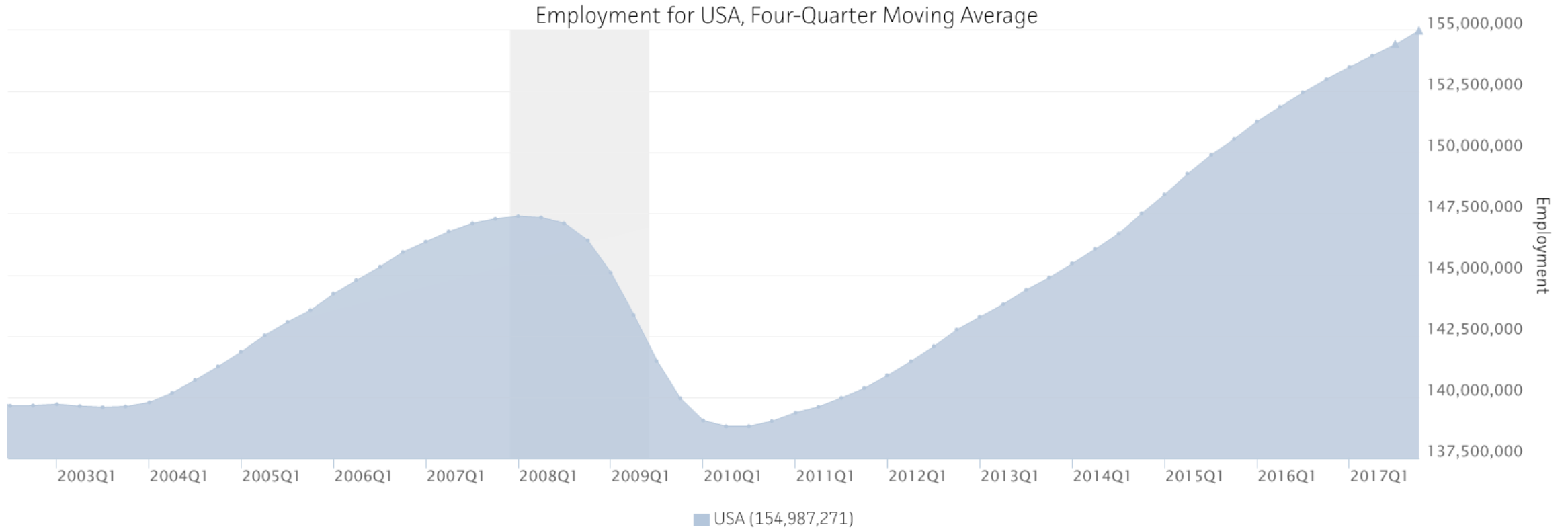
Overview

- Examples of disruptions
- Disruptions go beyond the industry affected
- Advantages/disadvantages of using surveys vs. models

Examples of Disruptions



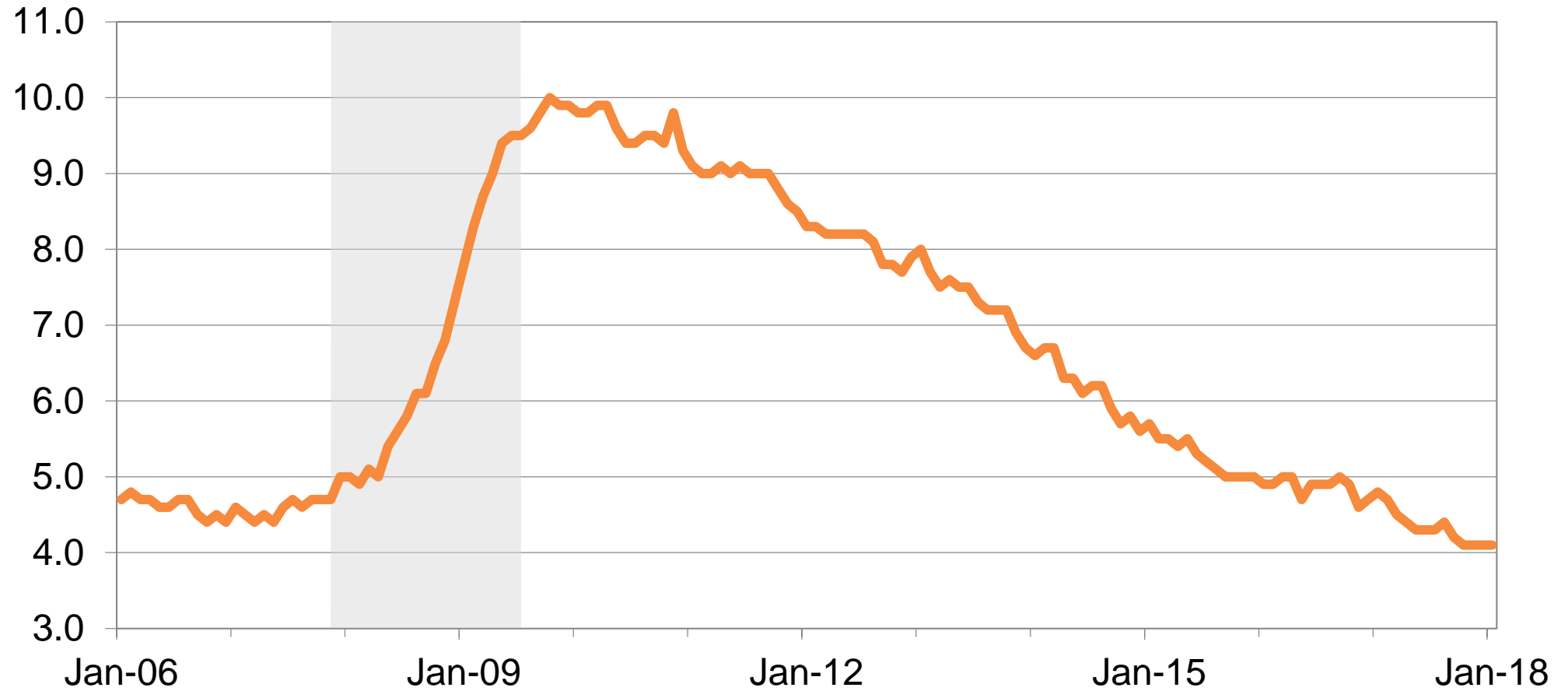
Business Cycle: Recession



Source: JobsEQ®. Data as of 2017Q4. The shaded areas represent national recessions.

Unemployment Rate Rises

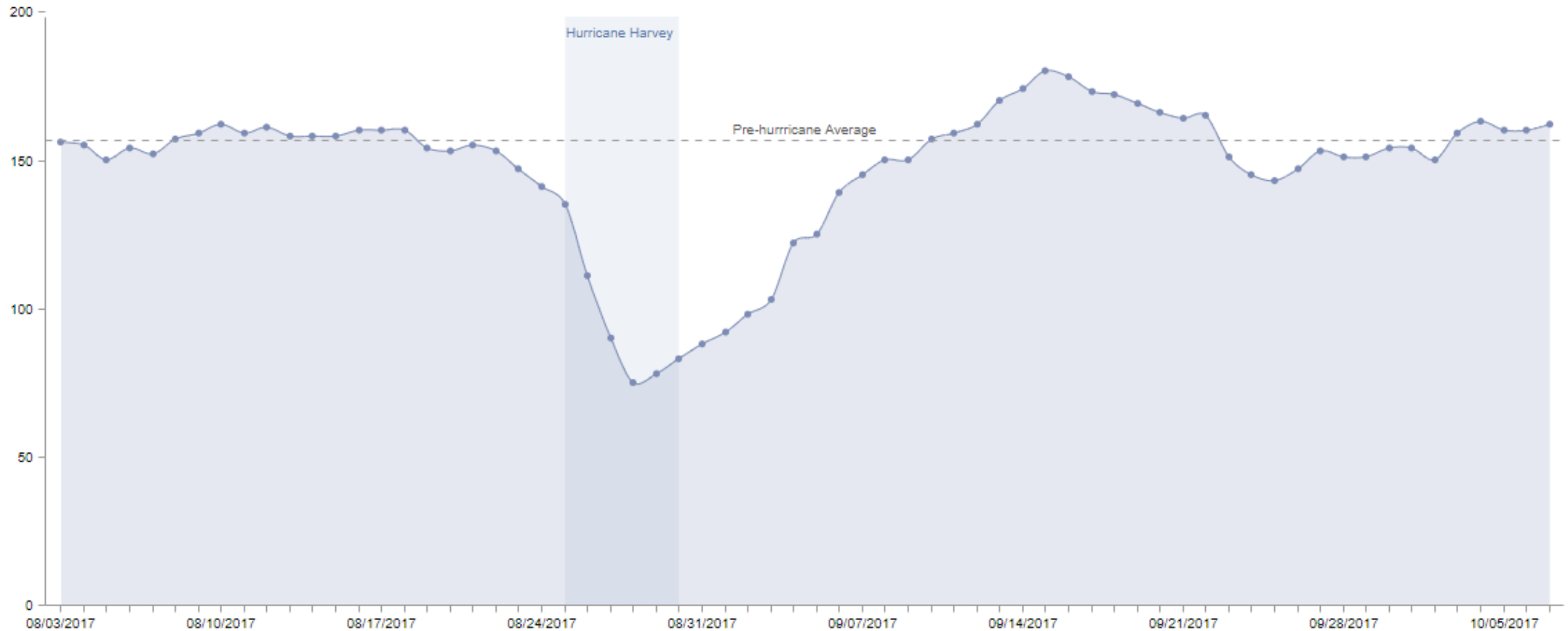
Unemployment Rate



Source: U.S. Department of Labor.
Data through January 2018

Employment Impact of Hurricane Harvey

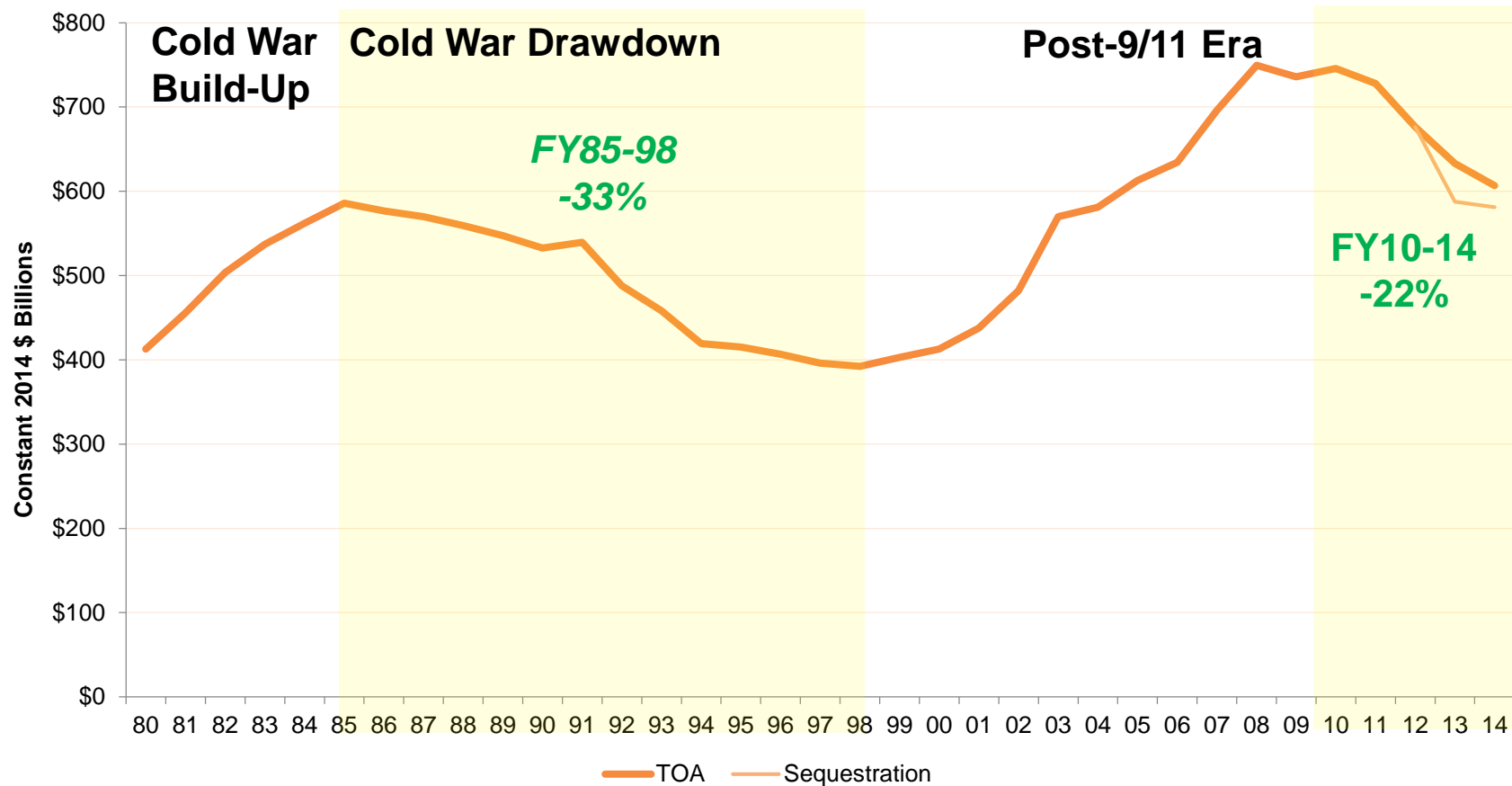
Volume of New Job Postings in Houston per 10,000 U.S. Job Postings



Source: Chmura's JobsEQ®

<http://chmuraecon.com/blog/2017/october/16/using-job-postings-to-visualize-the-employment-impact-of-hurricane-harvey/?author=James+Stinchcomb>

Defense Spending Cycle

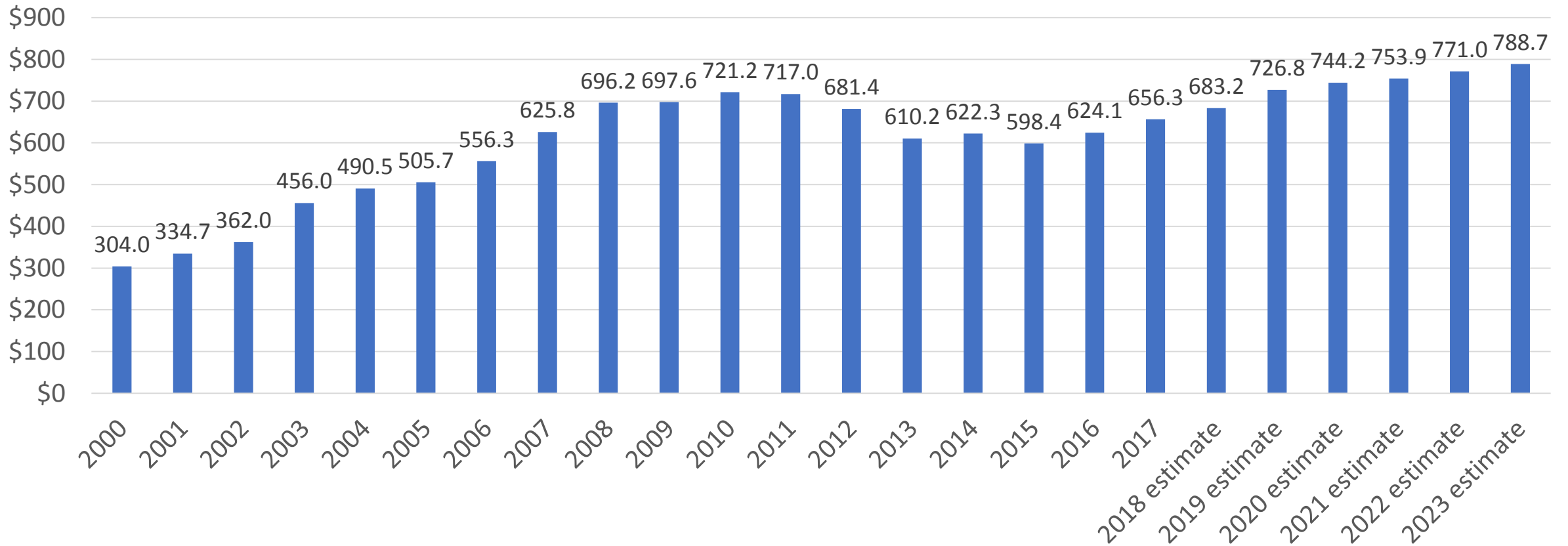


Note: Total Obligational Authority in constant billions of dollars. These dollars include all enacted war and supplemental funding through FY13.
 Sources: Table 6-2, FY 2014 DoD Comptroller's Green Book. CBO, Long-Term Implications of the 2014 Future Years Defense Program. FY15 Budget Overview Brief.

National Defense Budget Authority

+\$105.5 Billion Between 2018-2023 (+15%)

National Defense Budget Authority (\$Billions)



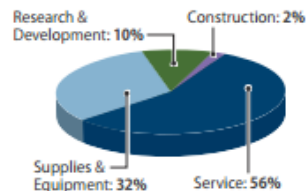
Source: President's Budget FY 2019 Table 5.1

VIRGINIA

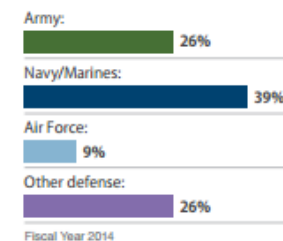
#1 \$54.7 BILLION SPENT IN STATE #1 11.8% OF STATE GDP 13.1% OF TOTAL U.S. DEFENSE SPENDING \$6,567 PER RESIDENT

CONTRACTS

By Type



By Service



Top Contractors

(Millions B=billions)

Huntington Ingalls	\$3.5 B
Hewlett-Packard	\$1.8 B
Booz Allen Hamilton Holding Corporation	\$1.6 B
SAIC	\$1.6 B
CACI	\$1.1 B
Lockheed Martin	\$937.2 M
Exxon Mobil	\$925.7 M
Atlantic Diving Supply	\$882.9 M
BAE Systems	\$743.1 M
Northrup Grumman	\$645.3 M

Value of Contract Awards Performed (Billions)



DEFENSE PERSONNEL

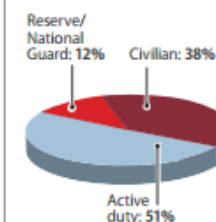
\$16.6 Billion

TOTAL PAYROLL

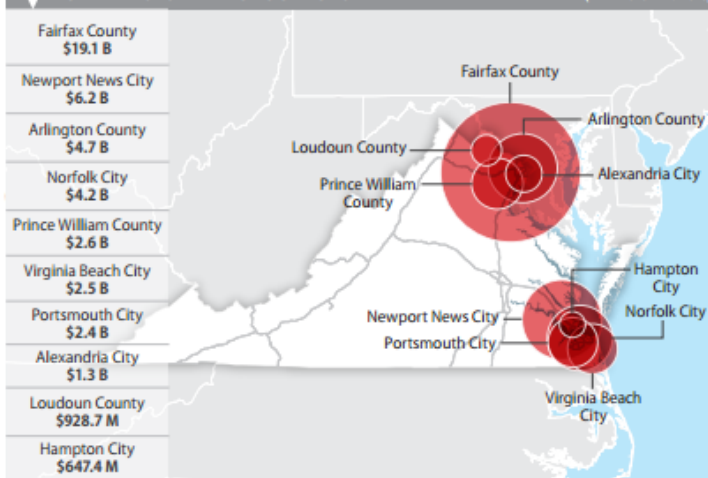
242,936

TOTAL PERSONNEL

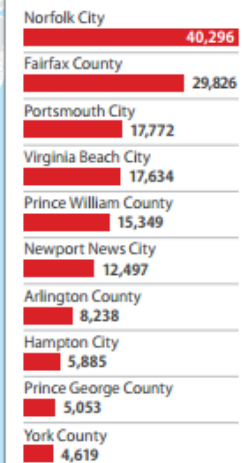
Allocation, By Type



TOP DEFENSE SPENDING LOCATIONS



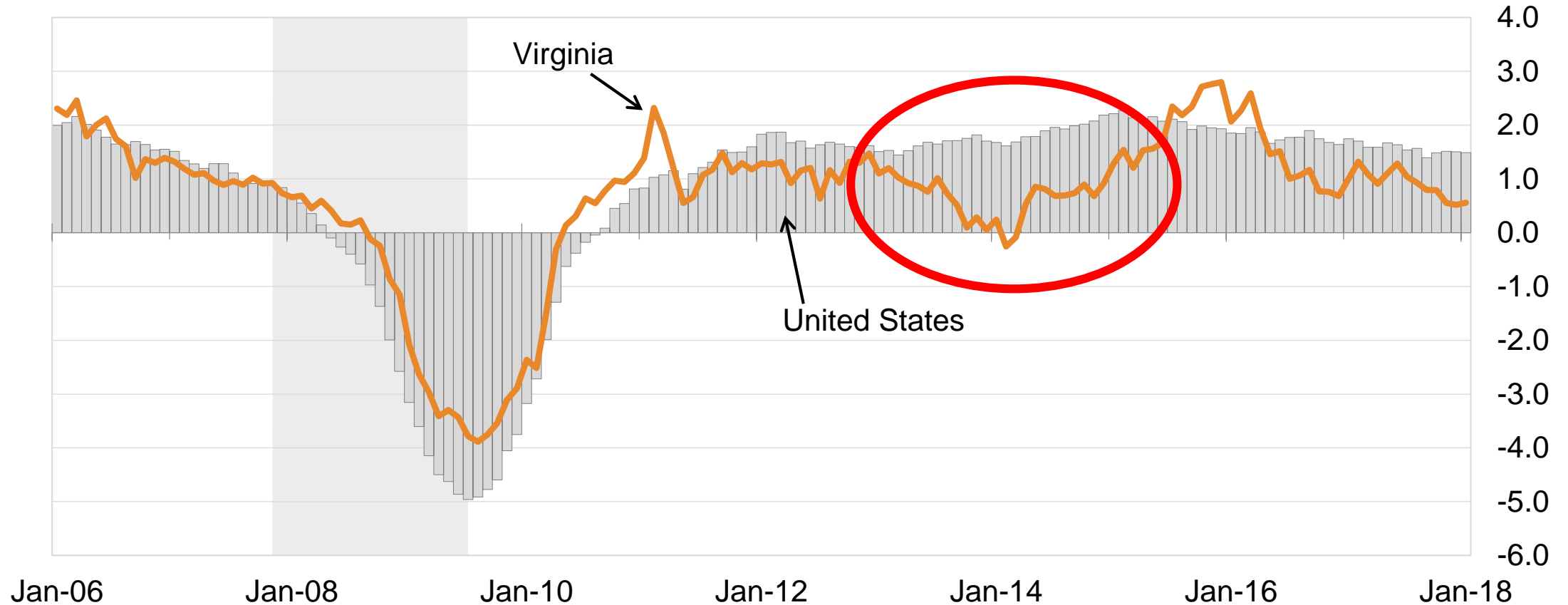
Top Personnel Locations



Sources: Defense Manpower Data Center, U.S. Bureau of Economic Analysis, U.S. Census Bureau, and Chmura Economics & Analytics.

Virginia Employment Slowed During Defense Cuts

Employment Growth
Percent Change, Year-Over-Year



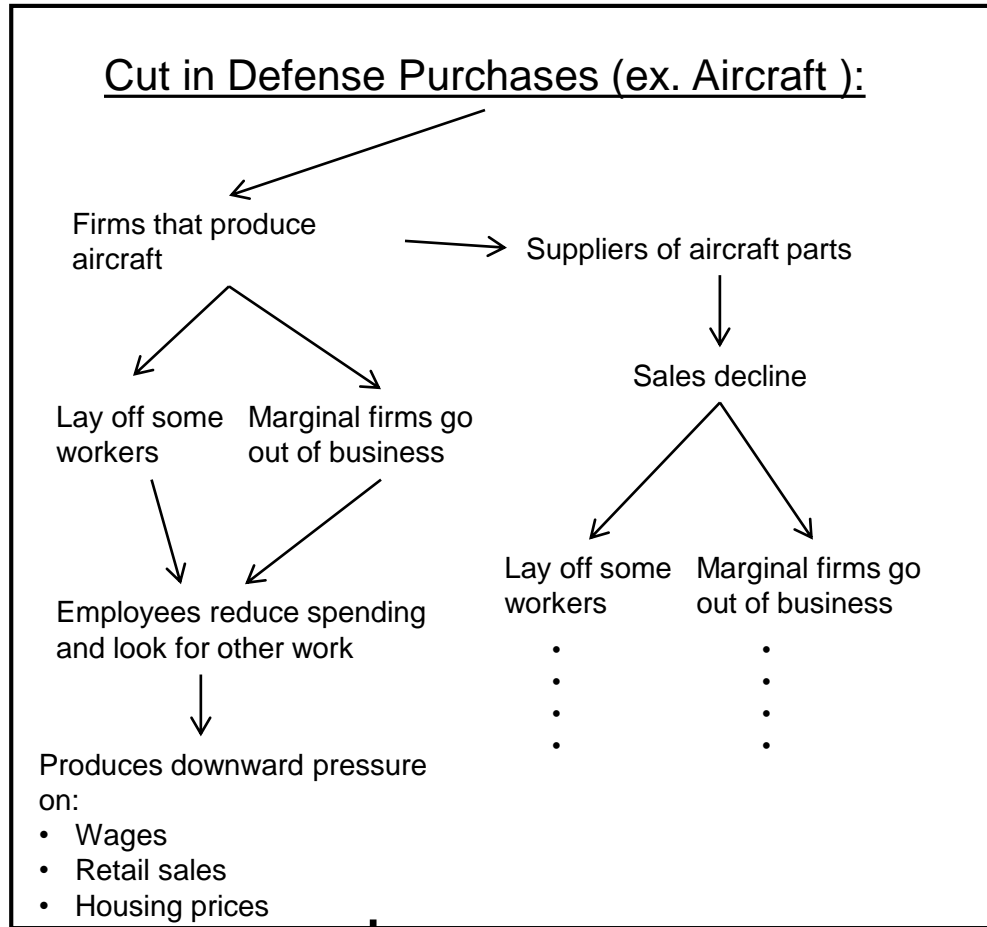
Source: U.S. Department of Labor

Copyright 2018 Chmura Economics & Analytics

Disruptions Go Beyond the Industry Affected



Tracking the Ripple Effect Through the Economy



- Long-Run Effects of Defense Cuts:**
- Economy finds new use for labor displaced by cuts
 - Some leave the region
 - Some find new jobs in the region in different industries
 - Firms learn to produce other goods
 - As a result...
 - Demand for local government service falls
 - Pressure on wages increase
 - Regional economy diversifies
 - Lasting impact:
 - Redistribution of capital and labor across industries

Budgetary Pressures for Local Governments

Increase	
<u>Gov't Revenues</u> <u>Decrease</u> <ul style="list-style-type: none"> • Property values decline • Taxable income declines 	<u>Demand for Gov't Services</u> <u>Increase</u> <ul style="list-style-type: none"> • Family counseling needs • Unemployment services

All DoD Contract Spending Impact: Virginia - Fiscal Year 2017

Comparison Fiscal Year: 2015

Overview Forecast Industry Occupation Top Contractors Visualizations

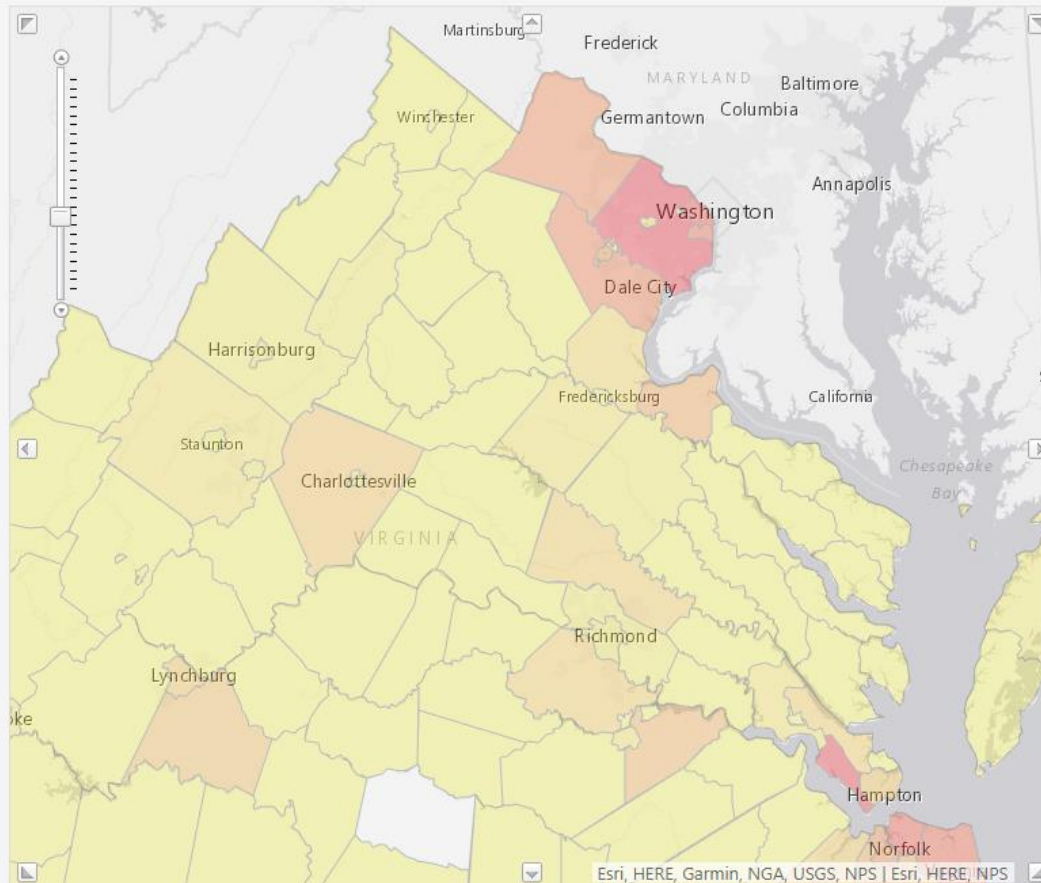
[Platform Overview](#) [Navigating the Tool](#) [Testing Local Scenarios](#) [Uses of the Model](#)

[Questions about this site?](#)

Display by: [State](#) | [County](#) | [Metro-Area](#) | [WIA](#)

Export Map

Search



Virginia

\$30.7B

↓-4.9% since FY15: \$32.3B

Defense Contract Spending

2.4%

DoD Contract Dependence

193,055

5.0%

DoD Contract Dependent Employment

119,706 / 22,966 / 50,383

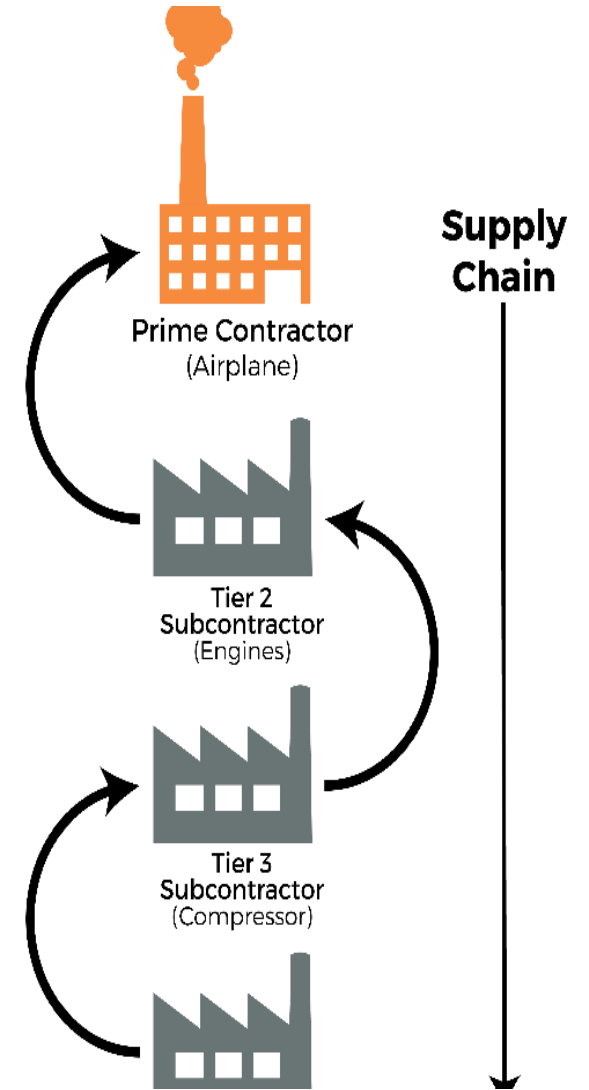
DoD Contract Dependent Employment
Direct / Indirect / Induced

Survey or Model?



Surveys?

- Expensive
- Responses can be low
- May identify information missing in public data sources



Models

- May not be as customized as a survey
- Underlying data is usually a year to two old
- Captures buyer-supplier relationships with industries
- Applied at the regional level