



HOW THE GLOBAL PANDEMIC IMPACTS BUSINESS SUPPLY CHAINS

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KEN PETERSEN

Professor of Marketing & Supply Chain Management

Director, Marketing and Supply Chain Management

Helen Robson Walton Chair in Marketing Strategy

UNIVERSITY OF OKLAHOMA

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Supply Chain Management in the *New World*

How will the Global Pandemic Impact
Supply Chains?

Kenneth J. Petersen

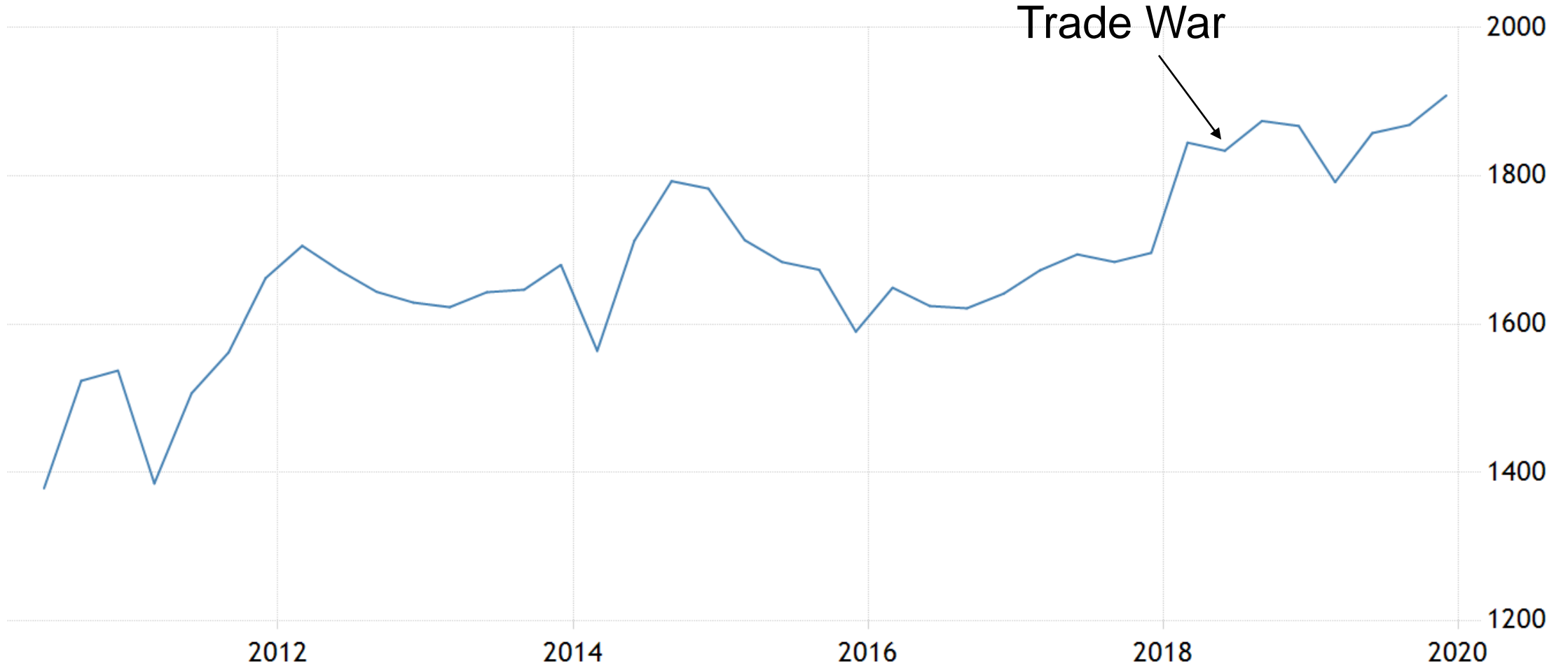
*Helen Robson Walton Endowed Chair
Director, Division of Marketing & Supply Chain Management
Price College of Business
University of Oklahoma*

A quick look in the rearview mirror

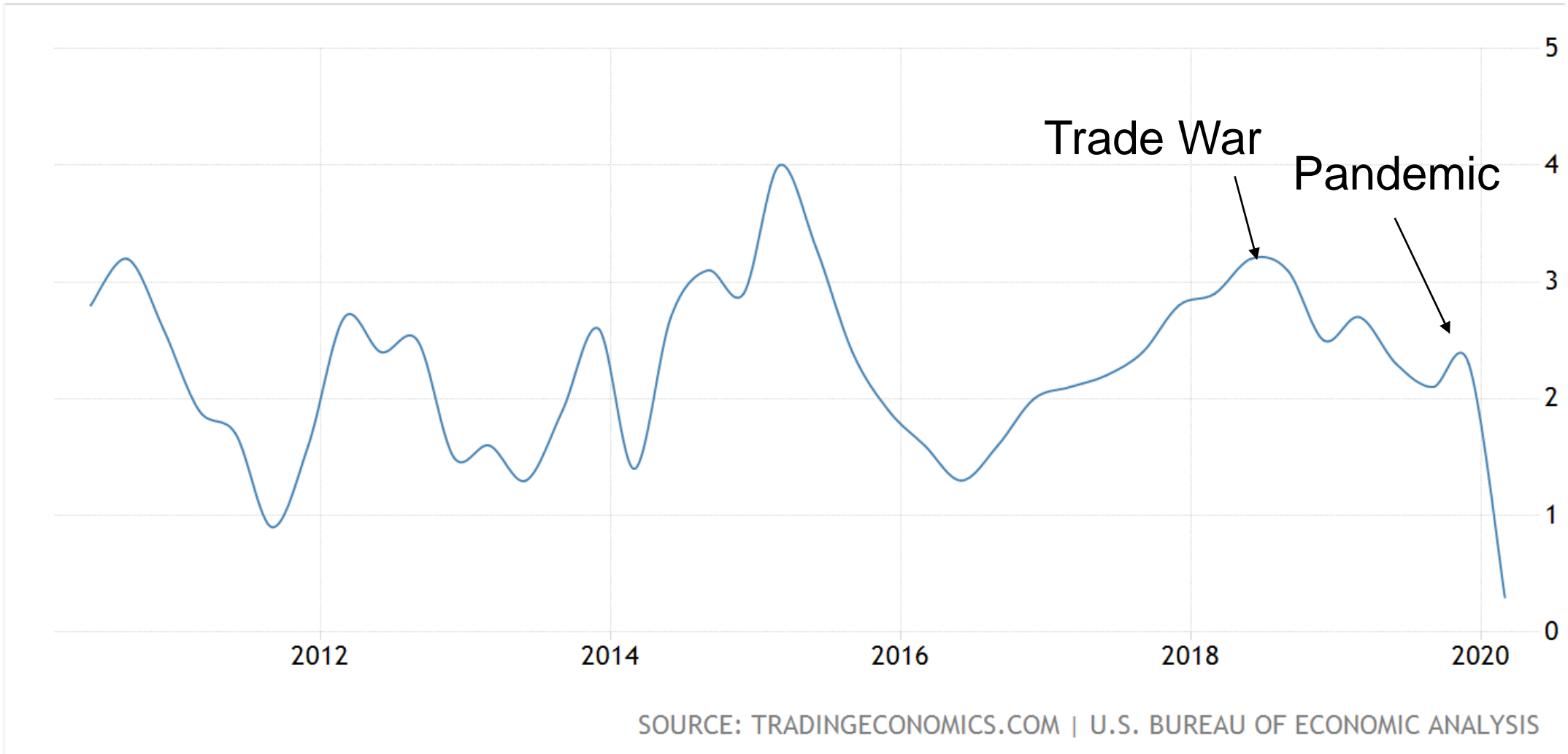
A DECADE OF STABILITY & PROFIT



Corporate profits: US



Gross domestic product: US (growth)

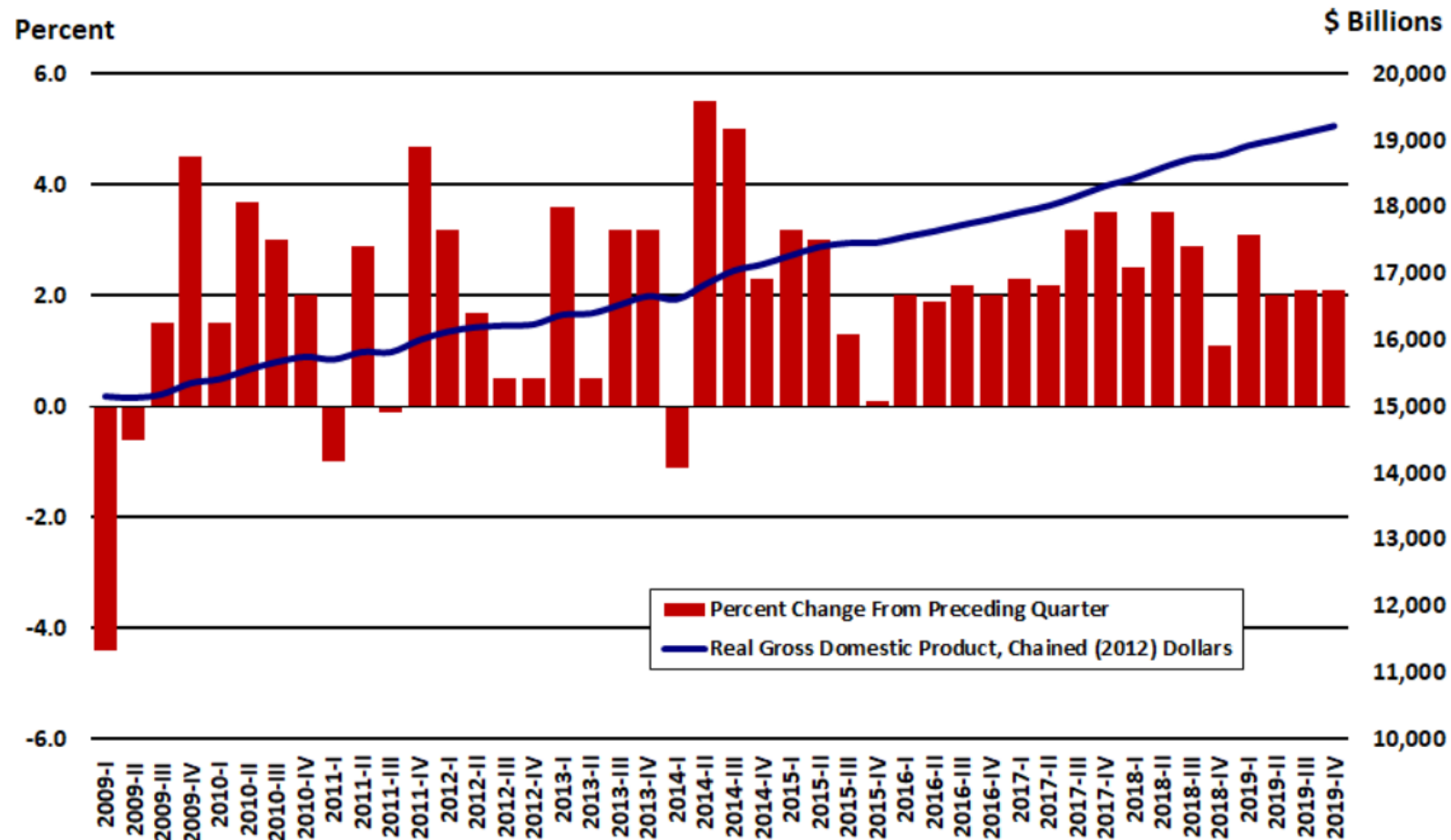


Gross domestic product: OK

Real Gross Domestic Product and Quarterly Change

1st Quarter 2009 to 4th Quarter 2019

Source: U.S. Department of Commerce, Bureau of Economic Analysis



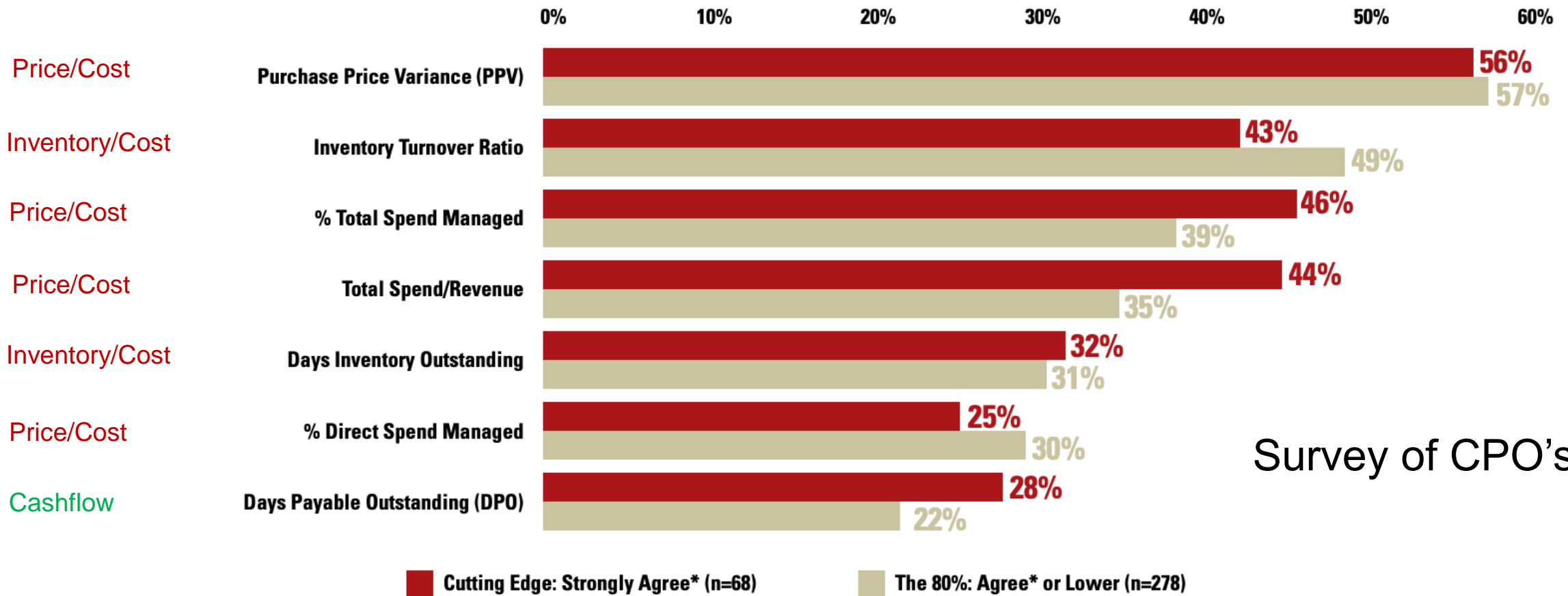
Dow Jones Industrial Average



The Metrics That Drive Supply Chain Decisions

**HOW DID SUPPLY CHAIN MANAGEMENT
CONTRIBUTE TO THIS DECADE OF FINANCIAL
PERFORMANCE?**

High-level performance metrics driving procurement/supply Chain



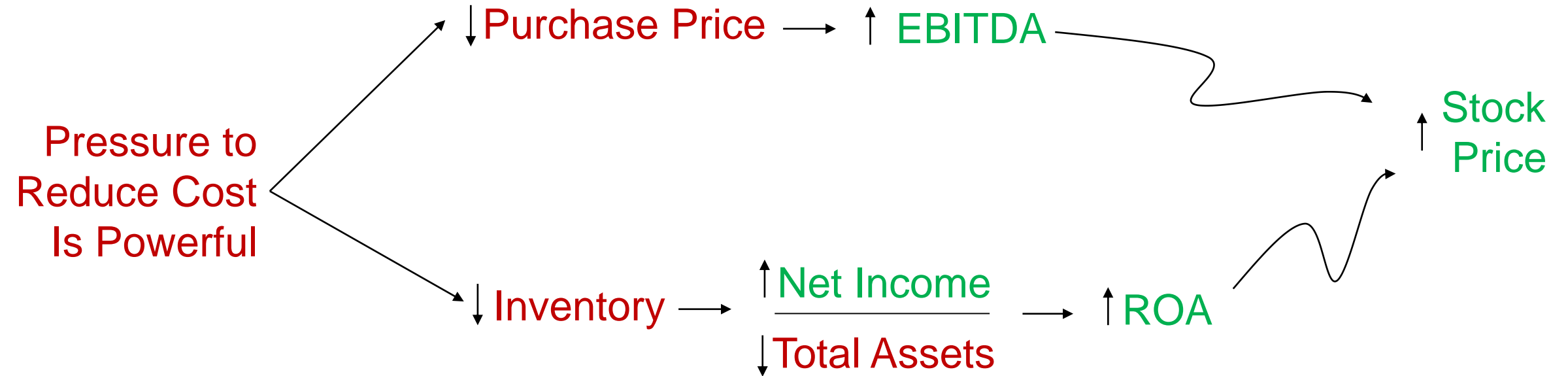
Survey of CPO's

Upstream Supply Chain

High-level performance metrics driving logistics/supply Chain

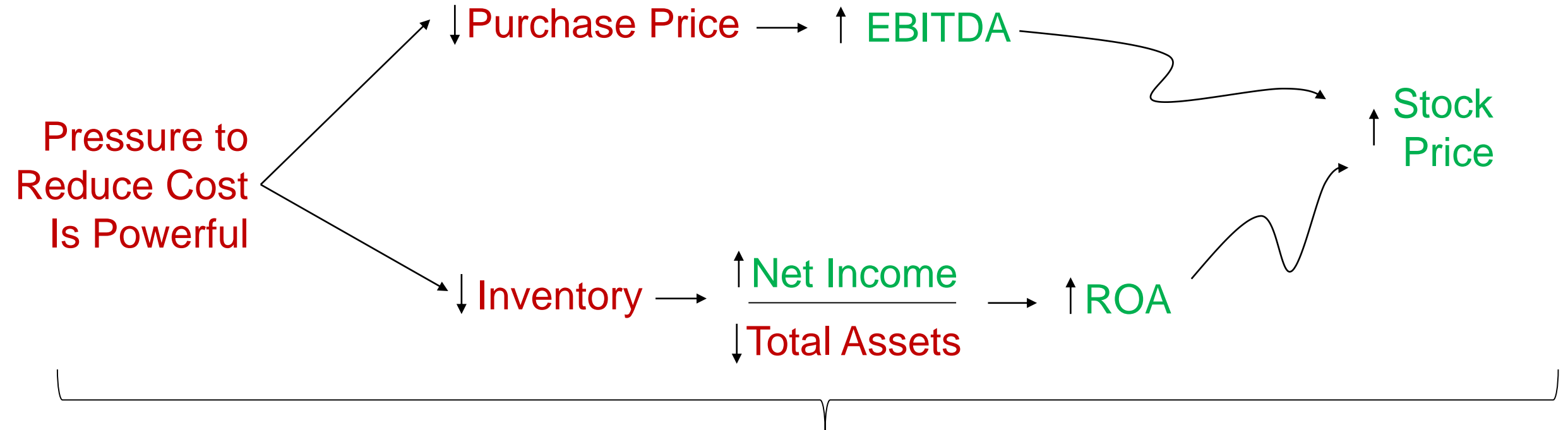
- Customer Value Creation (revenue)
 - Delivery in Full
 - Delivery on Time
- Asset Utilization
 - Cost as a percentage of sales
- Cost
 - Inventory stock turns

Supply chains – driven by cost



What is the impact of this thinking?

Supply chains – driven by cost



In a stable world: Supply chains become longer, more complicated, less resilient, and riskier supply chains

In our decade of **stability**, we didn't build resilience into our supply chains to accommodate the very real **risk**...

Quality

Supply

Brand/Reputation

Information

Market Access

Regulatory

Labor

Ports/Customs

Supplier

Price

Lead-time

Demand

Ethical

Intellectual Property

Natural Disaster

Financial

Service Levels

Technology

Transportation

and then one day...

Sixty-six percent of manufacturers responding to a new survey of global senior supply chain decision makers by software company LLamasoft say they would change their supply chains in order to tackle economic nationalism.

Trade protectionism, FDI protectionism, trade restrictions, industrial policy, etc.

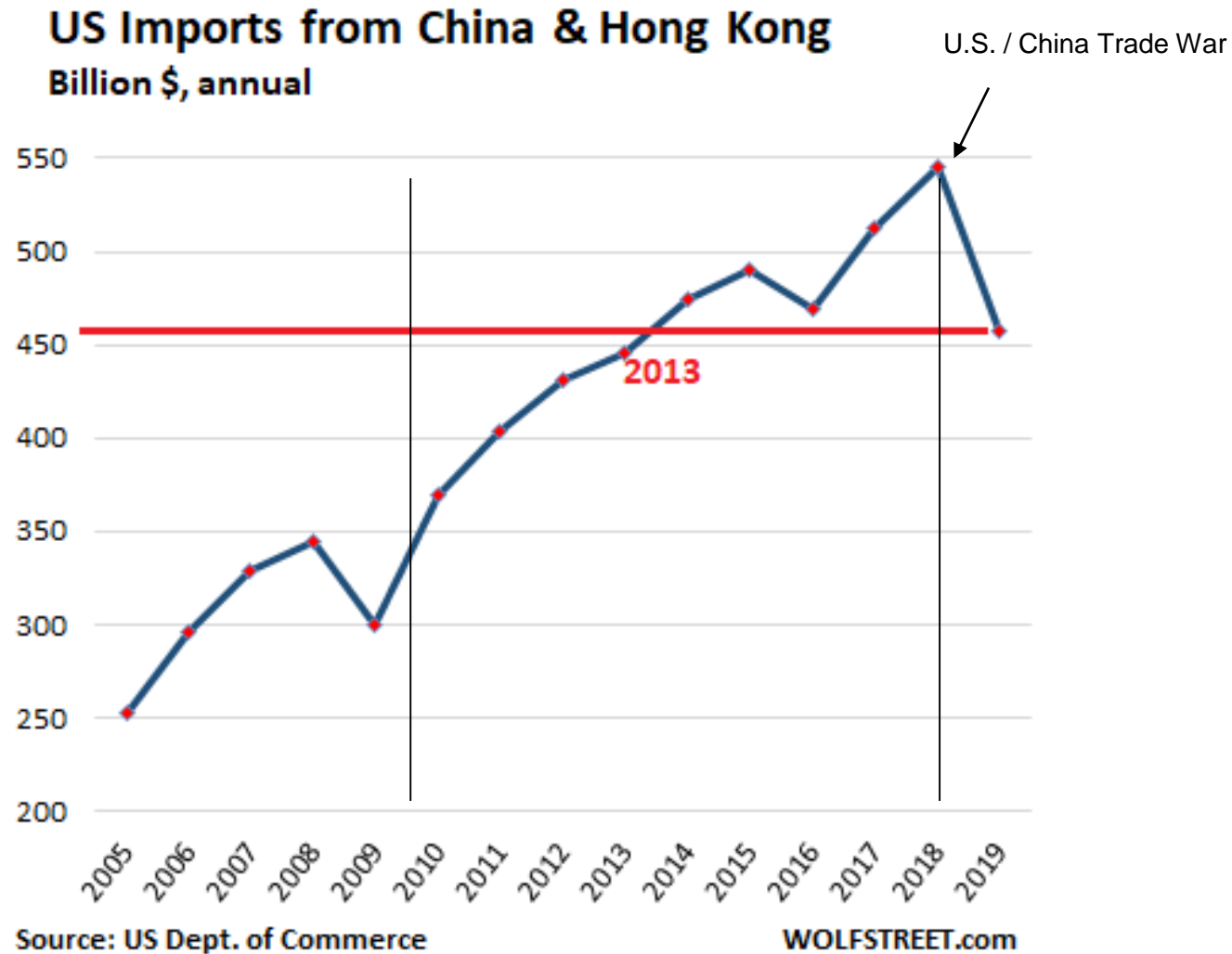
GLOBAL TREND: ECONOMIC NATIONALISM



Global supply chains +friction

- Economic nationalism is trending up globally
 - Tariffs/duties, taxes and barriers to free trade
 - As of 2/26/20:
 - Total US tariffs applied exclusively to Chinese goods: US \$550B
 - Total Chinese tariffs applied exclusively to US goods: US \$185B
 - Brexit
 - Emmanuel Macron - “Delegating our food supply” to others “is madness. We have to take back control,”

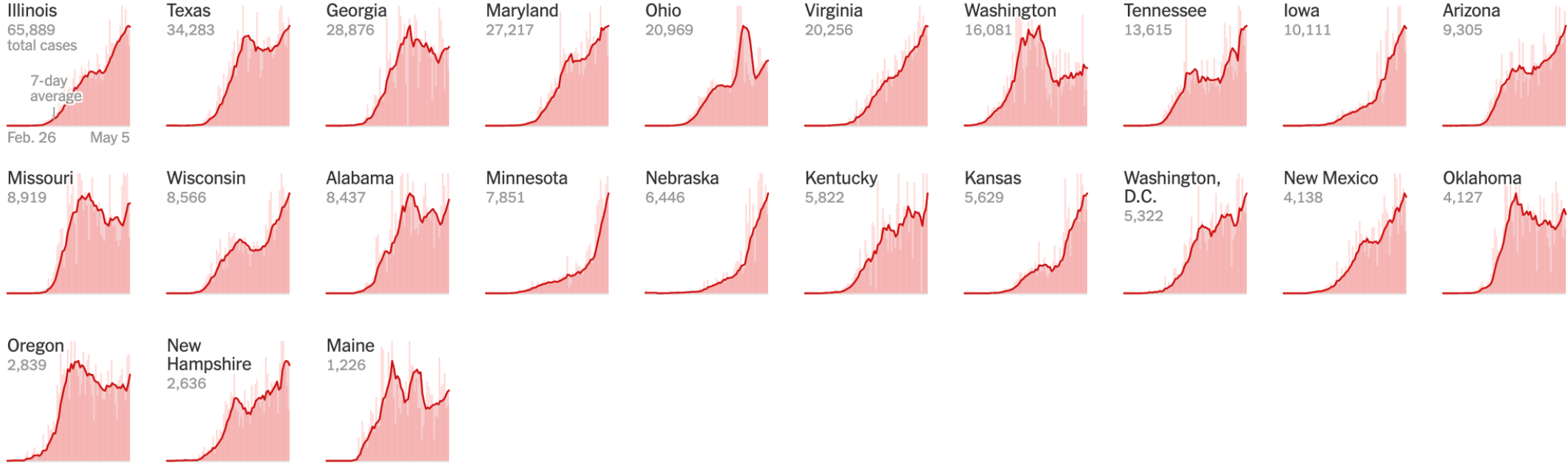
US imports from China and Hong Kong



“Apple, Microsoft and Procter & Gamble are among many corporations that have warned of weaker-than-expected profits because of their exposure to China.”

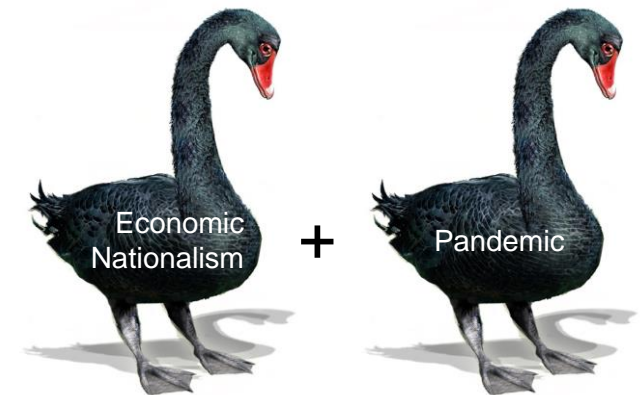
Global supply chains aren't as competitive under increasing economic nationalism

CHANGES ARE IN THE WIND...

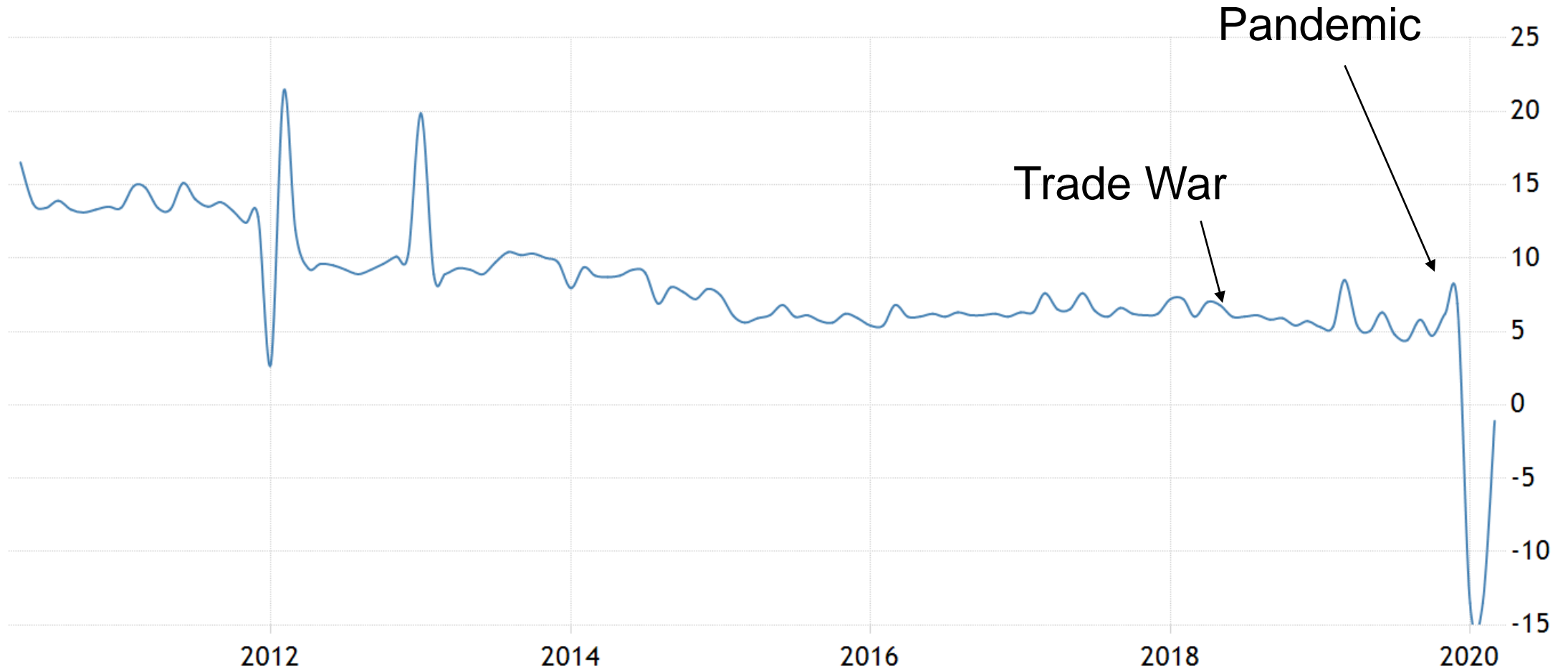


What happens when supply chains aren't built with risk and resilience in mind...

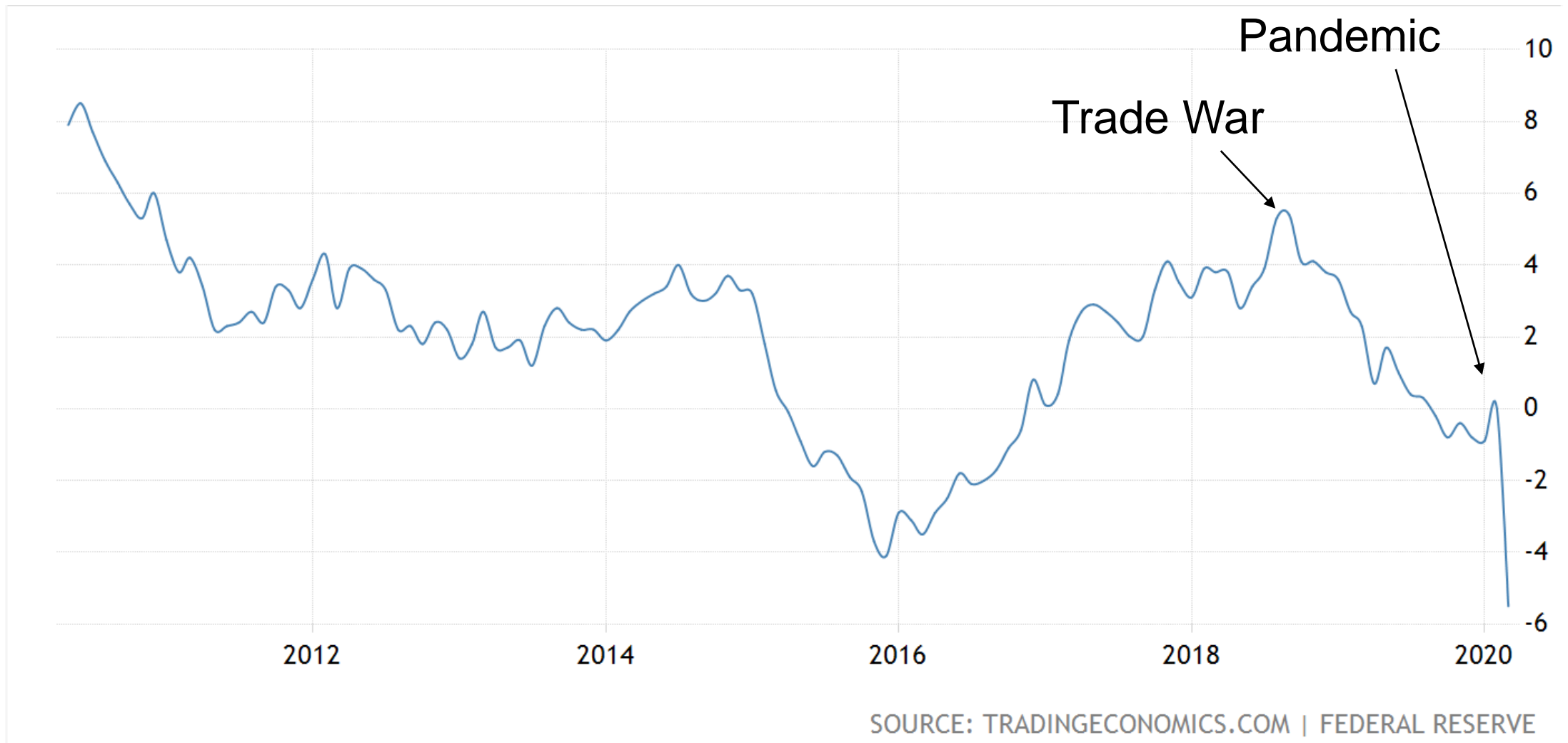
THE TRADE WAR + THE PANDEMIC



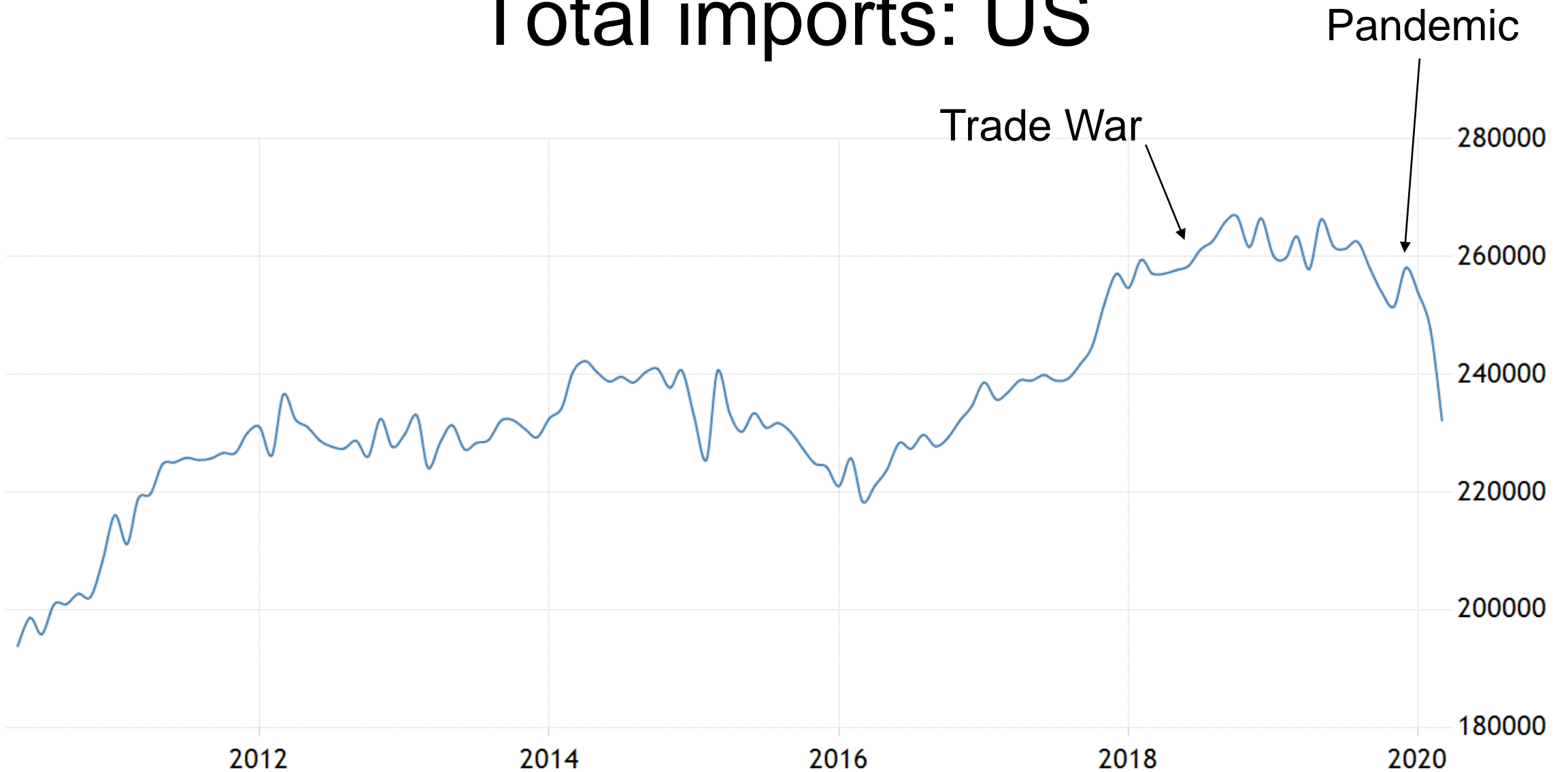
Industrial production: China (rates)



Industrial production: US (rates)



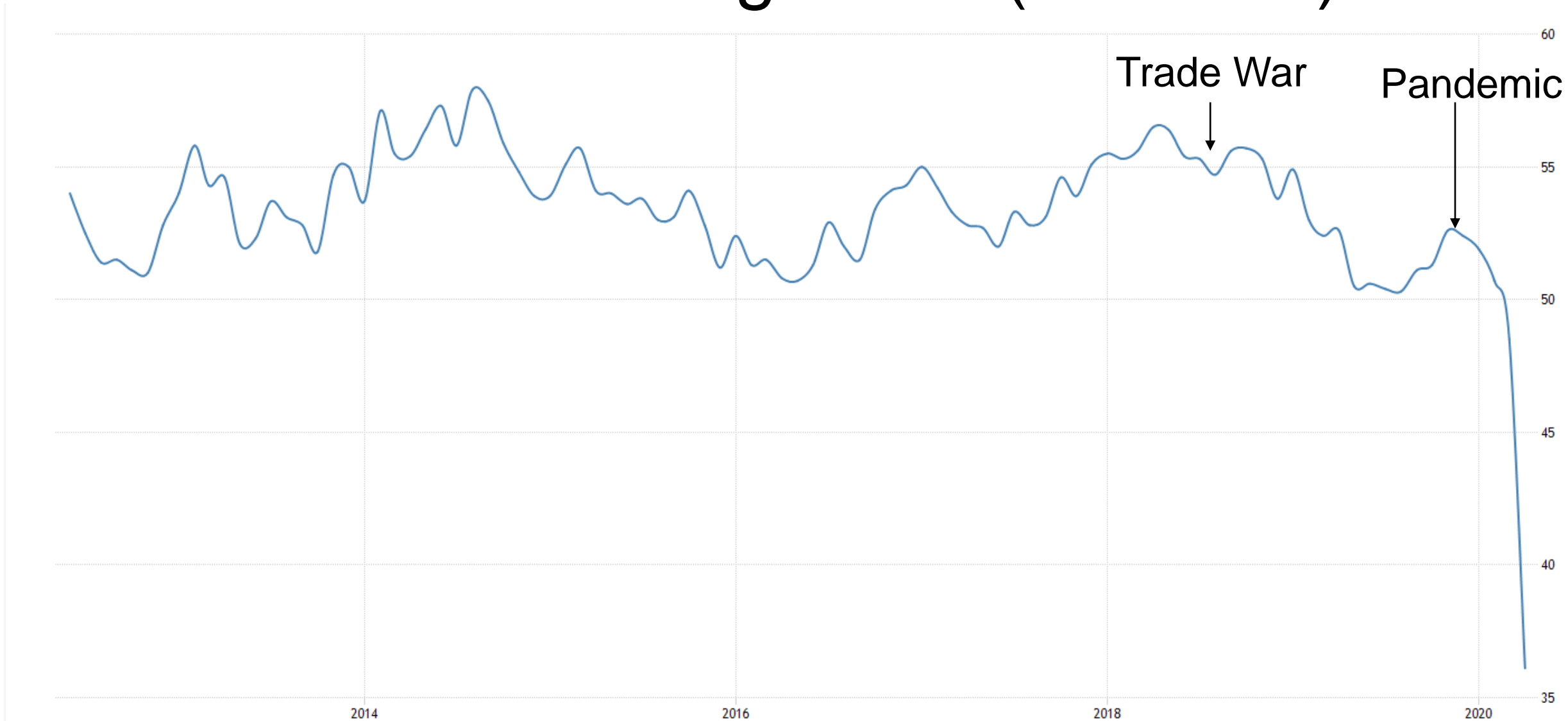
Total imports: US

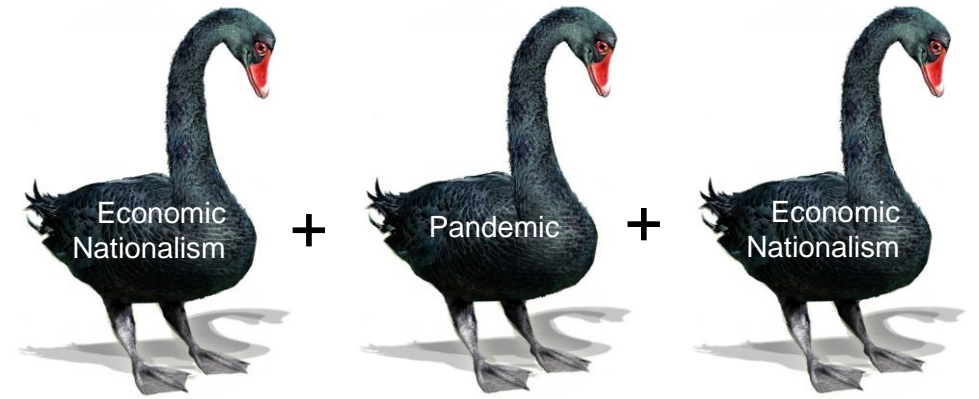


US Business Confidence Index (ISM PMI)



US Manufacturing Index (ISM PMI)





Global Supply Chains Falter...

TRADE WAR + PANDEMIC + TRADE WAR

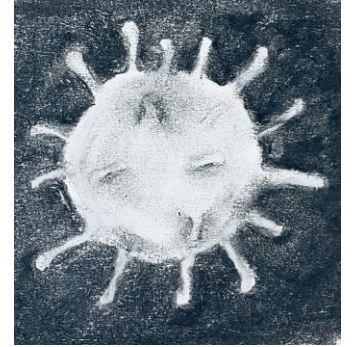
Global supply chains +friction +pandemic +friction

“The Trump administration is ‘turbocharging’ an initiative to **remove global industrial supply chains from China...**” *Reuters (5/4/20)*

“Trump administration pushing to **rip global supply chains from China**: officials”

“The U.S. Commerce Department, State and other agencies are looking for ways to push companies to move both sourcing and manufacturing out of China. **Tax incentives** and potential **re-shoring subsidies** are among measures being considered...” *Reuters (5/4/20)*

“There is a whole of government push on this,” said one. Agencies are probing which manufacturing should be **deemed “essential”** and how to produce these goods outside of China.



Or, how will the global pandemics, trade-wars, and nationalism change supply chain management?

SUPPLY CHAINS IN THE *NEW WORLD*

”Ripping” supply chains out of China won’t be easy

- US manufacturing will be challenged in the short-term:
 - China:
 - imports will likely become somewhat more expensive
 - manufacturing is recovering from pandemic, and may experience new pandemic waves
 - Will retaliate with additional tariffs
 - From a national trade policy perspective, how we exit China may cause shortages for US manufacturing

US imports from China (2018): \$557.91B, and exports \$179.3B (2018) to China

Focus on longer-term profit/sustainability

- Supply chains & business models will become better designed for both profit, **risk and resilience**
 - More focus on procurement/supply management strategy
 - More risk-adjusted:
 - Sourcing/supply management strategies
 - Logistics strategies
 - Manufacturing and sourcing locally/regionally
 - Closer to consumer/industrial markets
- Likely higher cost structure, lower profits in short-medium term

Focus on procurement/supply management labor/skills shortage

- Severe supply chain talent shortage
 - More advanced skills, beyond cost/inventory
 - More graduates to accommodate greater work scope and volume
 - Examples:
 - DHL: “Demand for supply chain talent is at an all-time high, but demand outstrips supply”
 - SCD: “Supply chains struggle to find talent to fill digital skills gap”
 - MH&L: “Talent gap crisis in supply chain sector”

Focus on understanding our supply chains

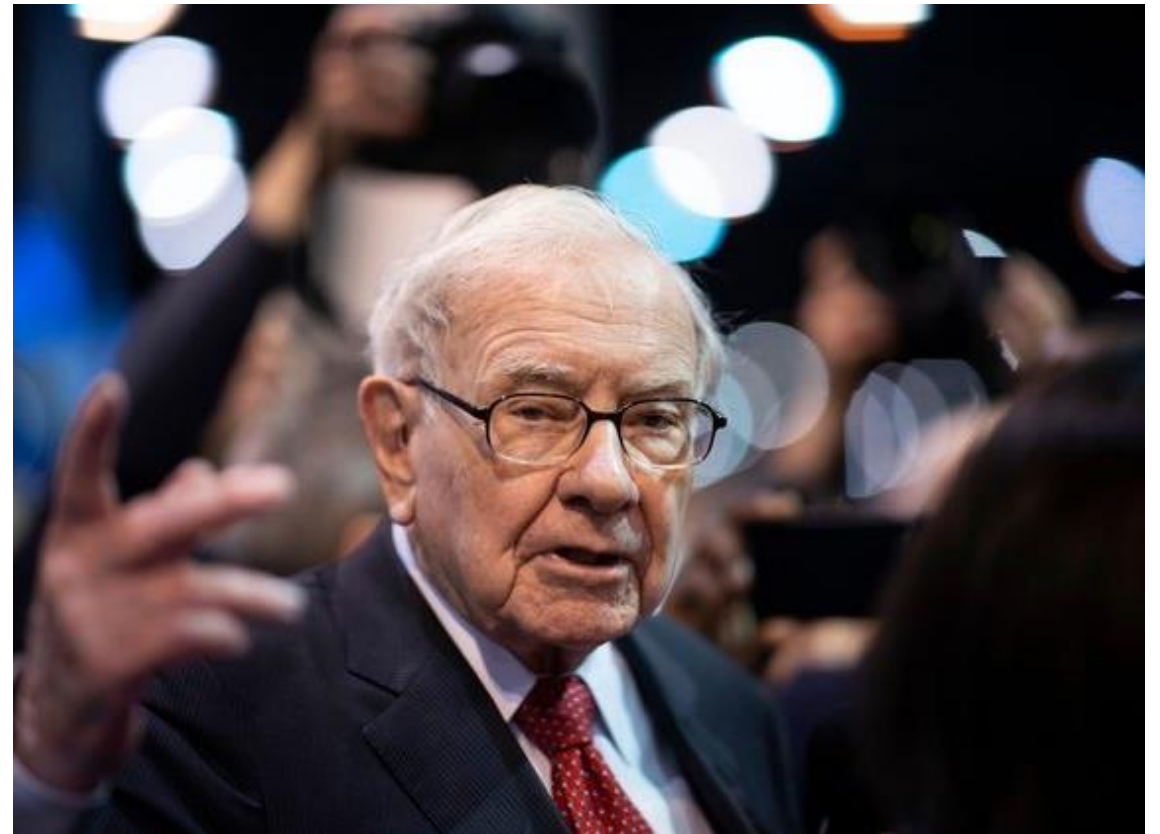
- SCM leaders don't understand their end-to-end supply chains
 - Global supply chains are long and complex
 - We likely only really manage our first-tier supplier, not the upstream supply chain
- Supply chain mapping
 - “...a small minority of companies that invested in mapping their supply networks before the pandemic emerged better prepared.”

Consumer preferences will change

Sells ~ \$4B in US Airline Stock

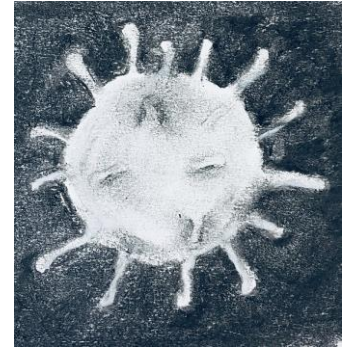
- "The world has changed for the airlines," Buffett said at the meeting. "The future is much less clear to me about how the business will turn out."
- "You can bet on America, but you kind of have to be careful about how you bet."

The Oracle of Omaha



Consumer preferences will change, cont'd

- Terrorism changes consumer preferences (Israel, 9-11):
 - Stop shopping in stores/malls
 - Avoid risky situations
 - Eating/entertaining at home
 - Changing shopping hours
 - Changing preferences for food (comfort food)
 - Acquiring materialistic possessions (cars, appliances, etc.)
- Winners/losers
 - Small businesses loses
 - The environment loses
 - Luxury brands win



“COVID-19 pandemic affecting consumers more than 9/11, great recession: survey” - The Hill

Industrial and service sectors: winners and losers

- “From cookies to cashmere, the comfort economy gains momentum during the coronavirus pandemic”
- CPG focus on healthy lifestyles (Accenture)
- Rise in conscious consumption (Accenture)
- Rise in local (Accenture)
- Focus on safety as a service feature
 - More streaming, less theaters and amusement parks (Disney)
 - Shift from stores to e-commerce, especially in grocery (US Chamber)
 - Personal shoppers, grocery pick-ups/deliveries

Informed speculation...

**HOW WILL ALL OF THIS AFFECT
MANUFACTURING IN THE U.S.?**

Manufacturing in the US

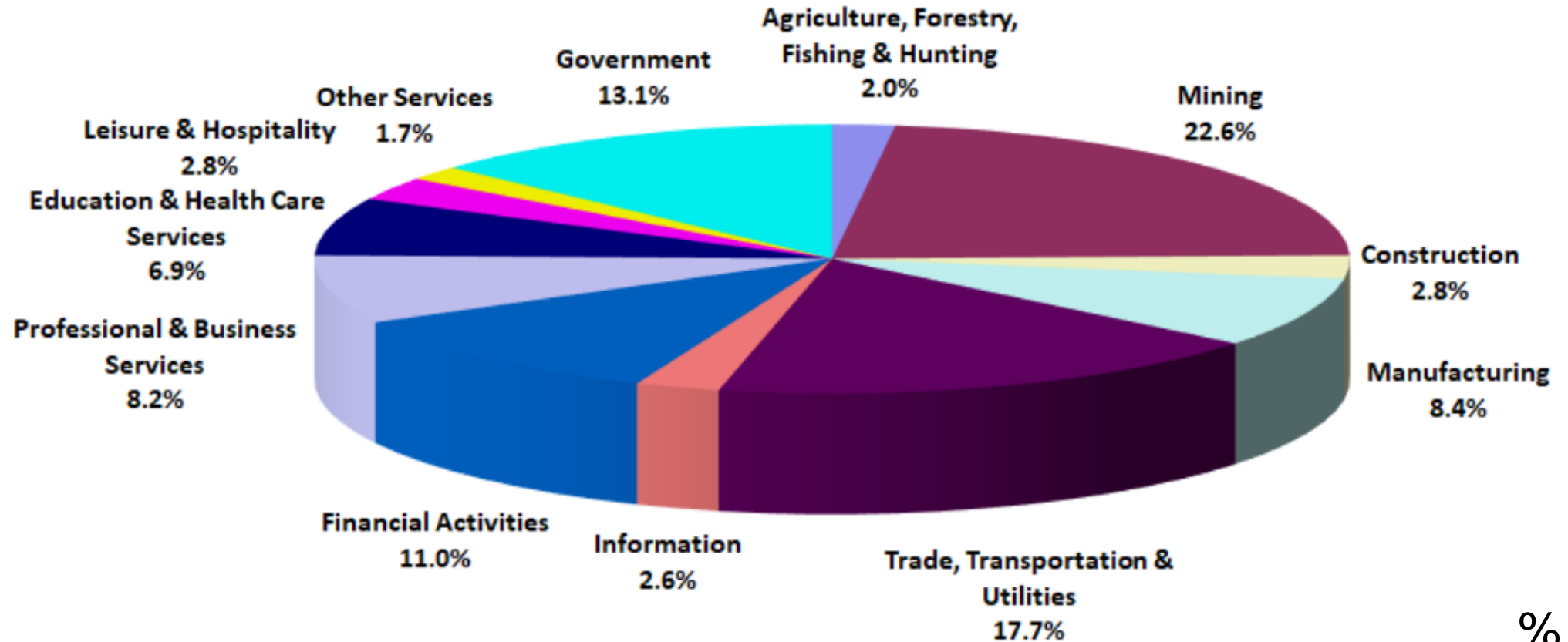
- Manufacturing in the US will increase/repatriate over time, but it will be bumpy in the near-term (think 8-year planning horizon)
- Characterized by:
 - Closer to consumer/industrial markets
 - Likely influenced by increased government regulation (essential goods and services, etc.)
- MNC's & Economic Nationalism
 - Will operate different as they adjust to serving more local markets

OPPORTUNITIES FOR OKLAHOMA

Industry Share of Oklahoma's Economy, 3rd Quarter 2019

(by percentage of Gross Domestic Product)

Source: U.S. Department of Commerce, Bureau of Economic Analysis

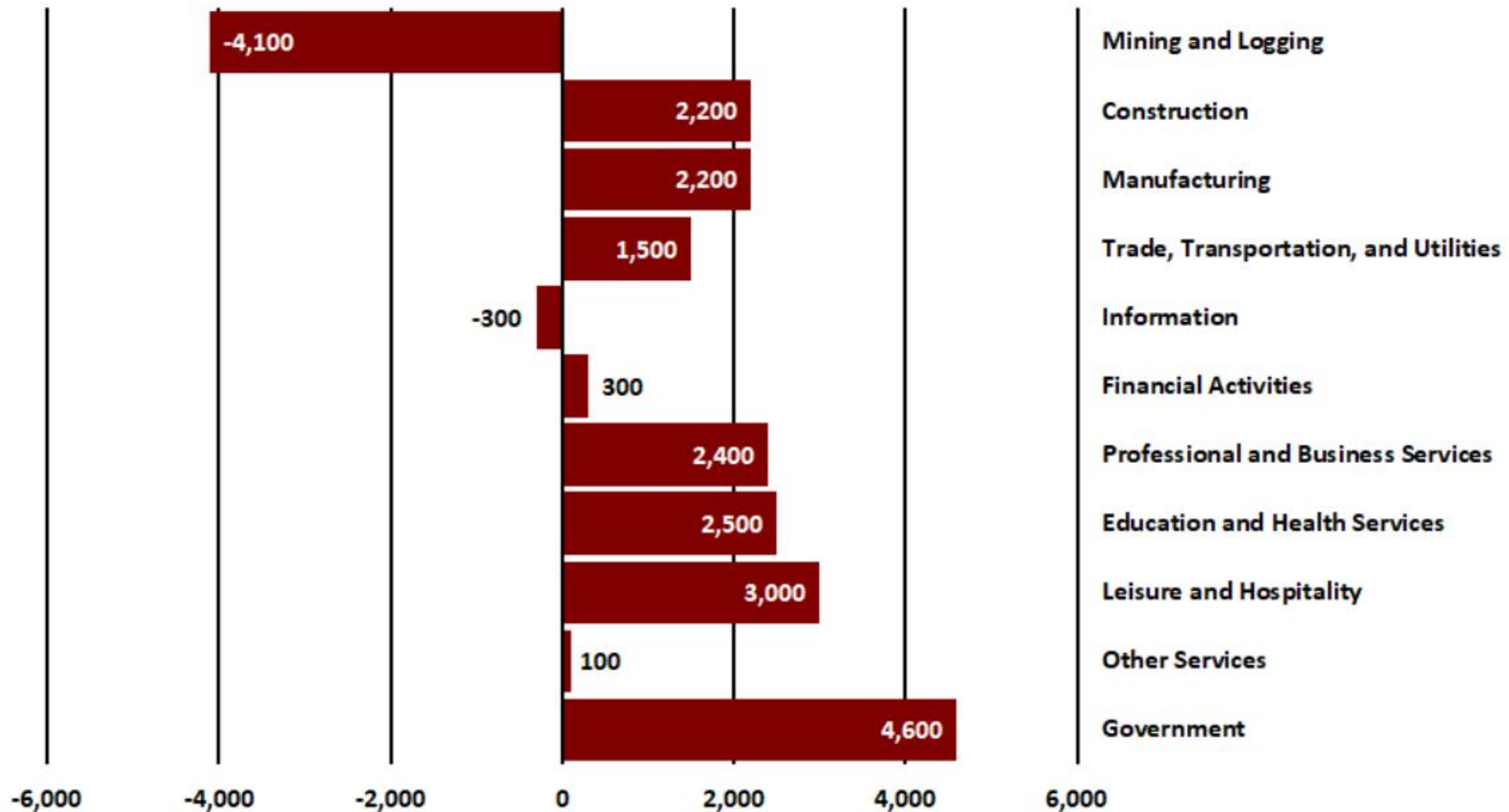


% GDP

Oklahoma Employment Change by Industry, 2018-2019

Annual Averages (Not Seasonally Adjusted)

Source: Current Employment Statistics (CES), U.S. Department of Labor, Bureau of Labor Statistics



jobs

Opportunities for Oklahoma

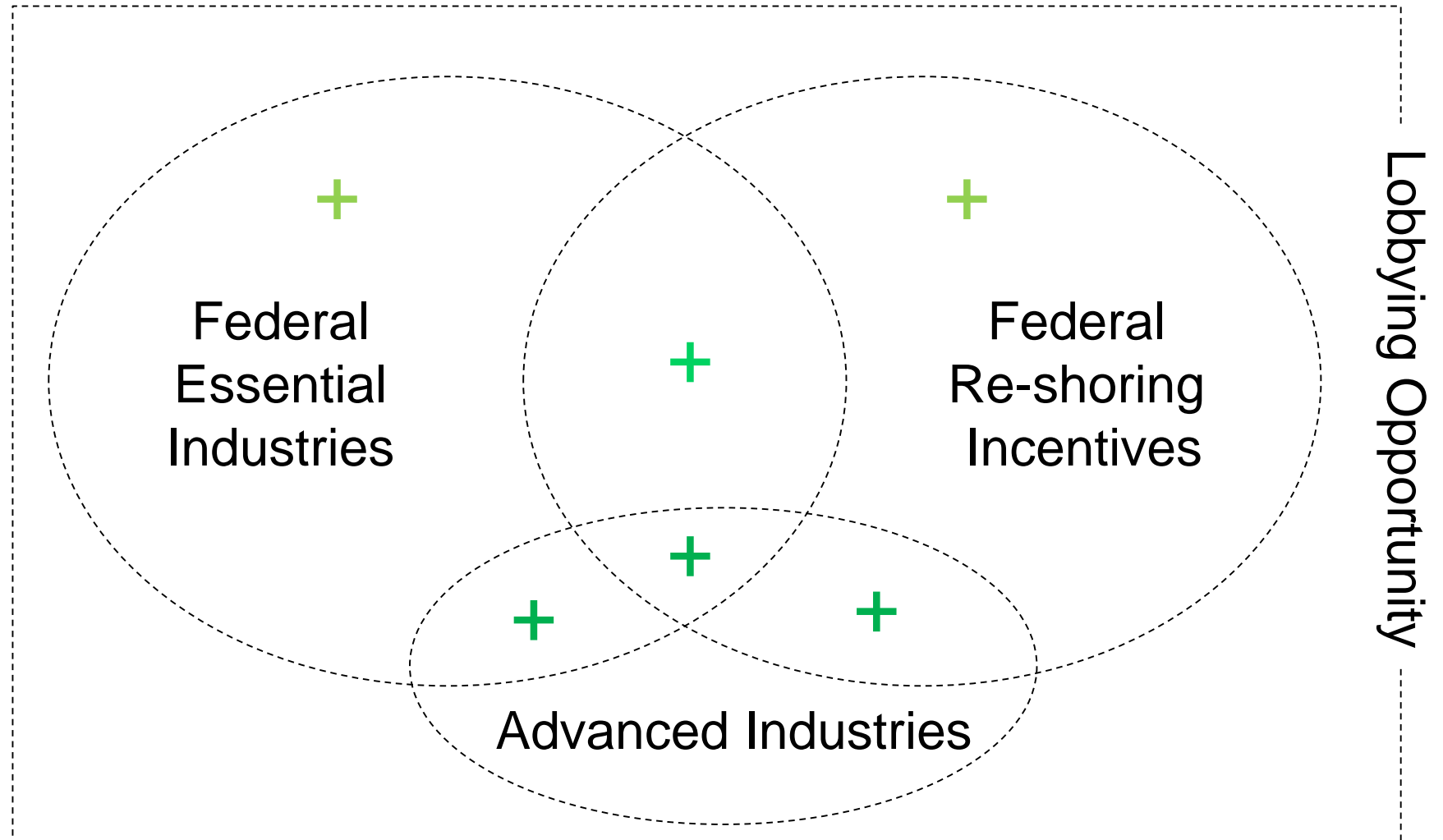
- Opportunities in the *New World*
 - **Develop workforce**
 - Partner with universities and community colleges
 - Focus on areas in high demand (like supply chain)
 - Shift with consumers, because they are shifting
 - Build a robust entrepreneurial ecosystem (huge challenge)
 - Become home to “essential” industries
 - Grow logistics sector
- **Continuing opportunities**
 - Grow aerospace and defense sector (significant opportunity)
 - Grow healthcare industry (huge challenge)
 - Grow bio/pharma (huge challenge)
 - Partner with tribal nations
 - Lobby for improved incentives to attract key industries/companies

Essential Industries



Opportunities for Oklahoma

- Grow existing business
- Grow essential industries
- Capitalize on re-shoring incentives
- Grow advanced industries
- Invest in people



Planning for the future

- Be careful looking backwards to predict the future
- Think about your products and services in light of the changing world
 - This is a time of great opportunity, and very significant risk
- Recovery will like be “whack-a-mole” (Yossi Sheffi)
- If possible, align with the big winners
 - **Big tech (Amazon, Netflix, YouTube, Microsoft, Google, Apple, etc.)**
 - **Healthcare industry (also pharma)**
 - **Federal government (DOD)**
 - **Other winners:**
 - Consulting
 - Business analytics/artificial intelligence
 - Grocery stores (also liquor/wine, meal prep, delivery services)
 - Food industry (especially shelf-life stable foods)
 - Game makers/sellers

Price College of Business - University of Oklahoma

MARKETING, HEALTHCARE AND SUPPLY CHAIN MANAGEMENT

Marketing, Supply Chain & Health Care @ OU

- **Marketing** (major and minor) – new curriculum, major focus b2b marketing, strategy, social/digital marketing and global
- **Supply Chain** (major) – new best-in-class curriculum, focusing on logistics, operations, procurement, analytics, and global
- **Business of Healthcare** (major and minor) – new curriculum, enrolling students in the major in the fall

Questions?

PETERSEN@OU.EDU

KEN PETERSEN

Go no further, lest ye be out of finished slides

PARKING LOT

QUESTIONS?

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