Economic Statistics Directions

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The Challenge

Keeping official statistics relevant, timely, and accurate given the changing global economy and the rapidly evolving needs of customers

Gathering Feedback & Setting Priorities

- Key mechanisms:
  - Policy makers and appropriators (at the Federal and local level)
  - Federal advisory committees
  - Industry associations
  - Academic communities and forums
  - Public feedback channels
  - Expert panel studies
  - International standards and guidelines

Digital Economy

- Multi-dimensional framework for exploration
  - Quality-adjusted prices (smart phones, cloud computing)
  - New digital platforms and business models (ride-sharing apps, advertising-supported digital content)
  - Global IT flows (intellectual property transactions)

- Major challenges
  - Defining the "digital economy"
  - Identifying transactions embedded in accounts but not separately identified

Paradigm Shift → New public-private partnerships for access to non-traditional data

Digital Economy
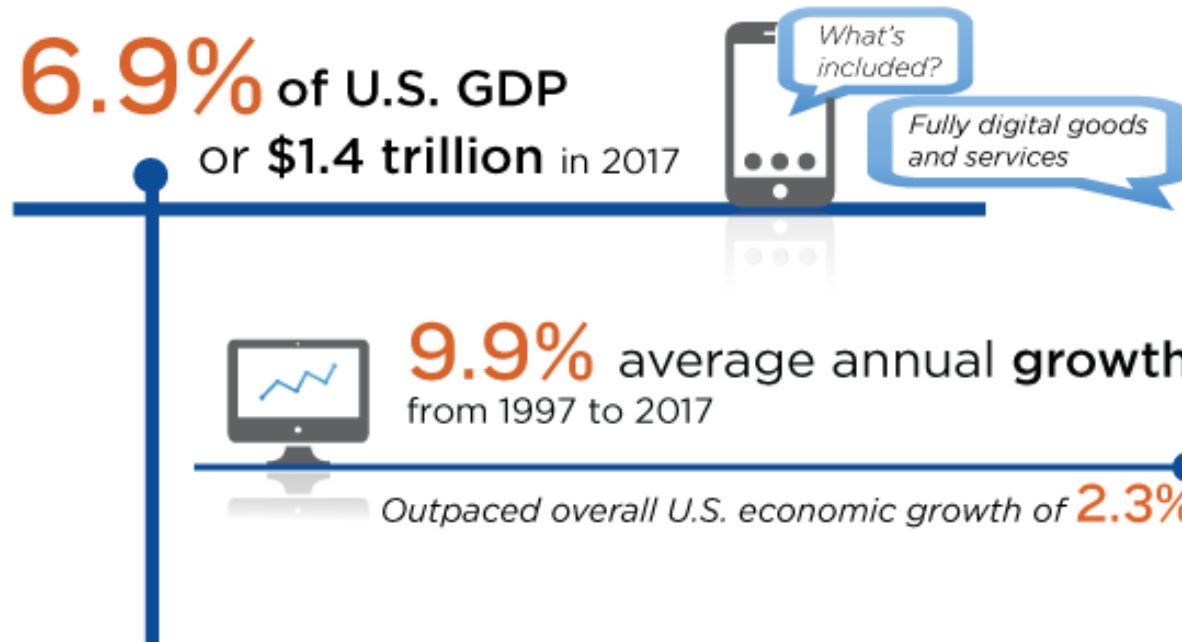
Health Care

- **New perspective for ongoing policy debate**
    - Health care is a growing share of U.S. GDP
    - Consumer spending on medical care by different types of diseases rather than traditional groupings like hospitals and doctors' offices
    - Very strong policy interest and increasing public demand for information on this dynamic sector

- **Major challenges**
    - Limited information from traditional survey-based data sources
    - Building new framework for examining health care costs

Paradigm Shift → (1) "Blending" non-traditional and traditional data sources and (2) collaboration with the scientific community

Health Care

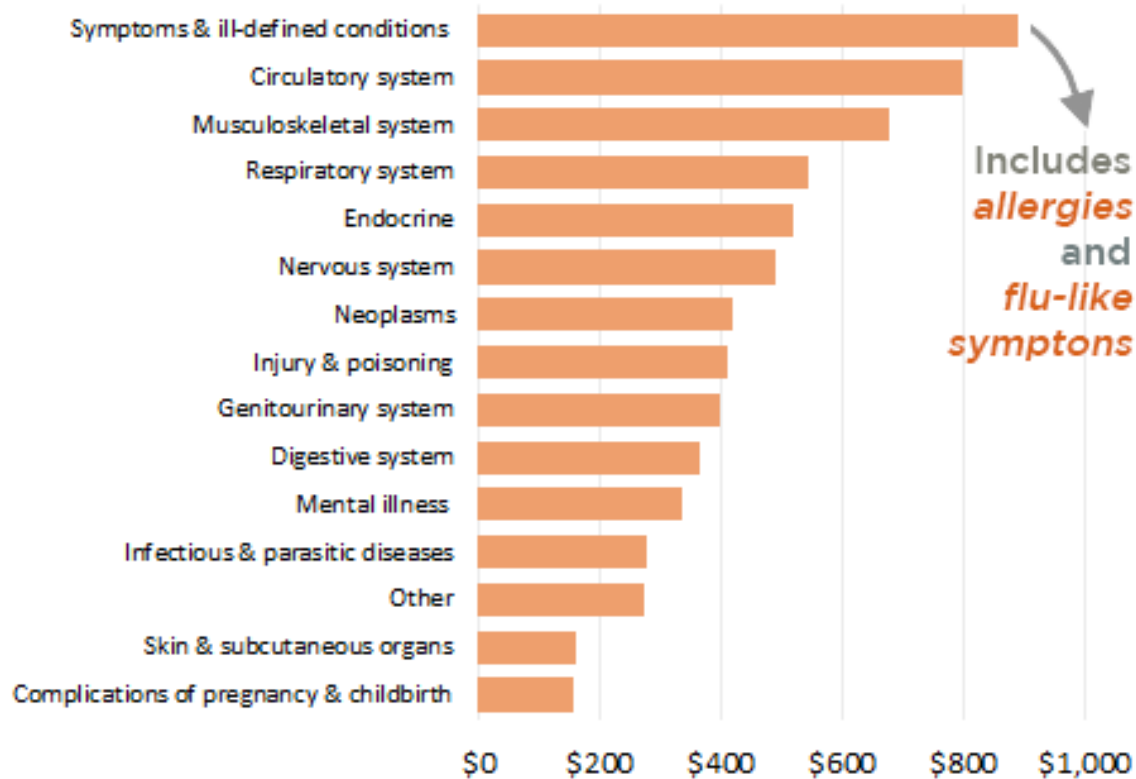Health care accounts for **more than 14%** of the U.S. economy
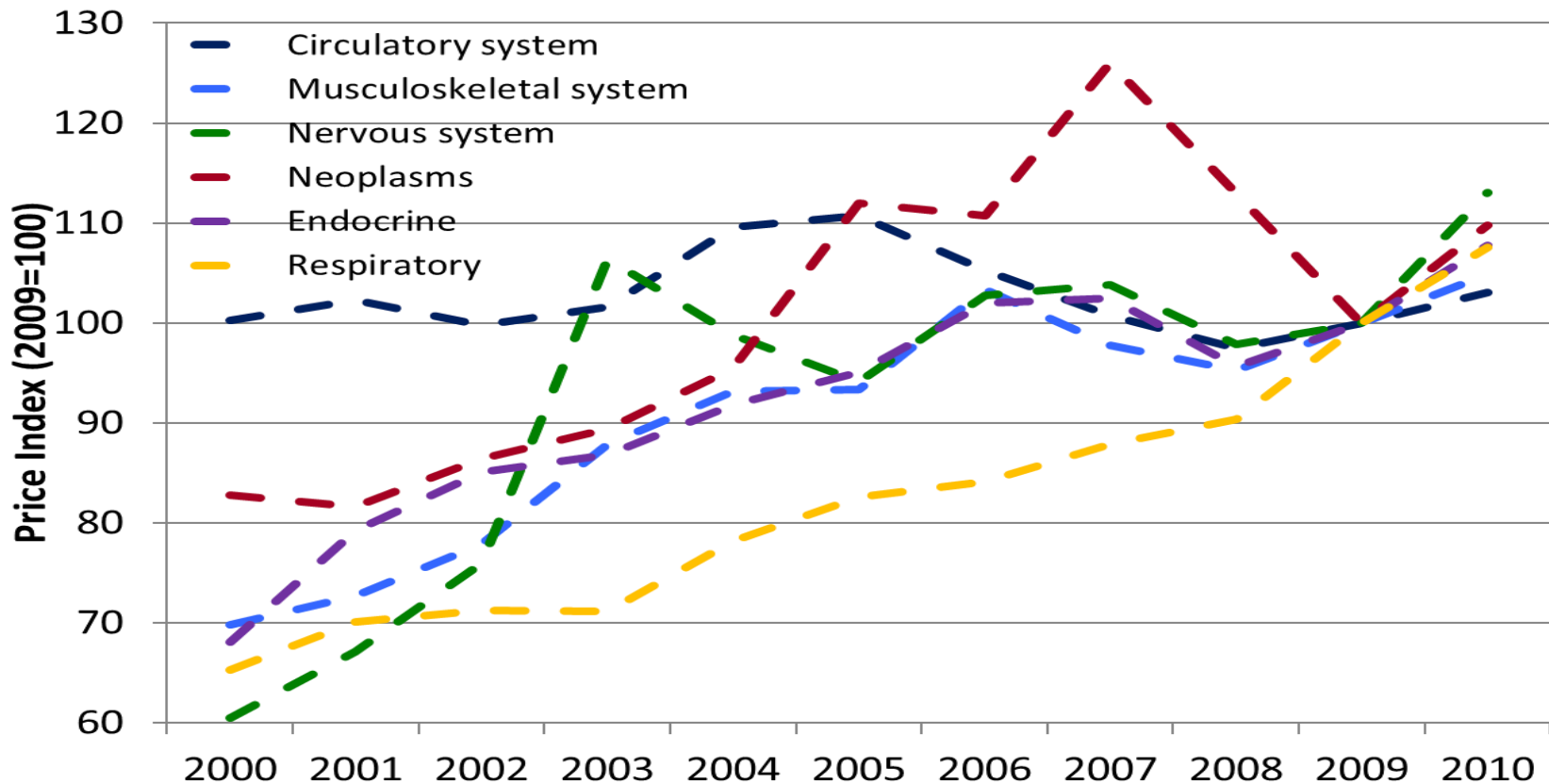
U.S. consumers spent **$2.1 trillion** in 2015 on medical services for diseases and conditions

Per Capita Spending in 2015

Includes *allergies* and *flu-like symptons*
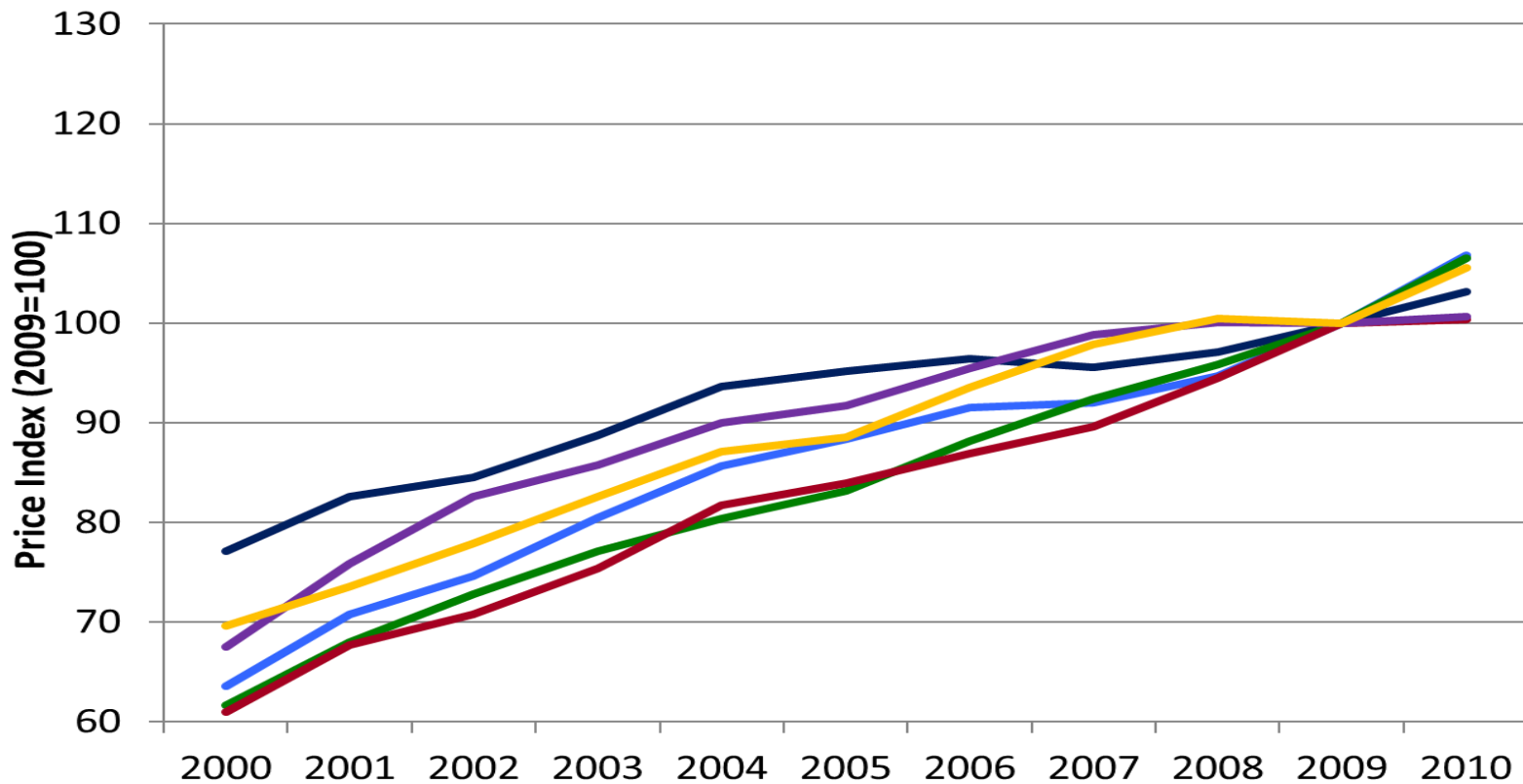
Source: Bureau of Economic Analysis

Price Indexes: Survey data only

Source: Bureau of Economic Analysis

Price Indexes: Survey + Big data

Source: Bureau of Economic Analysis

Distribution of Income

- Going beyond GDP
  - What do topline numbers like GDP and Personal Income mean for well-being of individuals at different income levels?
  - Top priority—heightened attention from U.S. government officials echoes demands from academic and policy communities

- Major challenges
  - Deciding on concept of income (money income vs. national accounts' concept of personal income)
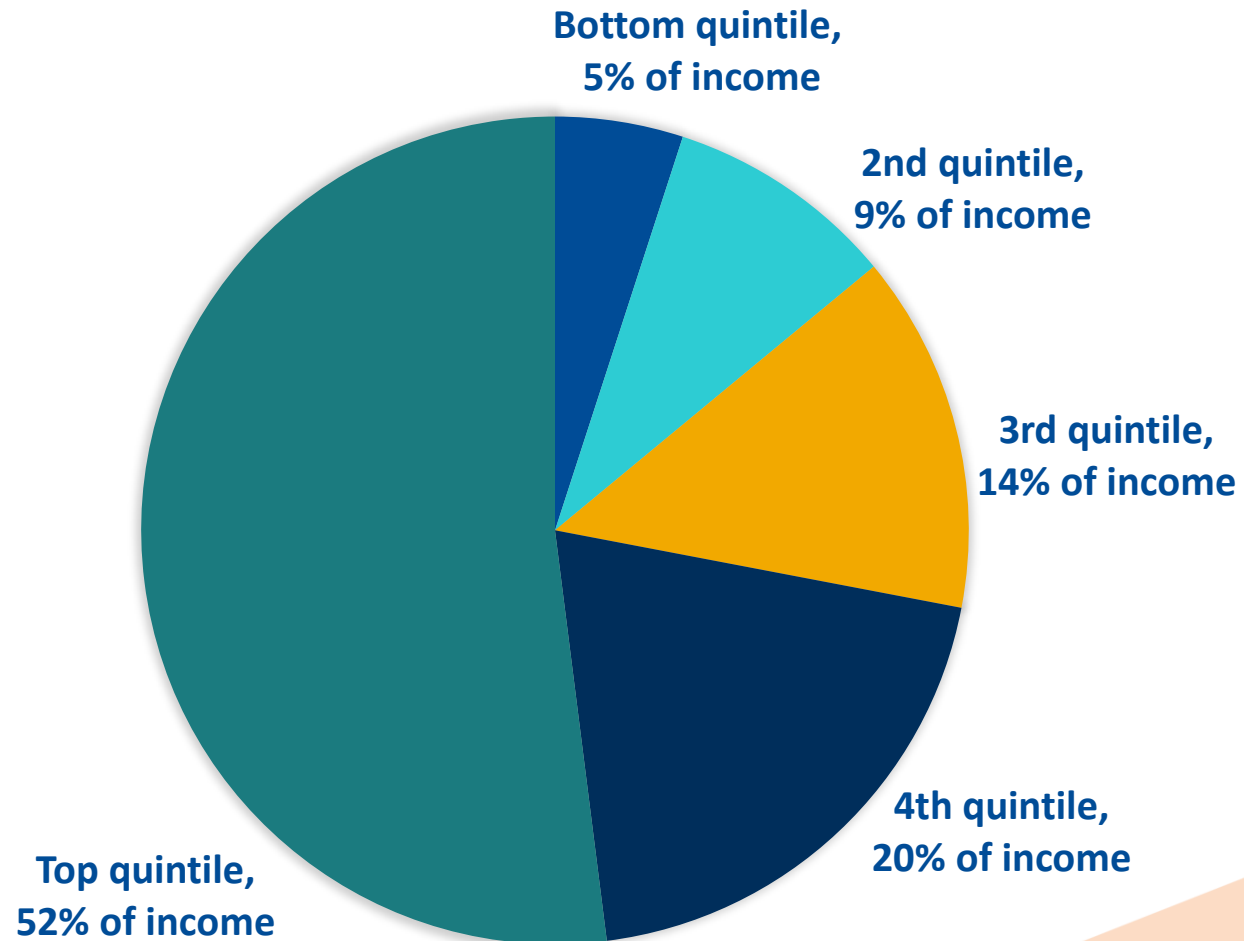 - Access to timely source data with distributional breakouts

Paradigm Shift → Information-sharing across different federal government agencies in ways that abide by legal constraints, including confidentiality requirements

Distribution of Income

Shares of Income by Quintile*

Shares of income by type

Bottom	Top
Compensation	
4%	51%
Proprietors' income	
1%	83%
Rental income	
5%	52%
Interest and dividends	
1%	75%
Transfers	
16%	16%

Bottom quintile, 5% of income

2nd quintile, 9% of income

3rd quintile, 14% of income

4th quintile, 20% of income

Top quintile, 52% of income

* Data for 2012
Source: Bureau of Economic Analysis, University of Michigan

Greater Geographical Detail

- Key to evidence-based policy making
  - National statistics are not enough—long-standing commitment to provide finer levels of geographical detail
  - State and municipal decision-makers need data tailored specifically to their localities

- Major challenges
  - Traditional data sources lack detail to break out economic activity in more granular geographic areas
  - Harmonizing top-down and bottom-up estimation methods to gain greater insights from both perspectives
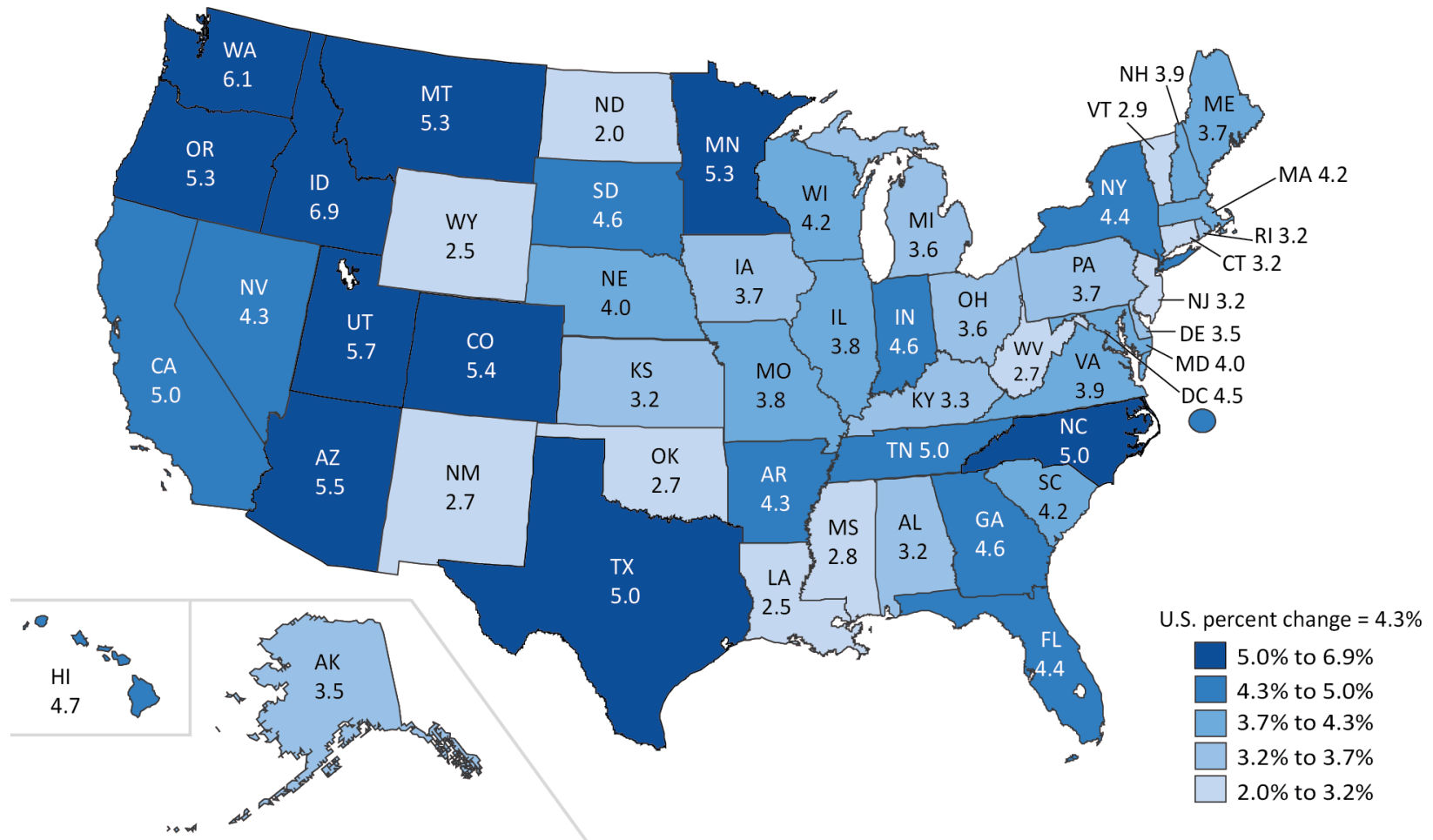
Paradigm Shift → (1) Consistency between national and local area estimates and (2) input from regional-level stakeholders, including new data sources

Greater Geographical Detail

Consumer Spending by State: Percent Change, 2016-2017

Source: Bureau of Economic Analysis

Greater Geographical Detail

Regional Price Parities

What Does $100 Buy?
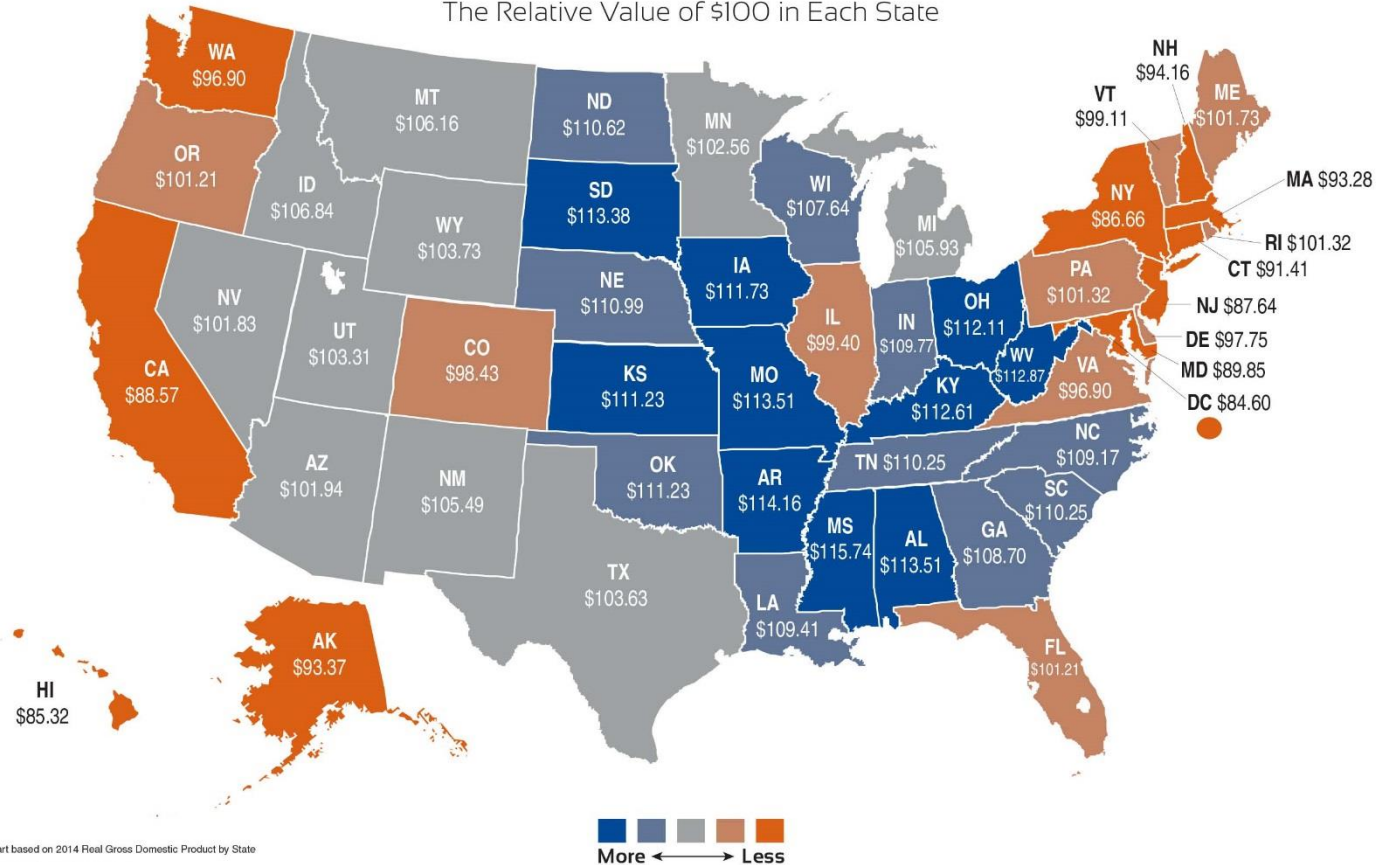
The Relative Value of $100 in Each State

Chart based on 2014 Real Gross Domestic Product by State

More ← → Less

Source: Bureau of Economic Analysis

Increasing Accuracy and Timeliness

- The trade-off
  - To make informed decisions, government officials and other policy makers need accurate data that are not subject to large revisions,
  - AND customers are demanding this information in a more timely manner.

- Major challenges
  - Earlier access to data sources from other Federal statistical agencies
 - Filling data gaps in early estimates

Paradigm Shift ➔ (1) Cutting-edge tools (machine learning, artificial intelligence) and (2) an employee base with the right skill sets to apply these tools

Increasing Accuracy and Timeliness

Accuracy: Comparison of Revisions to PCE Health Care Services

■ Before (results simulated after 2016Q3)   ■ After (results simulated prior to 2016Q4)
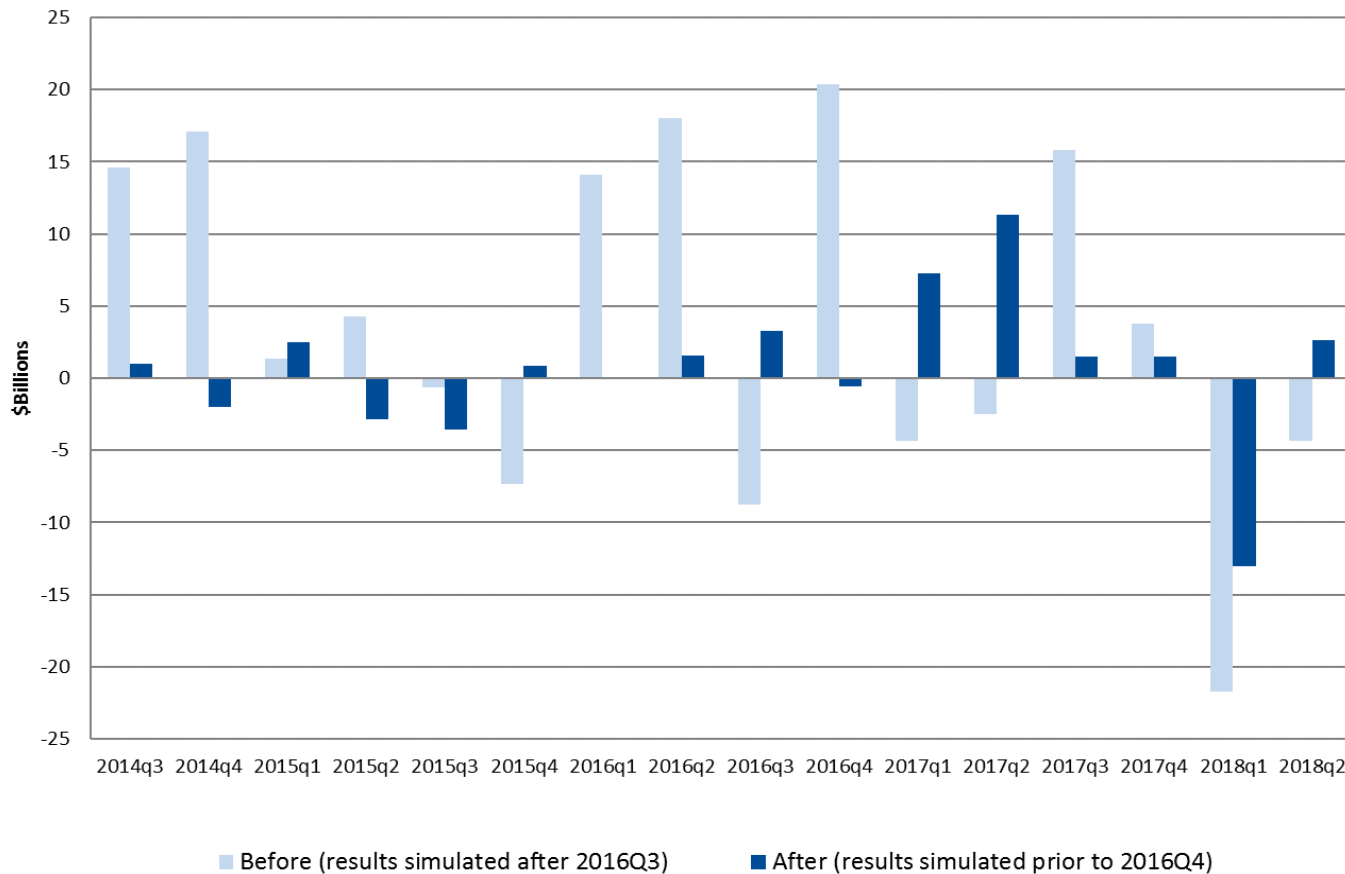
Source: Bureau of Economic Analysis

Increasing Accuracy and Timeliness

Timeliness: Simultaneous Quarterly Releases

National:
GDP & GDI

Industry:
GDP

State:
GDP

30–90 days

110 days

120 days

ACCELERATE

ACCELERATE
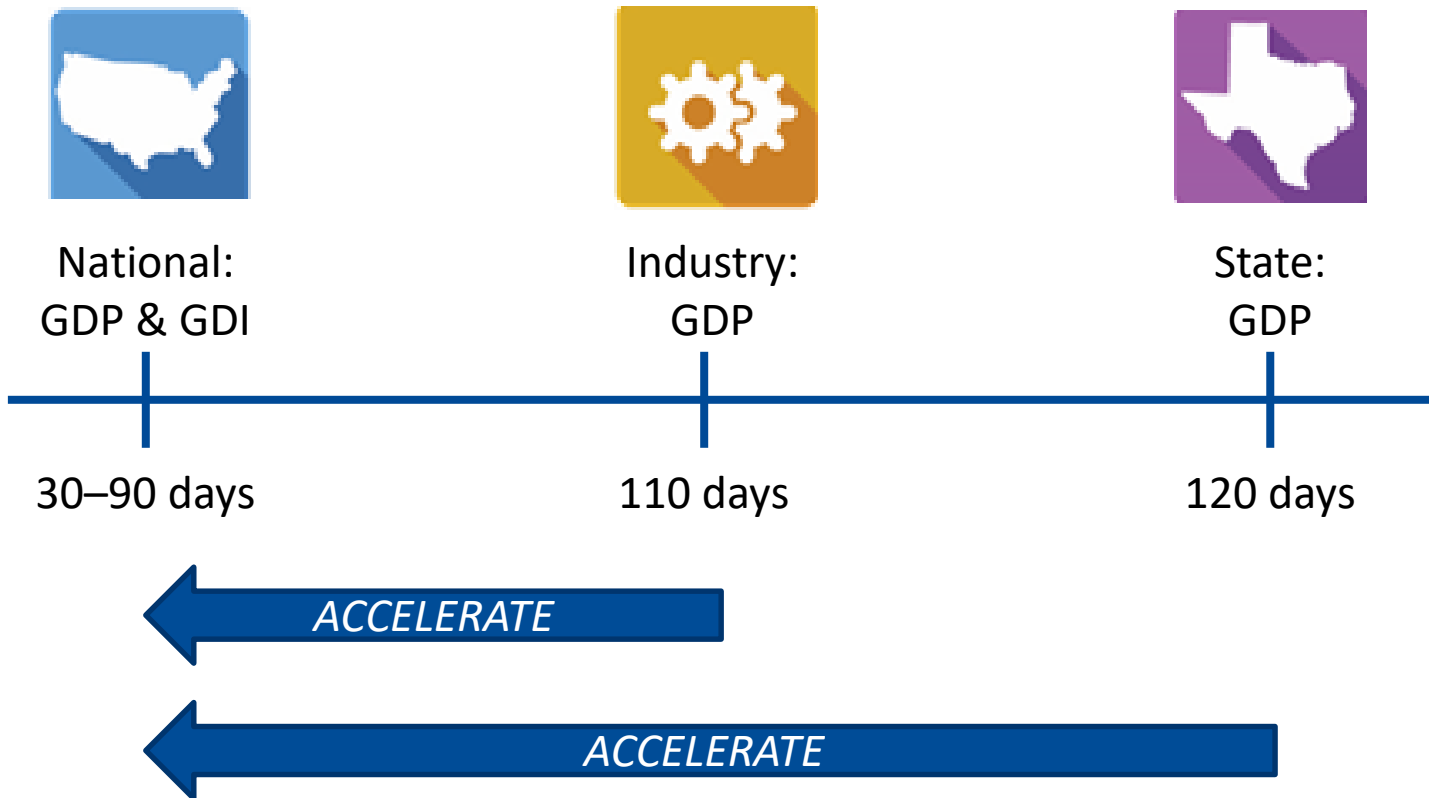
Key Takeaway: Paradigm Shifts are Critical

- Statistical agencies must change the way we do business in order to fulfill user demands for more relevant, timely information
  - New forms of collaboration (e.g. public-private partnerships to access non-traditional data, partnerships with outside experts to develop new data products)
  - New estimation approaches (e.g. blending non-traditional and traditional data sources, using cutting-edge data techniques such as machine learning)
  - Public feedback mechanisms for developing new products and gaining access to new data sources
  - Recruitment of multi-disciplinary staff with mix of skill sets

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