Fall 2019 Inforum Economic Outlook

Ronald Horst
University of Maryland
December 12, 2019
Trade Tensions Abound

Reducing Trade and Slowing Investment

Trade and investment to remain weak
World trade and investment growth, %, 2017-2021

Source: OECD Economic Outlook, November 2019
Global Growth is Declining

IMF: World Economic Outlook, October 2019
## World Outlook: Sluggish Gains

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*IMF World Economic Outlook (October)*
U.S. Outlook: Slower GDP Growth

CBO 2019-2029 (August), Blue Chip (December, October), and Preliminary Inforum Fall 2019.
Trade & Investment Limit US Growth

Government Consumption & Investment
Gross Private Domestic Investment
Net Exports
Personal Consumption Expenditures
Gross Domestic Product

Bureau of Economic Analysis, NIPA.
Dollar Stronger Again in 2019
The Overall Trade Gap Widened…

Bureau of Economic Analysis, NIPA.
...Despite Barriers to Trade

Bureau of Economic Analysis, NIPA, Billions of Dollars.
...Leading to Reduced Activity
Structures Investment Fell

![Graph showing investment trends in various sectors over time.](image)
Consumers Remain Confident

Annual PCE Growth (Percent), University of Michigan Consumer Sentiment (1966=100)
What are Consumers Buying?

Shares of Personal Consumption Spending (Percent, NIPA); Inforum calculations.
Where are Consumers Spending?

Shares of Retail Sales (Percent), Inforum calculations using Retail Trade Survey data.

- Electronic Shopping & Mail-Order (L)
- Warehouse Clubs and Superstores (L)
- Other Retail Sales (R)
Residential Vacancies are Falling

- Rental Vacancy Rate (L)
- Owner-Occupied Vacancy Rate (R)
Home Prices are Climbing

Zillow price index and Median price to Median Income ratio.
Auto Sales and Housing Starts
Oil & Natural Gas Production

Q1 2014 = 100. Excludes drilling and mining support services.
Industrial Production Slowing

Year-over-Year growth rates (percent).
Strong Labor Markets
Historically Low Unemployment
Limited Slack in Labor Markets
Slight Rise in Labor Participation
More Older Workers

Employment as percentages of the labor force.
Wages, Prices, & Unemployment

Year-over-Year growth (percent change) and Unemployment Rate minus NAIRU (Percent)
Low Inflation and Falling Rates

Year-over-Year Growth (percent change) and Rates (percent)
Inversion Trouble

10-Year Treasury Bond rate vs 3-Month Treasury Bill rate (Percent).

- Difference (R)
- 10-Year Treasury Bond
- 3-Month Treasury Bill
Fed Balance Sheet Adjustment
Contributions to Percent Change in Real Government Consumption Expenditures and Gross Investment

Contributions to Public Spending

- Federal Defense
- Federal Nondefense
- State & Local
- Total Government
Public Borrowing (1929-2018)

Federal Surplus or Deficit (Fiscal Year), State and Local Net Lending or Borrowing
Debt by Sector (1980-2018)

Trillions of dollars
Household Spending Manageable

Percentages of Disposable Personal Income and of Percentages of Mortgages
Delinquent loans (percent) and Corporate bankruptcy filings.
...Despite Vulnerabilities

e.g. Leveraged Loans, BBB Debt

Exhibit 1: BBB leverage metrics continue to show signs of deterioration...

Net debt to asset and net debt to EBITDA for the median BBB and AA/A rated issuer

Source: iBoxx, FactSet, Goldman Sachs Global Investment Research

Limited Federal C&I but High Interest

Deficits as Percentage of GDP, CBO LTBO and Inforum
More Health Spending, More Individual Income Taxes

Percentages of GDP, CBO Long-Term Budget Outlook and Preliminary Inforum Fall 2019.
Rising Federal Debt

Federal Debt Held by Public—Percentage of GDP. CBO 10-Year & LTBO, Inforum.
Widening International Deficits

Current Account Deficit, as Percentage of GDP. Preliminary Inforum Fall 2019.
But Stable Personal Accounts

Personal Savings Rate. Preliminary Inforum Fall 2019.
### Outlook: Real Spending

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Inforum, Fall 2019 Preliminary Forecast.
### Outlook: Employment

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*Inforum, Fall 2019 Preliminary Forecast.*
GDP, Hours, and Productivity

Preliminary Inforum Fall 2019.
# Outlook: Nominal GDP

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</table>
Contact Information

- Ronald Horst
  - RHorst@umd.edu
  - (301) 405-4636

- www.Inforum.umd.edu
History of Inforum

- Interindustry Forecasting at the University of Maryland.
- Founded in 1967 to improving business planning, government policy analysis, and the general understanding of the economic environment.
- Builds and applies structural economic models of U.S. and other economies.
- Works with government and private sector research sponsors.
- Trains UMCP graduate and undergraduate students.
- Maintains a world-wide network of research associates.
Why Use Economic Models?

- Produce economic and social data – raw material for reports and studies – in comprehensive data sets useful for analysis.
- Building models assists and tests economists’ understanding on how the economy works.
- Assists the economic forecasting process. Leverages the historic record to detect likely future trends. Provides a comprehensive and consistent framework to assess assumptions and structure of an economic forecast.
- Simulates “counterfactual” details to produce alternative scenarios and/or to evaluate policy measures or exogenous economic shocks.
LIFT – The Current Edition

- Interindustry structure and information derived from BEA benchmark 2007 IO and 1998-2016 annual IO tables.
- Time series of real IO Tables from 1997.
- Industry and commodity definitions harmonized with BEA NAICS IO and industry data.
- Consistent industry definitions for investment, employment, and value added.
- Industry data integrated and reconciled to NIPA in real and nominal terms (2009 NIPA Benchmark).
The Outlook for LIFT – The Next Edition

- **Data**
  - New NIPA Benchmark released in August 2018
  - New investment data released in November (Fixed Assets)
  - Industry data released more recently
    - Gross Output, Benchmark IO, Annual IO

- Work began in 2019 on the next generation of Lift

- Interindustry structure and information derived from BEA benchmark 2012 IO and 1997-2018 annual IO tables

- Industry data integrated and reconciled to NIPA in real and nominal terms (2012 NIPA Benchmark)
Economic Models: A Comparison

- **Macro models**
  - Based on time series data, econometrically estimated. Good dynamic properties.
  - Little industry detail. Do not show relationships between industries.
  - Example: Inforum quarterly forecasting model.

- **Static Input-Output (IO)**
  - IO allows for detailed identification of the flow of spending impacts on industry-level production and employment.
  - Static framework does not recognize macroeconomic constraints.

- **Interindustry-Macroeconomic (IM) Models**
  - Pioneered at Inforum, with support from research sponsors, PhD students, and partners.
  - Example: Inforum Lift model.
LIFT: Inforum’s Model of the U.S. Economy

- **Long-term Interindustry Forecasting Tool (LIFT)** is an Interindustry-Macro (IM) model.
  - Sectoral detail: Production, prices, jobs, investment, consumer spending, foreign trade, and factor income (wages, profits, depreciation), etc.
  - Government: Defense, Nondefense, S&L. Extensive revenue, consumption and investment, transfers, and other detail.
  - Macrovariables:
    - Aggregates of the underlying industry forecasts: GDP, net exports, unemployment rate, aggregate price level, .....
    - Other macro variables: Savings rate, interest rates, .....

- **LIFT** is particularly useful in addressing questions involving interactions between industries, as well as the interplay between industry and macroeconomic relationships.
Forecasting Assumptions: Exogenous Detail

1. Energy prices (EIA)
2. Health Care Spending (NHE)
3. Transfers: Social Security (SSA), Medicare & Medicaid (CMS)
4. Federal Fiscal policy (CBO)
5. Population Growth (SSA)
6. International Outlook (Inforum and other)
Forecasting Assumptions: The Long-Run

1. Labor force guided by population and participation rate projections
   - Unemployment rates near NAIRU imply employment
   - Labor productivity growth implies GDP

2. Stable personal savings rates

3. Inflation rates near 2%

4. (Marginally) Sustainable financial balances
   - Current Account / GDP
   - Federal Debt / GDP