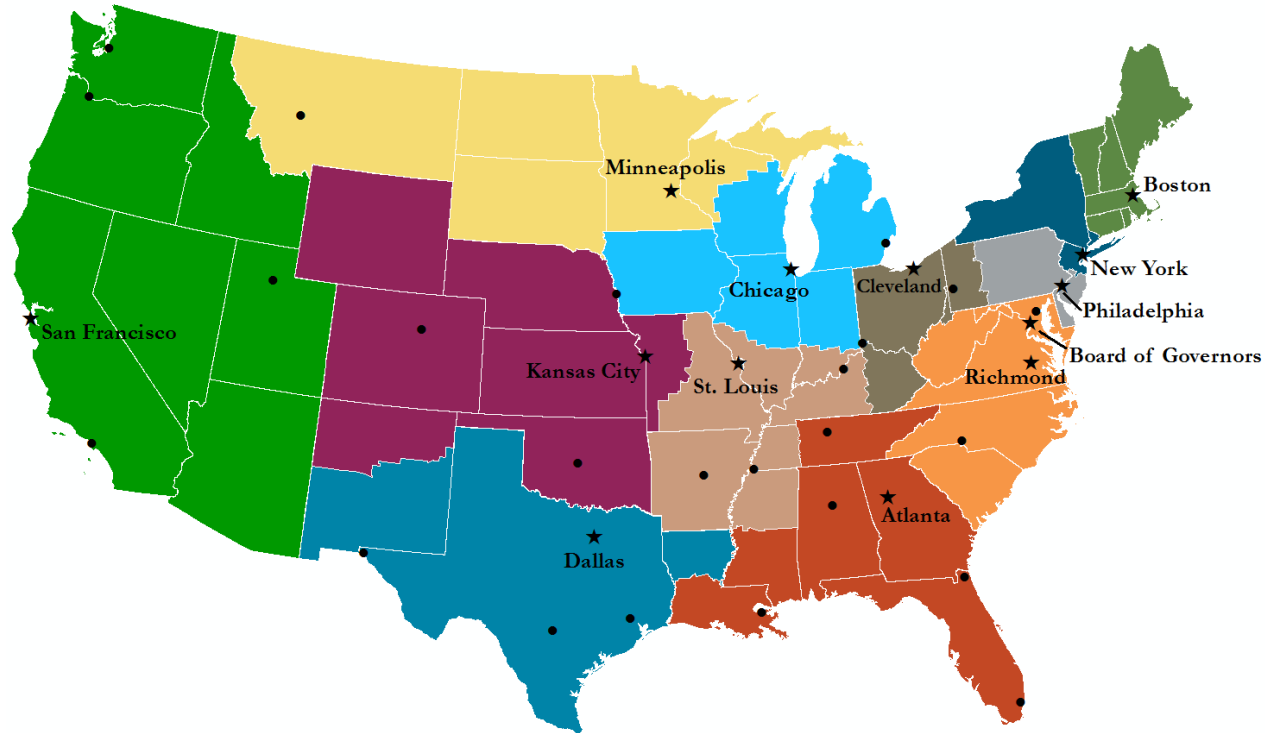# A Macroeconomic View of Protein Markets

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# Regional Federal Reserve Banks are important to the structure of U.S. monetary policy.

Outlook Themes

- A long-lasting economic expansion has contributed to broad-based growth in exports and consumption.

- Changing preferences and demographics, however, will have a significant impact on demand for animal protein products.

- In addition to ongoing trade disputes, recent prospects of slower global growth may also weigh on consumption and trade.

The U.S. economy is in the midst of its longest economic expansion on record.

U.S. Real Gross Domestic Product (GDP) Growth

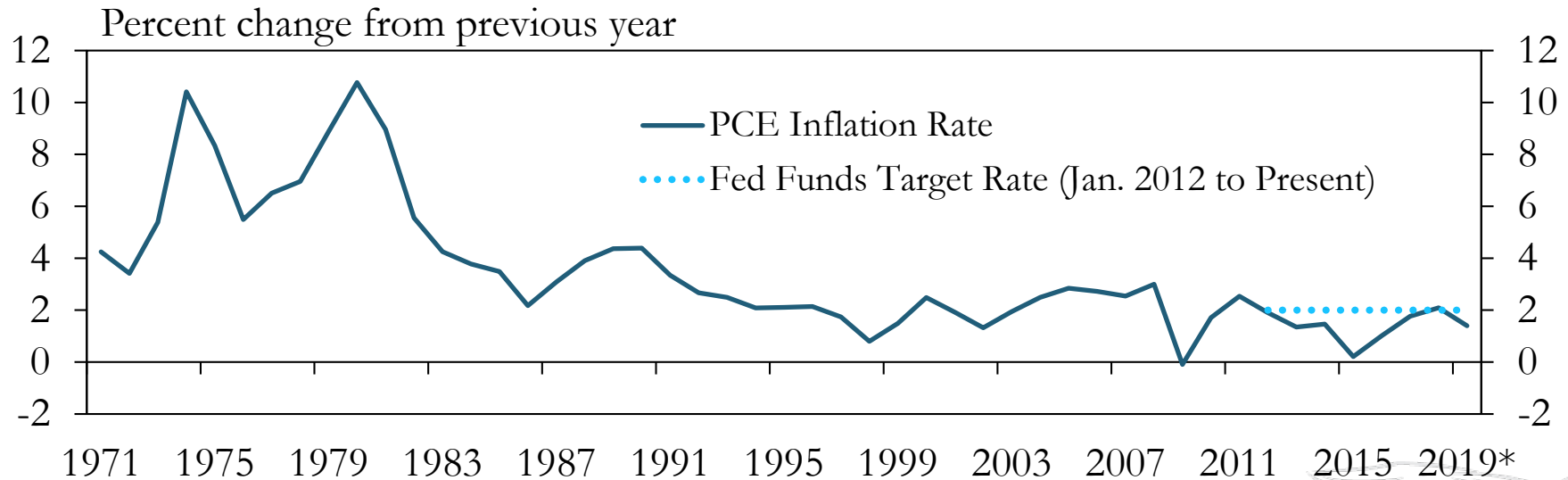Annual percent change, seasonally adjusted
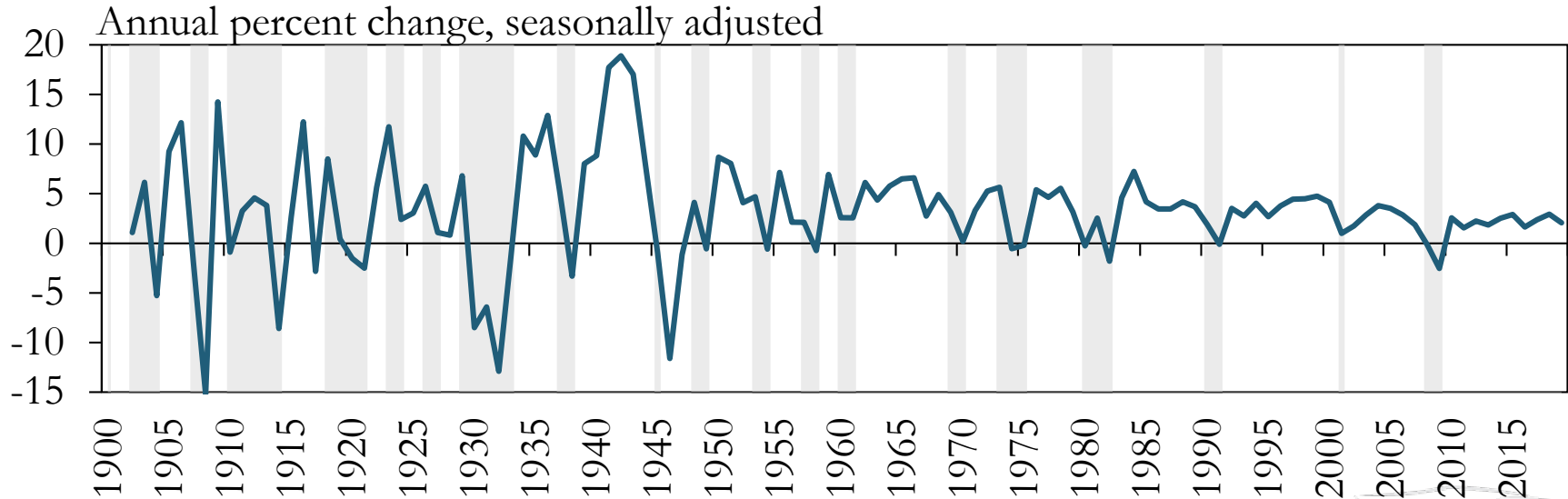
Note: 2019 figure based on GDP as of Q2 2019
Sources: U.S. Bureau of Economic Analysis, Wolters Kluwer (Blue Chip Forecasts), and Haver Analytics.

On the other side of the Fed's dual mandate, inflation has remained relatively low and stable.
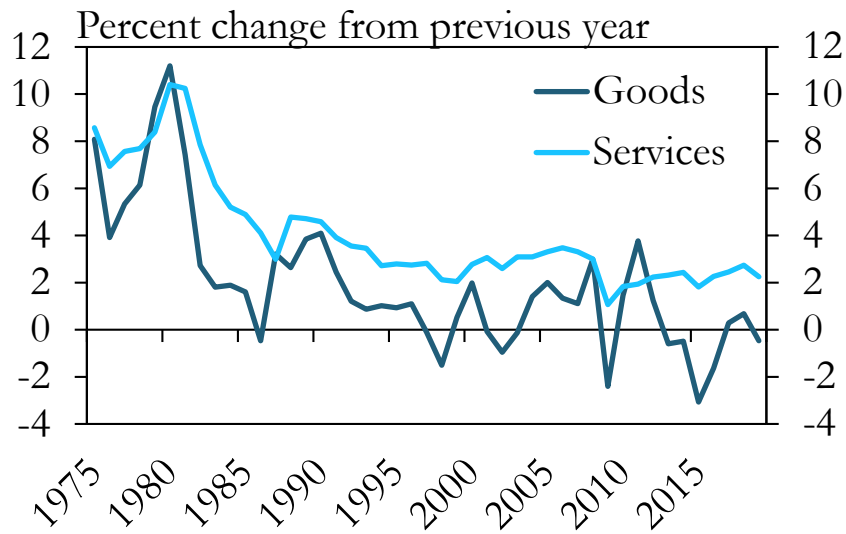
U.S. Inflation

Percent change from previous year

PCE Inflation Rate

Fed Funds Target Rate (Jan. 2012 to Present)

*As of Q2 2019

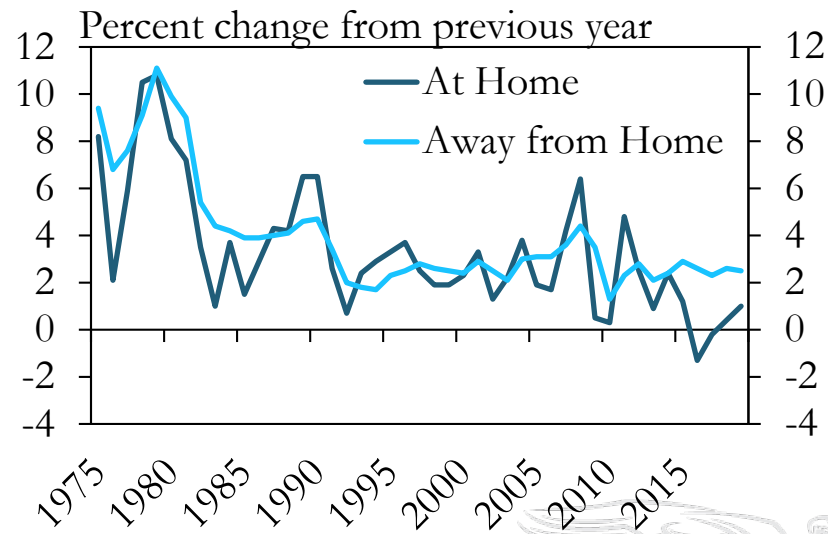**Sources**: U.S. Bureau of Economic Analysis and Haver Analytics.

However, notable differences in the composition of inflation have emerged in recent years.

Prices of U.S. Goods and Services

U.S. Food Prices by Source

Percent change from previous year

Legend: Goods, Services

Percent change from previous year

Legend: At Home, Away from Home

Note: Data for 2019 represent the midpoint of the forecasted range as of Q2.
Source: U.S. Bureau of Economic Analysis, USDA and Haver Analytics.

Changes in food price inflation reflect overarching changes in consumer preferences for food.
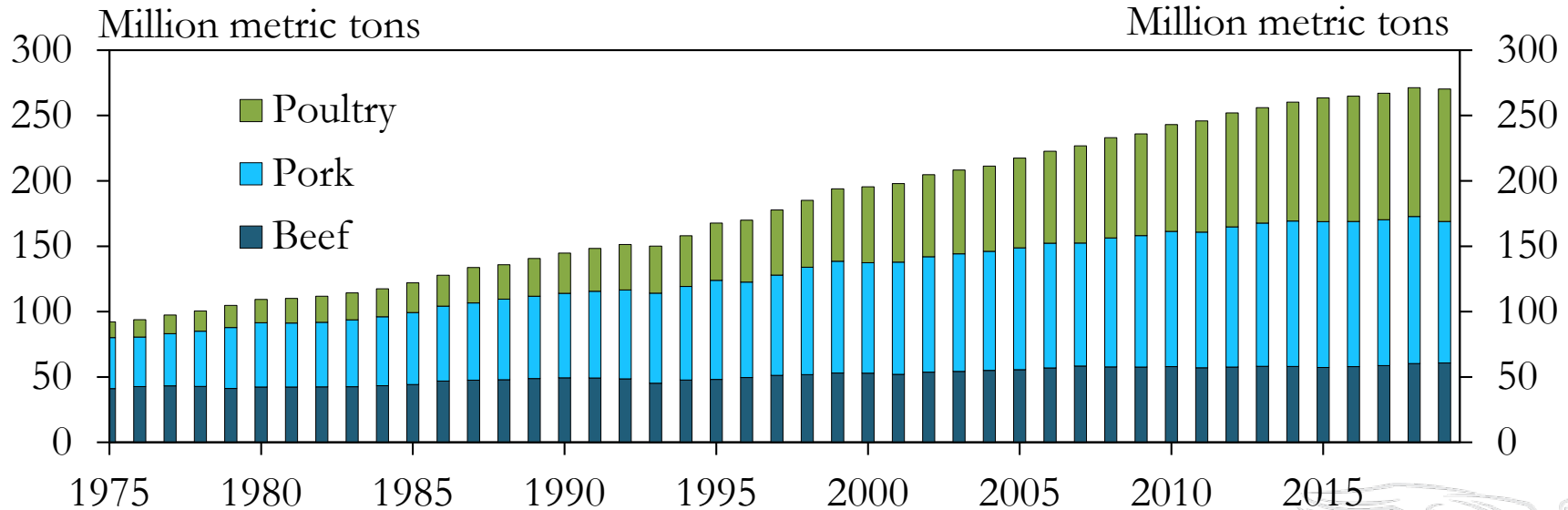
U.S. Food Expenditures by Source
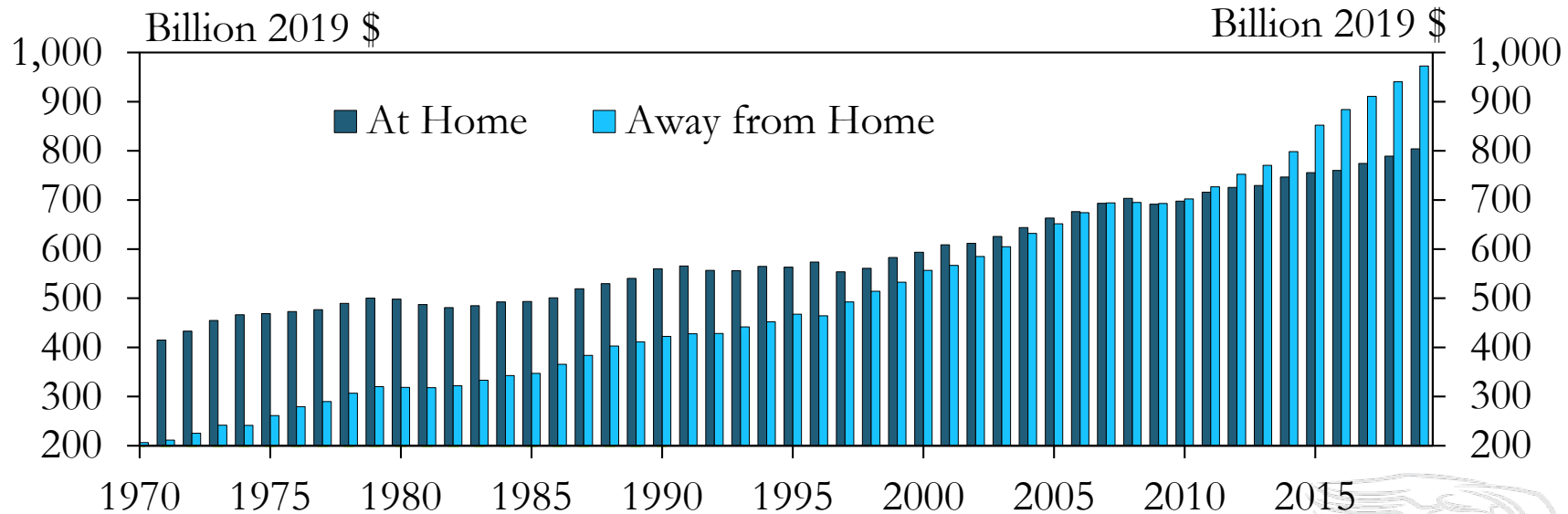
Note: Data for 2019 are annualized based on monthly data through June 2019.
Source: USDA

In the animal protein sector, preferences have continued to shift toward pork and poultry.

World Animal Protein Consumption

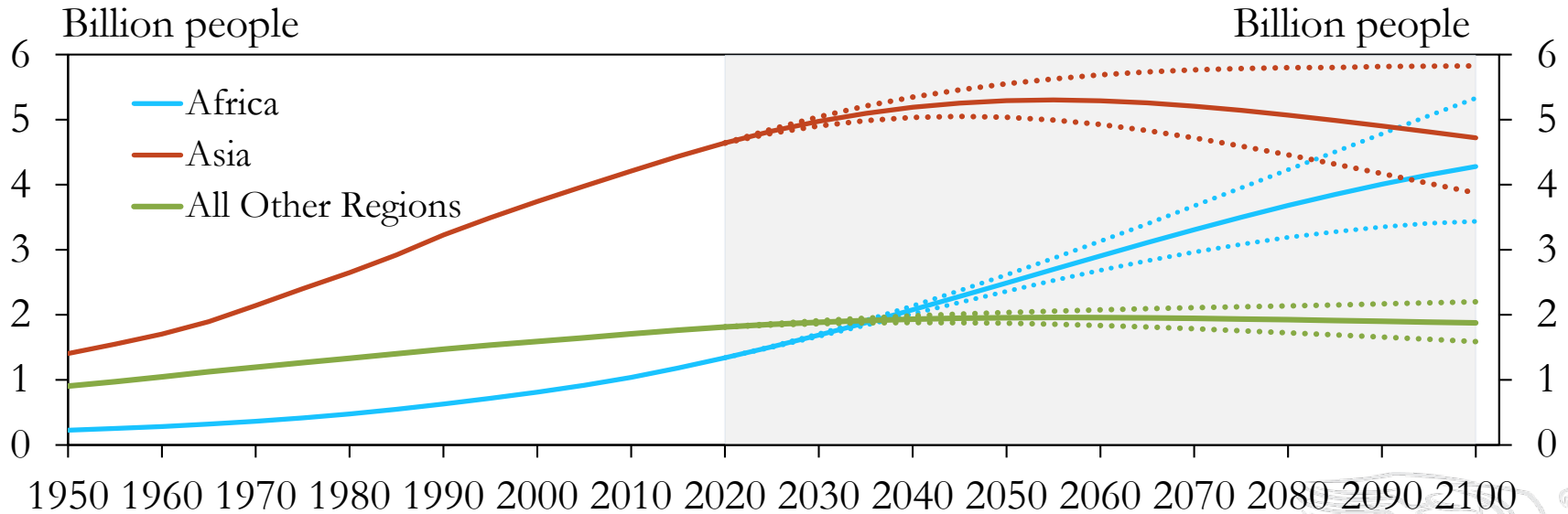Million metric tons

Legend:
- Poultry
- Pork
- Beef

Note: Data for 2019 is currently an estimate.
Source: USDA.

Changes in demographics will be broad, but significant, in affecting future meat consumption.
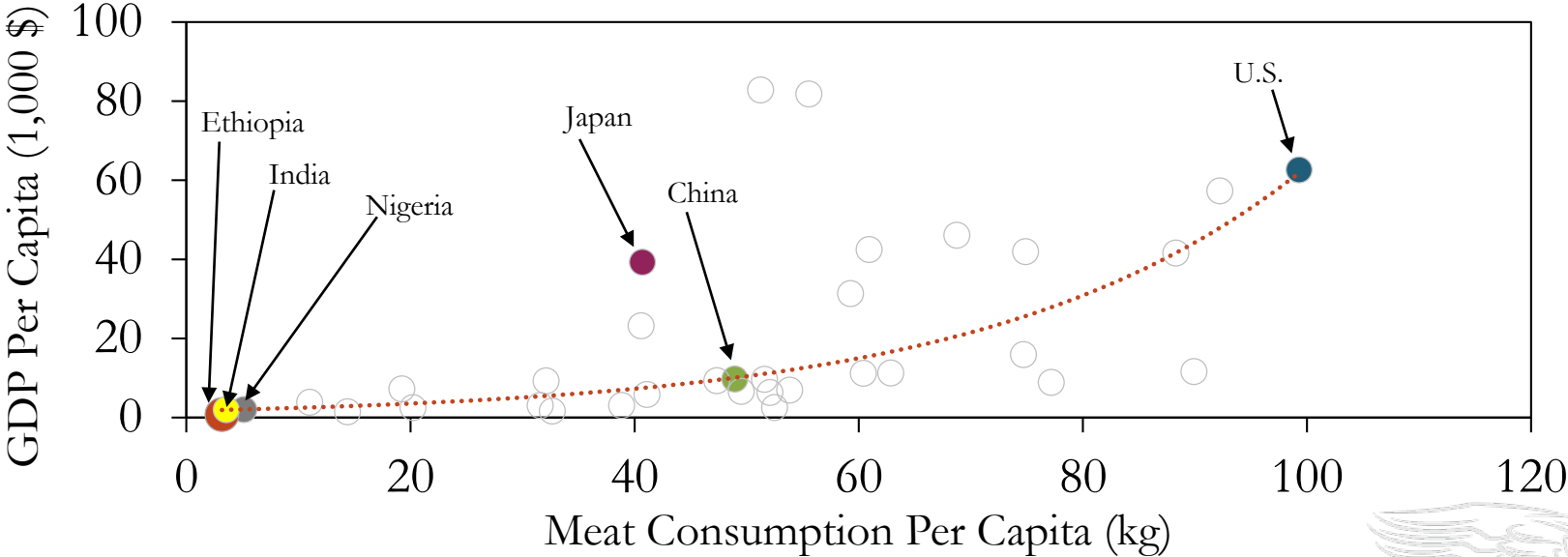
World Population by Region

Note: Doted lines represent the lower and upper 95th percent prediction intervals. Projections are calculated in five year intervals.
Source: United Nations – Population Division.

Income growth is an important determinant of meat consumption. Africa and SE Asia will be key.

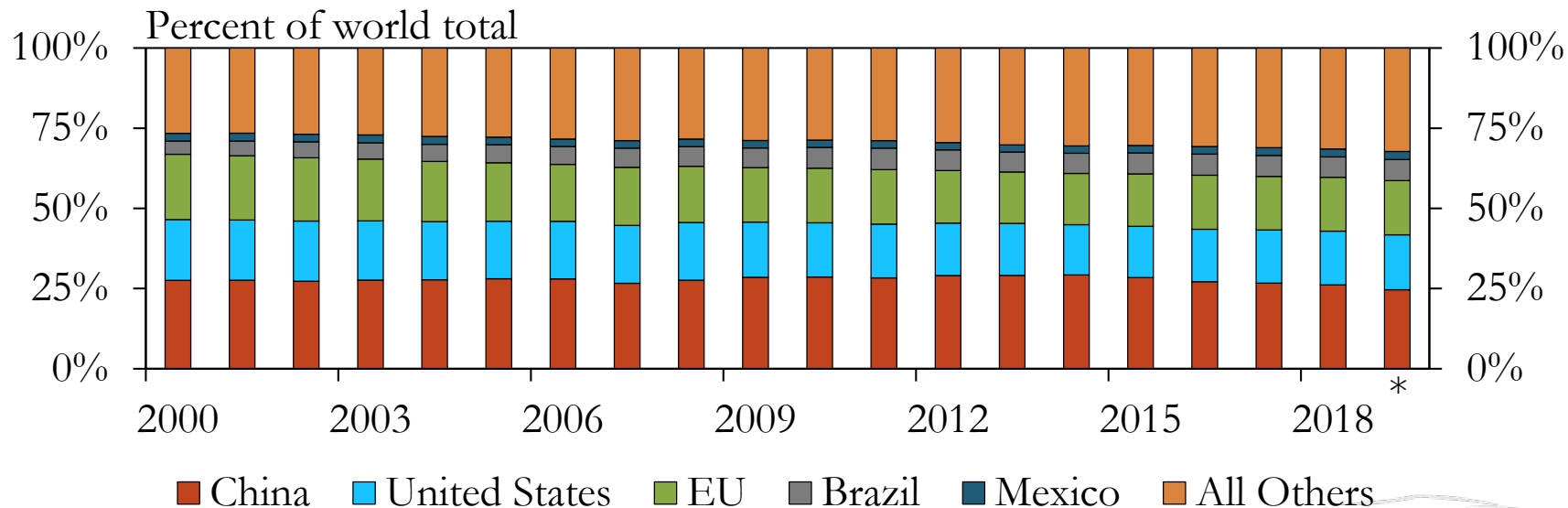## Meat Consumption and Income Levels - 2018

Source: OECD and World Bank.

Supply patterns have also changed, but only gradually.
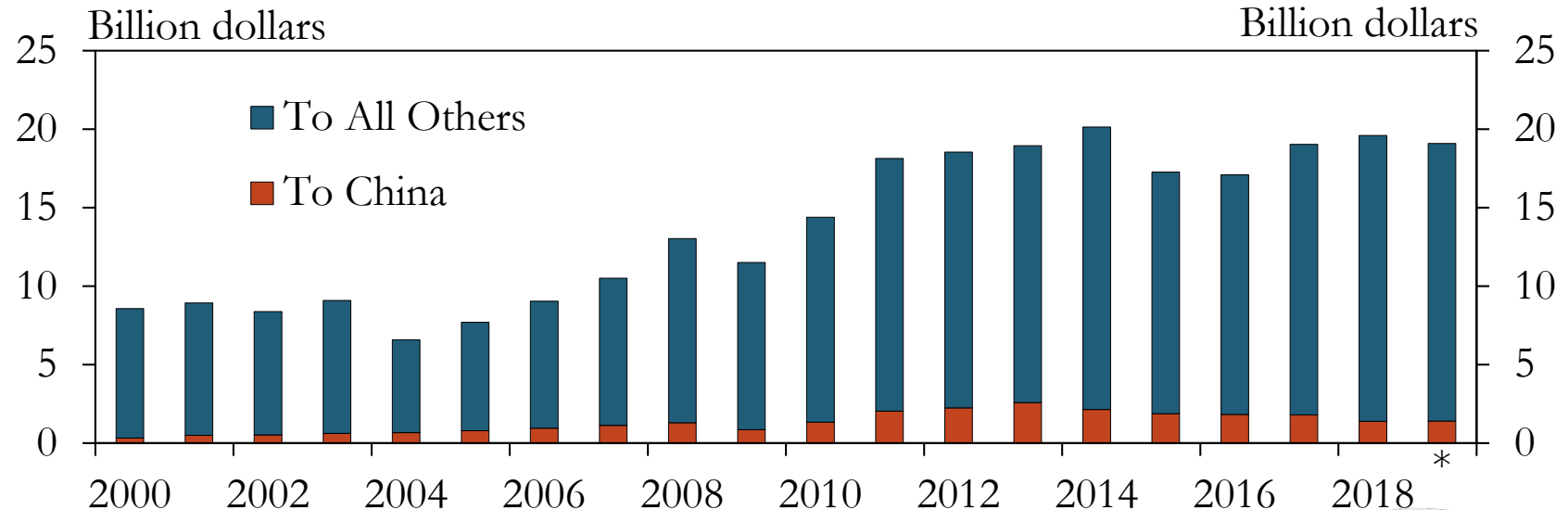

Animal Protein Production

*2019 Forecast
Notes: Includes production of beef, pork and poultry.
Source: USDA.

Although meat exports in the U.S. have remained high, the growth rate has slowed.

U.S. Meat and Livestock Exports

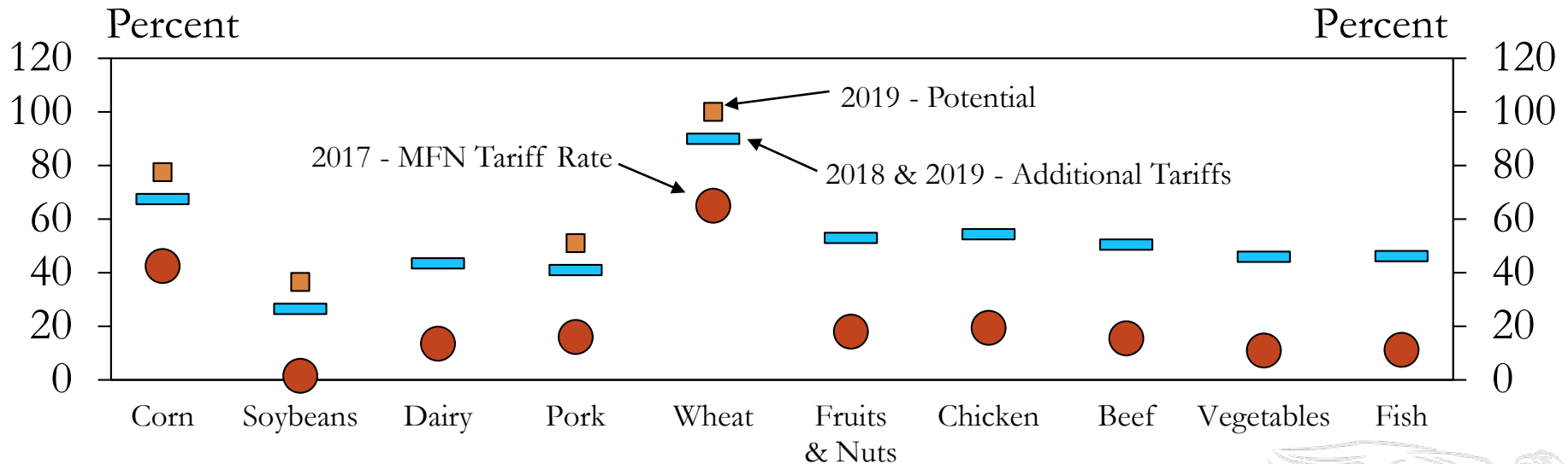**Exports from January 2019 to July 2019 annualized based on percent change from same period in 2018.
Note: Includes all meat and livestock products.
Source: USDA.

Trade policy could also have an ongoing impact on global trade flows and meat exports.

Most-Favored Nation Tariff Rates: China

Percent

Percent

2019 - Potential

2017 - MFN Tariff Rate

2018 & 2019 - Additional Tariffs

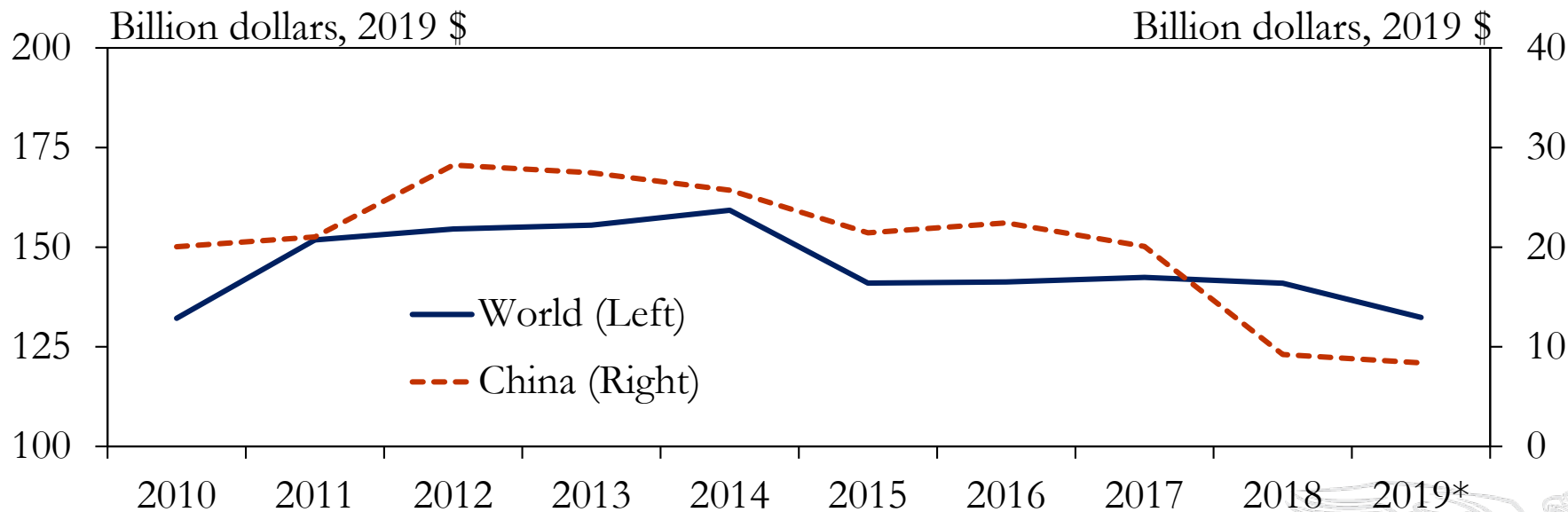Corn Soybeans Dairy Pork Wheat Fruits & Nuts Chicken Beef Vegetables Fish

Sources: World Trade Organization and USDA.

U.S. food and ag exports have weakened due, in part, to a sharp decline in exports to China.

U.S. Food and Ag Exports

Billion dollars, 2019 $ (Left axis)
Billion dollars, 2019 $ (Right axis)

— World (Left)
- - - China (Right)

*Exports from January 2019 to July 2019 annualized based on percent change from same period in 2018.
Source: USDA.

An increase in the value of the dollar has also been an additional headwind for U.S. exports.

Exchange Value of U.S. Dollar

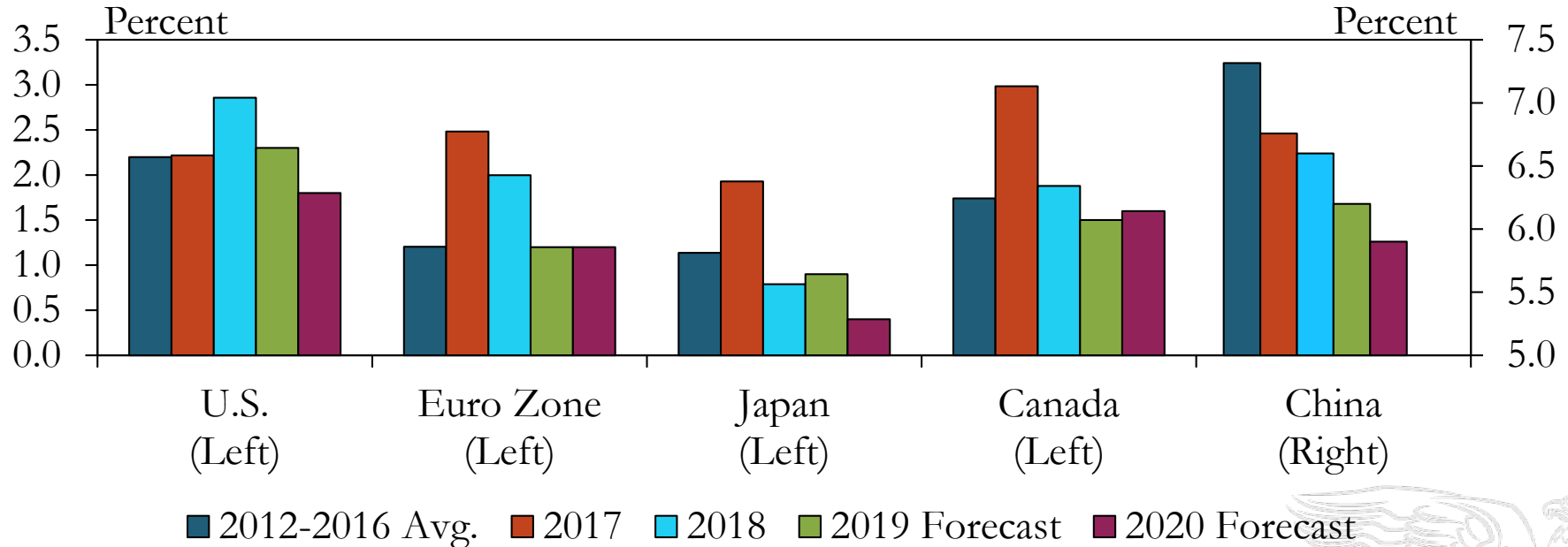Index (January 2018=100)

Index (January 2018=100)
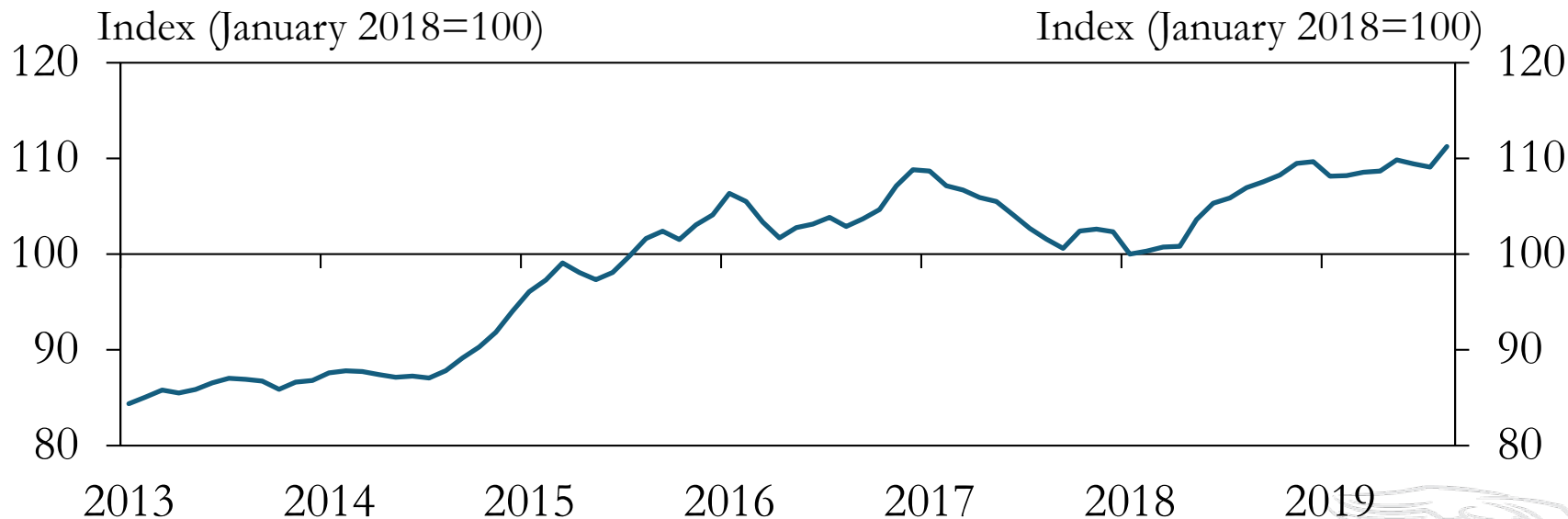
Note: Nominal, broad, trade-weighted exchange value of the U.S. Dollar
Source: Federal Reserve Board and Haver Analytics.

After relatively solid growth in 2017 and early 2018, economic output appears to be slowing.
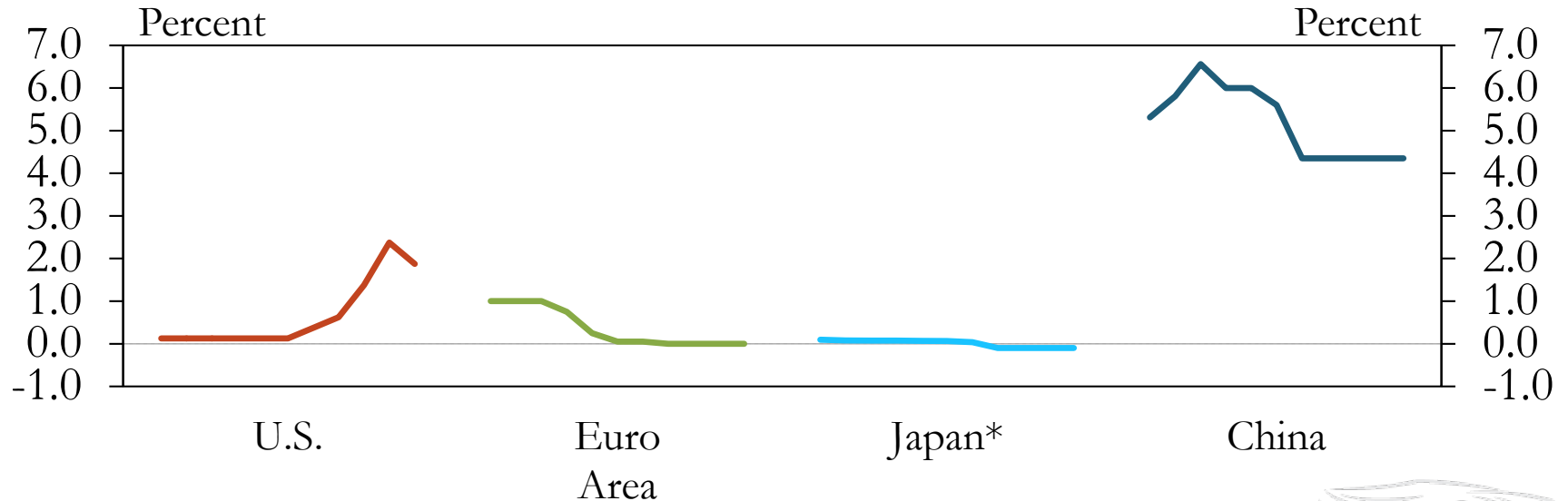
Real GDP Growth

Sources: The World Bank, Wolters Kluwer (Blue Chip Forecasts) and Haver Analytics.

Central banks have taken various measures to attempt to stimulate economic growth.

Central Bank Policy Interest Rates: 2009 to 2019

*Uncollateralized Overnight Rate: 2009 to 2015/ Policy-rate Balance Rate: 2016 to Present
Note: 2019 figures as of September 2019.
Source: Federal Reserve Board, European Central Bank, Bank of Japan, China Statistical Information Center and Haver Analytics

Concluding Remarks

- Macroeconomic developments will be important near-term drivers in the demand for goods and services, including in food and ag markets.

- Understanding potential implications related to evolving demographics and consumer preferences will be increasingly relevant.

- Climate change represents a significant long-term risk, particularly for low-lying regions, with potential to affect volatility in food and ag markets.