AGENDA

10:30am  Welcome and Adoption of the UNYRAB Charter, Tony Davis, Director

10:35am  Introductory Remarks, Jack Gutt, EVP

10:40am-11:10am  The National Economy, Richard Peach, Senior Vice President

11:10am-11:40am  International Update, Matthew Higgins, Vice President

11:40am-12:00pm  Regional Update, Jaison Abel, Officer

12:00pm  Adjourn to NWC Room-10F

12:15pm  Lunch

12:15pm-1:55pm  Round Table Discussion with William Dudley, President and Michael Strine, First Vice President

Your experience and that of your customers and suppliers can give us insight into current economic conditions.

Questions for discussion with President Dudley:

1. Has your firm experienced an increase in demand in recent months?
2. Has demand for your product or service increased sufficiently that you increased or plan to increase employment in 2016?
3. Has demand for your product or service increased sufficiently that you plan to increase investment in plant and equipment in 2016?
4. Has your access to credit changed in 2016?
5. How is the labor market in meeting your needs?

2:00 pm  Adjourn
ATTENDEE LIST

Board Members

Aminy Audi
CEO & Chairman of the Board
L. & J.G. Stickley

Scott Bieler
President & CEO
West Herr Automotive Group

Lynn Marie Finn
President & CEO
Superior Workforce Solutions, Inc.

Kenneth M. Franasiak
Chairman
Calamar

Anne Kress
President
Monroe Community College

Federal Reserve Bank of New York

William Dudley
President

Michael Strine
First Vice President

Jack Gutt
EVP, Head of Communications & Outreach Group

Richard Peach
SVP, Research & Statistics

Linda Goldberg
SVP, Integrated Policy Analysis

Matthew Higgins
VP, Integrated Policy Analysis

Anand Marri
VP and Head of Outreach & Education

Jaison Abel
Research Officer, Research & Statistics

Luis Uranga
Officer and Chief of Staff, Chief of Staff’s Office

Tony Davis
Director, Community Engagement, Outreach & Education

Adrian Franco
Director, Economic Education, Outreach & Education

Chelsea Cruz
Associate, Community Engagement, Outreach & Education

Angela Sun
Associate, Legal
Roadmap

- Recent global economic performance and medium-term outlook
- Foreign advanced economies’ struggle to escape “lowflation”
- The United Kingdom after the Brexit referendum
- China’s excess capacity challenge
- Canadian economic performance since the global crisis
Global GDP Growth

Percent Q/Q-4

Sources: National sources, Bloomberg. Dotted lines show market growth forecasts.

Evolution of EME Market Growth Forecasts

Percent, CY/CY

Sources: Blue Chip Economics, Consensus Economics. Figures are GDP-weighted averages for 25 EMEs.
**Citigroup Economic Surprise Indexes**

Percent positive or negative*

*Weighted by series’ historical FX impact

**Global Manufacturing PMI**

Diffusion Index

Average 2005 – 2008:Q1 = 53.2
Average 2012 – 2015:Q2 = 51.1

Source: Markit.
G-3: Core Consumer Price Inflation

Percent change from year ago

Sources: BEA, Eurostat, BoJ. U.S. inflation measured using the PCE index.

Central Bank Credit as a Share of GDP

Percent

Sources: BoJ, ECB, Federal Reserve. Projections assume that announced BoJ and ECB asset purchase programs proceed through 2017Q1, in line with explicit official commitments. Both programs, however, are open-ended. Federal reserve credit is assumed to remain constant at its current level.
### AE Core Inflation Performance with Negative Policy Rates

<table>
<thead>
<tr>
<th>Country</th>
<th>Date Adopted</th>
<th>Initial Core Inflation</th>
<th>Current Core Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>January 2016</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>February 2015</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>December 2014</td>
<td>0.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>September 2014</td>
<td>0.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Euro Area</td>
<td>June 2014</td>
<td>0.8</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Sources: National sources, OECD. Policy rates are as follows: Japan, marginal current account balances; Sweden, repo rate; Switzerland, 3-mo. LIBOR target; Denmark, CD rate; Euro Area, deposit rate.

### Market Growth Forecast Changes Since Brexit Referendum

<table>
<thead>
<tr>
<th></th>
<th>United Kingdom</th>
<th></th>
<th></th>
<th>Euro Area</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
<td>2017</td>
<td>2016</td>
<td>2017</td>
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<tr>
<td><strong>Current Forecast</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Top 3</td>
<td>1.8</td>
<td>1.4</td>
<td>1.7</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom 3</td>
<td>1.3</td>
<td>-0.8</td>
<td>1.4</td>
<td>0.9</td>
<td></td>
<td></td>
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<tr>
<td><strong>Change Since Vote</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Top 3</td>
<td>-0.2</td>
<td>-1.7</td>
<td>-0.1</td>
<td>-0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom 3</td>
<td>-0.3</td>
<td>-2.7</td>
<td>-0.1</td>
<td>-0.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Blue Chip Economics. Panel includes 22 individual forecasts. Survey periods are early September and early June.
UK GDP Growth and Composite Output PMI

Correlation = 0.85

Sources: Markit Economics

Legal Arrangements of Selected Non-EU Countries

<table>
<thead>
<tr>
<th>Legal Arrangement</th>
<th>Norway</th>
<th>Switzerland</th>
<th>Turkey</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal framework</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Economic Association</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>European Free Trade Area + bilateral agreements</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs Union</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
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</tr>
<tr>
<td>Free Trade Agreement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff-free trade with EU</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Contributes to EU budget</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited restrictions on labor mobility and immigration from EU</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implements most EU legal and regulatory norms</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unrestricted access to EU single market for financial services</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU voting rights</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
China and other EMEs: Capital Spending as a Share of GDP

China

Other EMEs

Source: WEO database, staff forecast for 2016.

China: Capacity Utilization in the Industrial Sector

Percent

Capacity shortage

Normal range

Excess capacity

Source: CEIC, PBOC
Crude Steel Production

Million tons

Source: World Steel Association, data as of 2015

China: SOE Employment

Persons mn

Global financial crisis

SOE restructuring

Employed in SOEs (yearly change, rhs)

Employed in SOEs (lhs)

Source: CEIC
Overview

• Growth of real GDP has slowed sharply over the past year and a half due primarily to substantial dollar appreciation, weaker global growth, and steep declines in commodity prices.
  – Consumer spending continued to be the main engine of growth for the US economy, helped along by falling energy and food prices.
  – Housing has lost forward momentum despite quite low mortgage interest rates.
  – Growth of business fixed investment slowed substantially, due in part to the sharp contraction in oil and gas drilling activity.
  – Net exports exerted a substantial drag.
  – Inventories high relative to sales.

• Nonetheless, the labor market continued to improve over the period and is now showing classic signs of being at or near full employment.

• Core inflation has edged higher over the past year but remains below the FOMC’s objective.
  – Rent inflation continues to edge higher.
  – Health care price inflation has moved higher.
  – Core goods prices are declining reflecting past dollar appreciation and excess inventories.
Growth of Real GDP

Four Quarter Percent Change

Source: Bureau of Economic Analysis

Note: Shading shows NBER recessions.
Nominal Trade-Weighted Value of US$ and Rig Count

Active Oil Rigs

Rig Count (left axis)

Broad Trade-Weighted Exchange Value of US $ (right axis)

Source: Federal Reserve Board and Baker Hughes

Note: Shading shows NBER recessions.
Labor Share of National Income and Unemployment Rate

Source: Bureau of Economic Analysis, Bureau of Labor Statistics

Note: Shading shows NBER recessions.
Real Personal Consumption Expenditures

Personal Saving Rate and Energy Price Index

Sources: Bureau of Economic Analysis and Bureau of Labor Statistics via Haver Analytics

Note: Shading shows NBER recessions.
Personal Saving Rate and Household Net Worth

Households’ Net Worth as a Percent of Disposable Income

Source: Bureau of Economic Analysis and Federal Reserve Board

Note: Fitted line is from 1983Q1 to 2005Q4.
Household Liabilities/Disposable Personal Income

Source: Federal Reserve Board

Note: Shading shows NBER recessions.
Household Formations

2 Year Avg. Change

Source: Bureau of the Census

Note: Shading shows NBER recessions.
Aggregate Homeownership Rate*

Contribution to Decline by Age of Household Head:

- Under 35: 23.7%
- 35 to 44: 35.4%
- 45 to 54: 29.1%
- 55 to 64: 11.7%
- 65 plus: -0.9%

*Owner-occupied housing units divided by total occupied housing units.

Source: Census Bureau
Single Family Housing Market

12 Month % Change

Source: CoreLogic, National Association of Realtors, via Haver Analytics
Note: Shading shows NBER recessions.
Housing Starts and Existing Homes Sales Per Capita

Source: BLS, Census Bureau, NAR

Note: Shading shows NBER recessions.
Credit Score at Mortgage Origination: All First Mortgages

Source: FRBNY / Consumer Credit Panel

Note: Shading shows NBER recessions.

About 35 – 40 Million People

Median

25th Percentile

10th Percentile
Real Business Fixed Investment

Source: Bureau of Economic Analysis

Note: Shading shows NBER recessions.
Real Government Consumption and Gross Investment

4 Quarter % Change

Source: Bureau of Economic Analysis
Note: Shading shows NBER recessions.
PCE Deflator

12 Month % Change

Source: Bureau of Economic Analysis, via Haver Analytics

Note: Shading shows NBER recessions.
CPI Inflation: Core Goods and Core Services

12 Month % Change

CPI Inflation: Core Goods and Core Services

12 Month % Change

Source: Bureau of Labor Statistics

Note: Shading shows NBER recessions.
Rental Vacancy Rate and Rent of Primary Residence

Source: Census Bureau, BLS

Note: Shading shows NBER recessions.
Personal Consumption Expenditures: Health Care Price Index
12 Month % Change

17% of total PCE deflator
19% of core PCE deflator

Source: Bureau of Economic Analysis
Note: Shading shows NBER recessions.
Reference Charts
Impact of Brexit on US Forecast

- Slightly higher path for exchange value of US dollar.
- Somewhat weaker foreign growth.
- Somewhat weaker business fixed investment.
- Total estimated impact is to reduce growth of real GDP over the period from 2016Q3 through 2017Q2 by 0.1 percentage point.
Corporate Profits

Corporate Profits/National Income

Source: Bureau of Economic Analysis

Note: Shading shows NBER recessions.
CORPORATE PROFITS BY SOURCE (PERCENT OF NATIONAL INCOME)

<table>
<thead>
<tr>
<th>Source</th>
<th>Q2-2014</th>
<th>Q2-2016</th>
<th>2016Q2</th>
<th>Change 2014Q2-</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL CORPORATE PROFITS</td>
<td>14.4</td>
<td>12.6</td>
<td>-1.8</td>
<td>-1.8</td>
</tr>
<tr>
<td>DOMESTIC INDUSTRIES</td>
<td>11.8</td>
<td>10.1</td>
<td>-1.7</td>
<td>-1.7</td>
</tr>
<tr>
<td>FINANCIAL</td>
<td>3.2</td>
<td>2.8</td>
<td>-0.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>NONFINANCIAL</td>
<td>8.6</td>
<td>7.3</td>
<td>-1.3</td>
<td>-1.3</td>
</tr>
<tr>
<td>REST OF WORLD</td>
<td>2.7</td>
<td>2.5</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>RECEIPTS FROM</td>
<td>4.6</td>
<td>4.2</td>
<td>-0.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>PAYMENTS TO</td>
<td>1.9</td>
<td>1.7</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis
Overview of Regional Conditions

• Job growth has continued in most parts of the District, though the August regional business surveys point to a decline in activity.

• New York City remains on a strong growth trajectory, while job growth in upstate NY and northern NJ has been slower. Puerto Rico continues to lose jobs.

• Middle-wage jobs have finally started to return, though to different degrees across the region.
Current Economic Conditions
FRBNY Regional Business Surveys

Source: Federal Reserve Bank of New York.
Regional Employment Trends

Indexes of Total Employment, Seasonally Adjusted

Source: U.S. Bureau of Labor Statistics and Moody’s Economy.com; data are early benchmarked by FRBNY staff.

Shading indicates NBER recession.
Recent Job Growth in the Region

Percent Change in Total Employment, 2015 to 2016 (May-July)

Source: U.S. Bureau of Labor Statistics and Moody’s Economy.com; data are early benchmarked by FRBNY staff.
Job Categories

Based on 2015 Median Wages, United States

Job Gains in the United States

Net Change in Total Employment, Thousands

2010 to 2013

<table>
<thead>
<tr>
<th>Wage Level</th>
<th>2010-2013</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Wage</td>
<td>2,104</td>
<td>2,184</td>
</tr>
<tr>
<td>Middle Wage</td>
<td>1,205</td>
<td>2,261</td>
</tr>
<tr>
<td>Lower Wage</td>
<td>1,470</td>
<td>1,577</td>
</tr>
</tbody>
</table>

Middle-Wage Jobs Returning in the U.S.

- Growth in traditional blue collar jobs:
  - Construction [+400,000]
  - Production [+300,000]
  - Transportation [+500,000]
  - Installation & Repair [+250,000]

- **Education** jobs growing again as local government fiscal pressures have subsided. [+150,000]

- Rebound in **Administrative Support** jobs. [+400,000]
Job Gains and Losses in the Region

Net Change in Total Employment, Thousands

<table>
<thead>
<tr>
<th>Region</th>
<th>2010-2013</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downstate NY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>102</td>
<td>130</td>
</tr>
<tr>
<td>Middle</td>
<td>18</td>
<td>179</td>
</tr>
<tr>
<td>Lower</td>
<td>144</td>
<td>157</td>
</tr>
<tr>
<td>New Jersey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Middle</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Lower</td>
<td>17</td>
<td>27</td>
</tr>
</tbody>
</table>

Job Gains and Losses in the Region

Net Change in Total Employment, Thousands

Middle-Wage Job Gains Weak in Some Areas

Upstate NY
- Limited bounce back in Education and Construction jobs coupled with ongoing declines in Administrative Support and Production jobs.

New Jersey
- Steep losses in Administrative Support and Production jobs.

Puerto Rico
- Broad-based declines in middle-wage jobs, with large job losses tied to the island’s weak public sector (Education, Protection) along with an acceleration in Construction job losses.