The views expressed here are those of the presenters and do not necessarily represent the views of the Federal Reserve Bank of New York or the Federal Reserve System.
Overview

• Overview of the regional economy before Sandy
  - New York City on a solid growth trajectory
  - New Jersey still sluggish
  - Long Island & upstate New York flat
  - Puerto Rico still bottoming out, no signs of recovery yet

• Breaking down the costs of Sandy
  - Physical damage (homes, property, infrastructure, etc.)
  - Loss of economic activity (due to power, transportation outages)
  - Welfare costs (pain & suffering, quality of life, lost leisure time, etc.)

• Bottom line
  - Short-run disruptions substantial and widespread across NYC metro region
  - Hard-hit communities, individuals, businesses face long road to recovery
  - Regional economy overall likely to bounce back quickly
Regional Economic Activity

Index of Coincident Economic Indicators (CEI)

Note: The Puerto Rico composite index is based on a different methodology than the indexes produced by the FRBNY.
Total Employment
Seasonally Adjusted Index

Total Employment
Seasonally Adjusted Index

Index (December 2007 = 100)

Shading indicates NBER recession

Regional Unemployment Rates
Seasonally Adjusted Rates

Assessing the Aftermath of Sandy
Scope of Physical Damage

- Residential real estate & property:
  - Largely in flood-prone areas
  - Scattered wind-related damage across the region

- Commercial real estate & property:
  - Flooding of office buildings (NYC) and retailers along coastlines
  - Damaged or destroyed equipment (e.g., computers, vehicles)

- Infrastructure:
  - Mass Transit: subways, PATH, NJ Transit Rail, LIRR, Metro North, Amtrak
  - Power Infrastructure: power lines, transformers & other equipment
  - Other Public Infrastructure: roads, bridges, tunnels, water & sewer systems, beaches, boardwalks, airports, seaport, schools, hospitals, etc.
Impact on Economic Activity

• **Short-term effects:**
  - + Pre-storm increase in activity: consumers stocking up
  - - Disruptions: transportation, power, water, schools, etc.
  - + Offsets to activity decline: postponed or shifted within region
  - + Recovery of activity: rebuilding, repair, replacement

• **Each full-day equivalent of lost regional output → $3.8 billion**
  - Represents roughly 1.1% of quarterly regional GDP
  - Knocks roughly 0.4% off quarterly U.S. GDP growth (annual rate)

• **Long-term effects:**
  - Research suggests little long-run effect on GDP
  - However, local consequences (population and activity relocations) may be persistent
Empire State Manufacturing Survey

- Headline index little changed in November; employment index down
  - Roughly 70% of respondent pool is in upstate NY
  - Response patterns were not much different for upstate vs. downstate firms

- Supplemental questions on Sandy: major disruptions to downstate NY firms
  - Most upstate manufacturers saw no reduction in business activity
  - Every downstate respondent reported some reduction in activity
  - Over 90% of downstate firms shut down or severely crippled for at least a day
    - 40% reported shut down or severely crippled for at least 5 days
  - Biggest contributing factors to reduced business
    - Downstate: Loss of power, loss of communications, workers unable to get in
    - Upstate: Customers affected, supply chain disruptions

- Making up for lost output is harder for service firms than for manufacturers
Weekly Initial Jobless Claims

Seasonally Adjusted

Employment Trends
Before and After Previous Disasters

Wage and Salary Income Trends
Before and After Previous Disasters

Source: Bureau of Labor Statistics (QCEW) and Moody’s Economy.com.
Note: Income data was smoothed using a four-quarter moving average.
Welfare Costs

- Impact on quality of life often not included in loss estimates
- Loss of life
- Pain & suffering, quality of life, lost leisure time, etc.
  - Grief and stress associated with loss of homes, personal valuables
  - Days/weeks spent without power, heat, water
  - School children relocated to other schools
  - Additional time spent commuting, traveling
- Often difficult to quantify—total cost likely in the billions
  - Examples:
    - 3 million commuters x 10 extra hours x $20/hour = $600 M
    - 3 million homes without power x $500 value to avoid power loss = $1.5 B
    - Waiting in gas lines, inability to communicate, etc.
Impacts of Hurricane Sandy on Schools and Students
New York City Schools
Public School Closures: Nov. 5

- All public schools closed first week, most reopened on Nov. 5
- 87 still closed as of Nov. 5

Source: New York City Department of Education
New York City Schools
Public School Relocated and Reopened: Nov. 8

- 44 schools still displaced as of Nov. 8; students re-located to other schools
- 23 schools still displaced as of Nov. 16

Source: New York City Department of Education
New York City Schools

Public School Attendance: Nov 8

Source: New York City Department of Education
School Closures Outside NYC

- New Jersey: Roughly 60% of 2,400 schools still closed on November 7
  - 700 still without power on November 7
  - NJ relatively slow in coming back—18% still closed on November 9

- Long Island: Most schools closed for full week, and more than 100 schools require repairs due to Sandy damage
Potential Educational Impacts

• Research shows loss of school days leads to adverse effects on student learning
  ▪ Of particular importance, an agreement allows students to make up three and a half days of lost time

• Psychological effects

• Relocations of families disrupt education

• Closed schools can substantially disrupt parents’ work and other schedules
Summary

• Breaking down the costs of Sandy
  ▪ Physical damage (homes, property, infrastructure, etc.)
  ▪ Loss of economic activity (due to power, transportation outages)
  ▪ Welfare costs (pain & suffering, quality of life, lost leisure time, etc.)
    – Most schools shut down for days; some for substantially longer

• Bottom line
  ▪ Short-run disruptions substantial and widespread across tri-state region
  ▪ Hard-hit communities, individuals, businesses face long road to recovery
  ▪ Regional economy overall expected to be back on track by early 2013

• Looking ahead
  ▪ It takes time, but devastated communities typically recover from disasters
  ▪ How can we mitigate impacts of future disasters?