What is the “New Normal” for Rural America?
What is the New Normal?

DELEVERAGING

Spending Slows
Savings Increase
Deposits Rise
Lending Softens
Low inflation

U.S. Debt Outstanding
(seasonally adjusted)

Source: Federal Reserve Board of Governors
Note: 2011 data as of third quarter
The Goal:
Foster Maximum Employment and Stable Prices

Economic Projections of Federal Open Market Committee Members, Central Tendency, January 2012

<table>
<thead>
<tr>
<th></th>
<th>Longer Run</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP Growth</td>
<td>2.3 to 2.6</td>
<td>2.2 to 2.7</td>
<td>2.8 to 3.2</td>
<td>3.3 to 4.0</td>
</tr>
<tr>
<td>Nov. 2011 proj.</td>
<td>2.4 to 2.7</td>
<td>2.5 to 2.9</td>
<td>3.0 to 3.5</td>
<td>3.0 to 3.9</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>5.2 to 6.0</td>
<td>8.2 to 8.5</td>
<td>7.4 to 8.1</td>
<td>6.7 to 7.6</td>
</tr>
<tr>
<td>Nov. 2011 proj.</td>
<td>5.2 to 6.0</td>
<td>8.5 to 8.7</td>
<td>7.8 to 8.2</td>
<td>6.8 to 7.7</td>
</tr>
<tr>
<td>PCE Inflation</td>
<td>2.0</td>
<td>1.4 to 1.8</td>
<td>1.4 to 2.0</td>
<td>1.6 to 2.0</td>
</tr>
<tr>
<td>Nov. 2011 proj.</td>
<td>1.7 to 2.0</td>
<td>1.4 to 2.0</td>
<td>1.5 to 2.0</td>
<td>1.5 to 2.0</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Board of Governors
Billion Dollars

- Fed Agency Debt MBS Purchases
- Liquidity to Key Credit Markets
- Lending to Financial Institutions
- Long Term Treasury Purchases
- Traditional Security Holdings

Source: Federal Reserve Bank of Cleveland
When will interest rates turn higher?

Overview of Federal Open Market Committee (FOMC) Participants Assessments of Appropriate Monetary Policy (Appropriate Timing of Policy Firming)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3</td>
</tr>
<tr>
<td>2013</td>
<td>3</td>
</tr>
<tr>
<td>2014</td>
<td>5</td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
</tr>
<tr>
<td>2016</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Board of Governors
What are the Implications for Rural America?
Who Benefits from Low Interest Rates?

Debtors or Savers?

Asset-owners
(via a low cap rate)

What are Farmers?

“Land Rich, Cash Poor”
Commodity markets are shaping rural economic gains.

**U.S. Crude Oil and Corn Prices**

- **WTI Crude Oil Price (Left Scale)**
- **Corn Price (Right Scale)**

**Commodity-Dependent Economies Boom**

**Rural America is not Immune to Broader Economic Swings**

Source: Commodity Research Bureau
Rural housing activity is weak.

Rural Construction Employment
Flat in 2011
Down 24% since 2007

Rural Single-Family Building Permits and Home Prices

Calculations based on Census Bureau and FHFA data
Fiscal challenges at the federal, state, and local level strain rural employment.

The public sector accounts for almost 1 out of every 5 rural jobs.

Most government employment is at the local level, whose budgets hinge on inter-government transfers and property taxes.

**Rural Government Employment**

Down 7.2% in 2011

Inter-government transfers account for 45% of the local government revenues in rural counties.
Fiscal challenges also strain hospitals and education.

**Rural Hospital Employment**
- Down 9.4% in 2011
- Down 8.8% since 2009

**Health Care Services Employment**
- Up 0.8% in 2011
- Down 2.6% since 2009

**Rural Educational Services Employment**
- Down 2.3% in 2011
- Down 8.0% since 2009
Rural mining economies are booming

Rural mining employment
Up 8.4% in 2011
Up 20% since 2009

Top 10 State in Personal Income Growth

<table>
<thead>
<tr>
<th>State</th>
<th>Personal Income Growth 2010:YTD to 2011:YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) North Dakota</td>
<td>10.5</td>
</tr>
<tr>
<td>(2) Texas</td>
<td>6.8</td>
</tr>
<tr>
<td>(3) Oklahoma</td>
<td>6.5</td>
</tr>
<tr>
<td>(4) South Dakota</td>
<td>6.4</td>
</tr>
<tr>
<td>(5) Minnesota</td>
<td>6.1</td>
</tr>
<tr>
<td>(5) Nebraska</td>
<td>6.1</td>
</tr>
<tr>
<td>(7) Iowa</td>
<td>5.8</td>
</tr>
<tr>
<td>(7) California</td>
<td>5.8</td>
</tr>
<tr>
<td>(9) Colorado</td>
<td>5.7</td>
</tr>
<tr>
<td>(9) Idaho</td>
<td>5.7</td>
</tr>
<tr>
<td>U.S. Average</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis
Note: Year-to-Date information through third quarter
Rising farm incomes boost rural spending and manufacturing.

Rural manufacturing employment
Up 3.8% in 2011
Up 14% since 2009

U.S. Tractor and Combine Sales

Source: Association of Equipment Manufacturers
Rural manufacturing was spurred by stronger exports.

Rural Manufacturing Jobs and U.S. Exports by Industry

Percent change from 2009 to 2011

<table>
<thead>
<tr>
<th>Industry</th>
<th>Rural Manufacturing Jobs</th>
<th>U.S. Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood Products</td>
<td>39.9</td>
<td>41.2</td>
</tr>
<tr>
<td>Metal Products</td>
<td>56.1</td>
<td>31.8</td>
</tr>
<tr>
<td>Food Processing</td>
<td>23.2</td>
<td>33.9</td>
</tr>
<tr>
<td>Transport. Equip.</td>
<td>22.5</td>
<td>30.9</td>
</tr>
<tr>
<td>Petrol. &amp; Coal Products</td>
<td>15.5</td>
<td>139.9</td>
</tr>
<tr>
<td>Chemicals</td>
<td>10.6</td>
<td>30.6</td>
</tr>
<tr>
<td>Machinery</td>
<td>9.7</td>
<td>21.5</td>
</tr>
</tbody>
</table>

Calculations based on Census Bureau data and WiserTrade data.
Farmland values have surged in the Midwest.

Non-irrigated Cropland Values
(Percent change 2010:Q3 to 2011:Q3)

Source: Agricultural Finance Databook, FRBKC
Is agriculture set up for another correction?

Iowa Corn Prices and Farm Real Estate Values

Dollars per acre (Constant 2011 dollars)

- Iowa Farm Real Estate (Left Scale)
- Corn Price - 5 year average (Right Scale)

Dollars per bushel

What made the 1940s different? Deleveraging

U.S. Farm Debt

Billion dollars (2005 constant dollars)

Calculations based on U.S. Census Bureau and U.S. Department of Agriculture data deflated with consumer price index from the Federal Reserve Bank of Minneapolis.
What is the Outlook?
Elevated export trends similar to the 1950s could keep farm prices high.

**U.S. Agricultural Exports and Farm Prices**

Billion dollars (2005 constant dollars) vs. Index (2005=100)

- **Agricultural Exports (Left Scale)**
- **Prices Received by Farmers (Right Scale)**

Exports Double During WWI
Exports More than Double During WWII
Exports Double In 1970s
Exports Double Between 2006 and 2011

Calculations based on U.S. Census Bureau and U.S. Department of Agriculture data deflated with consumer price index from the Federal Reserve Bank of Minneapolis and USDA inflation expectations.
Ethanol hits the “Blend Wall”

U.S. Motor Gasoline Use
- Fell 2.6% in 2011
- 2015 forecast down 5%

U.S. Ethanol Standard is a 10% blend.

Projections of 2015 Ethanol Consumption
- In 2007, 15 billion gallons
- Today, 13.7 billion gallons

Current Ethanol Production Capacity
- 13.5 billion gallons with
- 522 million gallons under construction

Source: EIA
What is the supply response of farmers from higher prices?

U.S. Corn Inventories and Prices

Source: USDA

Federal Reserve Bank of Kansas City – Omaha Branch
Regional, Public, Community Affairs Division
www.kansascityfed.org/omaha
U.S. Crop Price Projections

Corn and Soybeans

Dollars per bushel

Cotton

Cents per pound

Wheat

Dollars per bushel

Rice

Dollars per hundredweight

Source: USDA
Farm incomes are projected to retreat to historical norms.

U.S. Real Net Farm Income (Annual Average)
- 1990 to 2003: $59 billion
- 2004 to 2011: $73 billion
- 2012 to 2020: $64.7 billion

• Through 2014
  • Crop cash receipts fall
  • Livestock cash receipts hold steady
  • High cash expenses stabilize

• After 2015
  • Crop and livestock receipts rise
  • Cash expenses rise

Source: USDA
What happens to farmland values if prices decline?

Net Present Value = 30% of Expected Gross Revenue

Expected Capitalization Rate

<table>
<thead>
<tr>
<th>Capitalization Rate (percent)</th>
<th>$3.00</th>
<th>$4.00</th>
<th>$5.00</th>
<th>$6.00</th>
<th>$7.00</th>
<th>$8.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>6,000</td>
<td>8,000</td>
<td>10,000</td>
<td>12,000</td>
<td>14,000</td>
<td>16,000</td>
</tr>
<tr>
<td>4%</td>
<td>4,500</td>
<td>6,000</td>
<td>7,500</td>
<td>9,000</td>
<td>10,500</td>
<td>12,000</td>
</tr>
<tr>
<td>5%</td>
<td>3,600</td>
<td>4,800</td>
<td>6,000</td>
<td>7,200</td>
<td>8,400</td>
<td>9,600</td>
</tr>
<tr>
<td>6%</td>
<td>3,000</td>
<td>4,000</td>
<td>5,000</td>
<td>6,000</td>
<td>7,000</td>
<td>8,000</td>
</tr>
<tr>
<td>7%</td>
<td>2,571</td>
<td>3,429</td>
<td>4,286</td>
<td>5,143</td>
<td>6,000</td>
<td>6,857</td>
</tr>
<tr>
<td>8%</td>
<td>2,250</td>
<td>3,000</td>
<td>3,750</td>
<td>4,500</td>
<td>5,250</td>
<td>6,000</td>
</tr>
</tbody>
</table>

Assumption corn yields 200 bushels per acre
What Triggers the End of the “New Normal”? 
The End of Deleveraging?

U.S. Household Debt Service Ratio
(seasonally adjusted)

Percent of Disposable Personal Income

Source: Federal Reserve Board of Governors
Note: includes outstanding mortgage and consumer debt
Or, is deleveraging needed?

U.S. Debt Outstanding
(seasonally adjusted)

Percent of GDP

- Household
- Nonfinancial Business
- Federal Government

Source: Federal Reserve Board of Governors
Note: 2011 data as of third quarter
How does deleveraging shape inflation?

**Quantity Theory of Money**

\[
\text{Price} = \frac{\text{Money} \times \text{Velocity}}{\text{Quantity}}
\]

**Definition of Inflation:**

Too much money \( M \uparrow \)

chasing \( V \uparrow \)

too few goods \( Q \downarrow \)
Banks are holding monetary base in excess reserves

When will inflation start?

*Consumers start spending*

*Businesses start investing*

*Banks start lending*

In short, if excess reserves fall before the Fed balance sheet

Source: Federal Reserve Board of Governors
Conclusions

- The outlook suggests a moderate pace to economic growth in the U.S. and globally.
- One defining characteristics of a “new normal” is deleveraging, which slows spending, investment, and loan demand growth.
- Commodity markets will remain strong and support rural economies.
- When will deleveraging end?

The end of deleveraging will bring about another “new normal”
To Receive and Invitation to the Federal Reserve Bank of Kansas City’s 2012 Agricultural Symposium
Please email AgSymposium@kc.frb.org