Economic and Housing Outlook
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Vice President and Deputy Chief Economist
Economic & Strategic Research

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Likely in Late Stage of Subpar Expansion

Cumulative Change in Real GDP By Business Cycle

1 = Level at Recession Trough

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Housing Finance Administration

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Unemployment Continues to Improve, but Wage Growth Remains Modest

Labor Force Participation Rate Ticks Up Along with a Leveling Out Low Unemployment Rate

Wage Growth Picks Up

Source: Bureau of Labor Statistics
Consumer is Driving Growth, but Has Recently Done So at Expense of Savings

Real Personal Consumption Continues to Grow

Consumption Growth Along with Drop in the Savings Rate

Source: Bureau of Economic Analysis
Productivity Growth Slows, Limiting Potential for Continued Wage Gains

Real Labor Productivity Is Little Changed from a Year Ago

Nonfarm Business Sector: Real Output Per Hour of All Persons (SA, 2009=100) % Change - Year to Year

Ten-Year Moving Average

Long Run Real Income Growth Tracks Productivity Growth

Ten-Year Rolling Average Real Labor Productivity Growth

Ten-Year Rolling Average Real Per-Worker Personal Income Growth

Source: Bureau of Labor Statistics
Business Investment and Corporate Profits are Key to Continued Expansion

Y/Y % Change in Corporate Profits (2 quarter lag) and Nonresidential Fixed Investment (2 quarter rolling average)

Source: Bureau of Economic Analysis
Corporate Debt Cycles Showing Limited Additional Leverage Capacity

Nonfinancial Corporate Debt Cycle

- US: Nonfinancial Corporations Debt Outstanding as a % of SAAR GDP (%) (Left)
- Loan Delinquency Rate: C & I Loans: All Insured Comml Banks (Y/Y Point Change) (Right)

Senior Loan Officer Survey C&I Loans

- Net Percent Tightening
- Net Percent Demand Growth

Source: Federal Reserve, Bureau of Economic Analysis

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Diminishing Labor Market Slack as Turnover Levels Are Near Cyclical High

Source: Bureau of Labor Statistics
### 2017 Economic Outlook – Moderate Economic Growth Continues

<table>
<thead>
<tr>
<th>Metric</th>
<th>2017 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP Annual Growth (Q4-over-Q4)</td>
<td>2.0%</td>
</tr>
<tr>
<td>Unemployment Rate (Year-end)</td>
<td>4.6%</td>
</tr>
<tr>
<td>Core CPI (Year-end, % Year-over-Year)</td>
<td>2.2%</td>
</tr>
<tr>
<td>10-Year Treasury Bond Yield (Year-end)</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Source: Fannie Mae Economic & Strategic Research February 2017 Forecast
Single-Family Housing Supply is Still Behind the Curve

Tight Supply of Single-Family Construction Compared to Population

- Peak 9/1980 12.7
- Peak 2/1984 16.4
- Trough 10/1981 6.4 ↓49%
- Trough 1/1991 6.4 ↓61%
- Trough 3/2009 3.2 ↓81%

Source: Census Bureau

Multifamily Construction Has Recovered Its Pre-Recession Peak

- Peak 1/1981 5.8
- Peak 2/1984 8.3
- Trough 6/1982 2.4 ↓58%
- Trough 12/1991 0.9 ↓89%
- Trough 10/2009 0.5 ↓89%

Source: Census Bureau

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Recovery in New Home Construction Is Slower than What We’ve Seen in the Past and Skewed Toward Less Affordable Homes

Source: Census Bureau
Lean Supply of Starter Homes Challenges First-Time Homebuyers

Many Single-Family Starter Homes Have Shifted to the Rental Market

Fewer New Starter Homes Are Being Built

Source: Census Bureau, ESR calculations
Changing Geographic Distribution of Housing Demand

Core City Share of Largest 25 MSA Pop. Growth and MSA SF Starts as a Share of Pop. Growth

Job Growth and Core City Share in Top 25 MSAs (peak-to-peak)

Source: Census Bureau, Bureau of Labor Statistics, Fannie Mae Analysis
Millennial Homeownership Begins to Accelerate

Two-Year Change in Homeownership Rate by Age Cohort

Source: U.S. Census Bureau, Fannie Mae Analysis
30-Year Downtrend In Ten-Year Treasury Yield Remains Intact for Now

Top of Longer Run Trend Line is Roughly 3.00% Percent

Source: Federal Reserve
House Prices and Rents Have Recently Grown More Quickly Than Hourly Earnings

Y/Y % Change in House Prices and Rents Relative to Hourly Wages

Source: CoreLogic, Census Bureau
Reinvestment Policy Has Maintained the Balance Sheet at $4.5 Trillion

Central Bankers on Future Balance Sheet Policy

- **Ben Bernanke**: If it’s agreed that the most prudent approach to shrinking the balance sheet is simply, at some point, to stop reinvestment once and for all, then it also seems preferable to delay the beginning of that process until the short-term interest rate is well away from zero—a conclusion also drawn by the Fed staff. (Brookings Blog, Jan 26, 2017)

- **John Williams**: “If fiscal policy changes lead to a more rapid elimination of slack, policy adjustment would, all else being equal, likely be more rapid than otherwise, with the conditions the FOMC has set for a cessation of reinvestments of principal payments on existing securities holdings being met sooner than they otherwise would have been.” (Speech at Brookings Institute, January 17, 2017)

- **Robert Kaplan**: “We should be removing accommodation, probably some time later this year early next year looking at the Fed balance sheet in order to examine how we might let that run off or reduce it.” (Speech at Dallas Federal Reserve, January 17, 2017)
## 2017 Housing and Mortgage Market Outlook – Up from 2016, but Slower Growth

<table>
<thead>
<tr>
<th>Metric</th>
<th>2017 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Starts (% Change Year-over-Year)</td>
<td>Up 6% to 1.24 million</td>
</tr>
<tr>
<td>New Single-Family Home Sales (% Change Year-over-Year)</td>
<td>Up 9% to 616 thousand</td>
</tr>
<tr>
<td>Total Existing Home Sales (% Change Year-over-Year)</td>
<td>Up 1.6% to 5.54 million</td>
</tr>
<tr>
<td>FHFA Purchase-Only Index (Annual Percent Change Q4/Q4)</td>
<td>Up 5.2%</td>
</tr>
<tr>
<td>Purchase Mortgage Originations</td>
<td>Up 4.2% to $1,056 billion</td>
</tr>
<tr>
<td>Refinance Mortgage Originations</td>
<td>Down 45% to $510 billion</td>
</tr>
<tr>
<td>30-Year Fixed Rate Mortgage (Year-end)</td>
<td>4.2%</td>
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Speaker Biography

Mark Palim – Vice President and Deputy Chief Economist

Dr. Mark Palim is Vice President and Deputy Chief Economist at Fannie Mae. He is responsible for overseeing the Economic and Strategic Research Group's forecasting functions and manages multi-disciplinary partnerships across the company to address specific business issues facing Fannie Mae. Dr. Palim is a key spokesperson on economic trends and a frequent speaker at national mortgage finance and housing industry events.

Prior to working at Fannie Mae, Dr. Palim was an economic consultant at PricewaterhouseCoopers and LECG. His practice focused on applying economic and financial theory to a variety of business disputes and policy questions. He worked as a consulting and testifying expert in antitrust cases and disputes in the financial services industry. In addition, Dr. Palim led a team of 75 adjudicators charged with valuing claims for the Department of Justice and the Special Master administering the Federal September 11th Victim Compensation Fund.

Dr. Palim was first involved with economic forecasting and mortgage securities in 1988 when he was a portfolio manager and reported to the Chief Economist at Mercantile Safe Deposit and Trust Company. Subsequently, he continued his work on macroeconomic and policy issues as a staff economist for the National Association of Federal Credit Unions (NAFCU).

Dr. Palim has a Ph.D. in economics from George Mason University and a B.A. in international studies from the Johns Hopkins University. In addition to his academic training, Dr. Palim is a Chartered Financial Analyst charter holder (CFA).

Dr. Palim is married to an attorney and has four children. He lives in Bethesda, Maryland and grew up in Brussels, Belgium. Dr. Palim is fluent in French.
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