Economic Overview

With a Focus on Housing

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Introduction

- Indicators of Economic Strength – GDP, Employment and Asset Prices
- State of the Housing Market – The General and the Affordable Markets
Discussion Overview

- General signs of strength in the US
  - The economic recovery is now entering its 128th month
  - Is the end of the cycle near? Current recovery among longest on record, but slow paced...

- Asset prices are up overall – but are we in or approaching bubble territory?
  - 69 record closing highs for the Dow since the 2016 Presidential Election
  - Bond Prices continue their decades long rally
  - Housing prices are back at pre-crisis levels
    - Price recovery / Low foreclosures, but movement from ownership to rental

- Relatively low inflation with revived employment consistent with sustained recovery argue for gradual Fed tightening and ‘winding down’ of their balance sheet

- Proposed tax reform to lower corporate tax rates, plus with elimination of many deductions
  - House proposed Tax Reform had a number of surprises – support for affordable housing might be especially adversely affected
Asset Prices: Indicators of Economic Strength
Current Economic Recovery – Modest but Prolonged

GDP Since 1986

Source: Bloomberg
Equities are Roaring, Volatility Subdued!

Dow Jones and VIX Since 2007

<table>
<thead>
<tr>
<th></th>
<th>Dow Jones</th>
<th>VIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>23,441.8</td>
<td>80.9</td>
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<tr>
<td>Average</td>
<td>14,197.8</td>
<td>20.0</td>
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<tr>
<td>Minimum</td>
<td>6,547.1</td>
<td>9.2</td>
</tr>
<tr>
<td>Current</td>
<td>23,350.5</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Source: Bloomberg
Are Equity Markets Overheated?

S&P 500 Cyclically Adjusted Price-Earnings Ratio (“CAPE”)

Is the high CAPE ‘auspicious’: “31” only replicated twice before – 1929 and 2000

Current Level: 31
Average Level: 17

Source: Bloomberg
Interest Rates – 3 Decade Rally

10-Yr Treasury Since 1962

- Record high of 15.84% on September 8, 1981
- Low of 1980s: 6.92%
- Low of 1990s: 4.16%
- Low of 2000s: 1.36% on June 27, 2016

10-Yr TSY Since Dec. ‘08

- Current Level: 2.32%, 169 bps. below post-recession high of 4.01% (2010)

Source: U.S. Department of the Treasury
Are Interest Rates Too Low? Credit Spreads…

Corporate Bond Spreads to TSY: Investment Grade (IG) vs. High-Yield (HY)

Investors are seeking yield in low interest rate world – has risk been properly priced?

<table>
<thead>
<tr>
<th></th>
<th>Spreads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HY</td>
</tr>
<tr>
<td>All-Time Lows (2014/2007)</td>
<td>241</td>
</tr>
<tr>
<td>All-Time Highs (2008)</td>
<td>2,182</td>
</tr>
<tr>
<td>Current</td>
<td>341</td>
</tr>
</tbody>
</table>

Source: Bloomberg
… And 10-Year TSY Inflation Adjusted

10-Year TSY Inflation Indexed

Yield (%)

Historical Average: 1.12%
All-Time Low: -0.87%

Source: Bloomberg
10-Year Treasury Yield Forecasts

10-Year Treasury Yield Forecast

<table>
<thead>
<tr>
<th>Current</th>
<th>4Q17</th>
<th>1Q18</th>
<th>2Q18</th>
<th>3Q18</th>
<th>4Q18</th>
<th>1Q19</th>
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</thead>
<tbody>
<tr>
<td>Citi</td>
<td>2.32%</td>
<td>2.20%</td>
<td>2.45%</td>
<td>2.45%</td>
<td>2.60%</td>
<td>2.75%</td>
</tr>
<tr>
<td>Street</td>
<td>2.48%</td>
<td>2.58%</td>
<td>2.70%</td>
<td>2.84%</td>
<td>2.95%</td>
<td>3.05%</td>
</tr>
</tbody>
</table>

Source: Bloomberg
Shape of the *Yield Curve*

- **Yield Curve** = Steepness or Slope of the Curve
  - Rate difference between bond interest rates on the short-end of the yield curve and rates on the longer end

- Under current Fed Policy, we may see a flatter yield curve
  - Projected Fed Funds increase to early 2019: 2.25%
    - Current 10-Year TSY (approx. 2.32%)
    - If 10-Year TSY continues trade in the range of the last year, yield curve will continue to flatten
  - However, unwinding or global shocks (e.g., flight to quality in Sovereign debt) may result in higher long term interest rates
Steepness of Yield Curve Over Time

Steepness of TSY Yield Curve (10 Yr. – 1 Yr.)

Source: U.S. Department of the Treasury

Projected Slope based on short term rate increases


Spread (Bps.)

-50
0
50
100
150
200
250
300
350

Recession

Recession

Recession
Fed Decisions Driven by Inflation and Employment

- After providing extraordinary and prolonged support to debt markets for several years following the Great Recession, the U.S. economy is ready to ‘walk on its own’

- Rates moved to historically low territory (upper range 25 bps.) in 2008 and the Fed remained committed to this dovish policy through the end of 2015
  - Since then, an additional 3 increases (to 1.25%)
  - 4 more increases are expected by the 1Q2019 (to 2.25%)

- Fed will start unwinding its balance sheet after buying $3 trillion in MBS and Treasuries through its QE plan since 2008
  - Fed plans to allow $10 billion/month in MBS and Treasuries to roll off (started in October), balance sheet expected to decrease from $4.5 trillion to $2.5 trillion by 2025

- This is a product of GDP, encouraging employment, and inflation data
  - GDP has been positive, recent report showed 3% growth
  - Employment is near all-time lows 4.3%
  - Inflation (PCE) remains below Fed’s 2.0% target; recent report of 1.3%
Employment Strong, Inflation Below Target

Unemployment Rates Since 1986

Inflation Since 1986

Lowest level since 2000: 4.1% (US)

Fed Target: 2%

Source: Bloomberg
Historical Low Fed Funds Rate to Support Markets

Federal Funds Rate Since 1962

Historical Average: 5.20%

Rate Hikes Since 2015

Current Level: 1.15%, after four rate hikes since 2015

Source: St. Louis Fed
Expect One More Rate Hike on December 13th

Federal Funds Rate Hike Probability

<table>
<thead>
<tr>
<th>Month</th>
<th>Probability of One Hike</th>
<th>Probability of More Than One Hike</th>
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<tbody>
<tr>
<td>December 2017</td>
<td>92%</td>
<td>0%</td>
</tr>
<tr>
<td>January 2018</td>
<td>92%</td>
<td>3%</td>
</tr>
<tr>
<td>March 2018</td>
<td>97%</td>
<td>38%</td>
</tr>
<tr>
<td>May 2018</td>
<td>97%</td>
<td>43%</td>
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</table>

Source: Bloomberg
Fed Funds Forecasts

Federal Funds Rate Forecast (Upper Limit)

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>4Q17</th>
<th>1Q18</th>
<th>2Q18</th>
<th>3Q18</th>
<th>4Q18</th>
<th>1Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citi</td>
<td>1.25%</td>
<td>1.50%</td>
<td>1.75%</td>
<td>2.00%</td>
<td>2.25%</td>
<td>2.25%</td>
<td>2.25%</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td>1.50%</td>
<td>1.50%</td>
<td>1.75%</td>
<td>2.00%</td>
<td>2.00%</td>
<td>2.25%</td>
</tr>
</tbody>
</table>

Current: 1.25%
Street: 2.25%
Citi: 2.25%

Source: Bloomberg
“Quantitative Easing” – Unwinding Commences


Unwinding of Balance Sheet

Rise and Plateau of Balance Sheet

Projected Balance Sheet Decline

Trillions ($)


Traditional Security Holdings

Lending to Financial Institutions

Fed Agency Debt Mortgage-Backed Securities Purch

Long Term Treasury Purchases

Liquidity to Key Credit Markets

Quantitative Easing

– Unwinding Commences
Tax Reform

- The Administration is working with Republican Congress to “fix a broken tax code”
- Goals of Tax Reform: **Provide tax relief, Simplification, Increase International Competitiveness, Stimulate the Economy**
  - Aiming for long-term economic growth target of 5% (GDP)
- On November 2\(^{nd}\), the House Republican leaders released the Tax Cuts and Jobs Act
- Plan estimates a reduction of $2 Trillion in tax revenues over next 10 years
  - Budget shortfalls will ensue unless spending cuts - or projected 5% growth?
- The timing still unclear; but there is a possibility this is passed by the end of 2017
Key Changes in the Tax Cuts and Jobs Act

- Reduces Corporate Taxes (from 35% to 20%) (but closes loopholes)
- Reduce number of tax brackets for individuals from 7 to 4 (12%, 25%, 35% and 39.6%)
- Increases the standard deduction
- Repeal of Alternative Minimum Tax
- Repeal Estate Tax
- Modifies the mortgage interest deduction (limits to $500,000 on new purchases)
- Eliminate State and Local Tax (“SALT”) deduction
- Repatriate Corporate earnings made abroad
- Additional changes directly impacting municipals and affordable housing as detailed below
America’s Disadvantaged Corporate Tax Rate

Global Corporate Tax Rates

Current U.S. Corporate Tax rate is 35%, proposed to be reduced to 20%

Source: Bloomberg
Funding a Tax Plan Could Axe Hefty Deductions

Average State and Local Tax Deductions

Selected State and Local Tax Deductions

<table>
<thead>
<tr>
<th>City</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco</td>
<td>26,668</td>
</tr>
<tr>
<td>NYC</td>
<td>24,037</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>23,076</td>
</tr>
<tr>
<td>Chicago</td>
<td>8,106</td>
</tr>
<tr>
<td>Boston</td>
<td>7,837</td>
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<tr>
<td>Atlanta</td>
<td>6,378</td>
</tr>
<tr>
<td>Seattle</td>
<td>5,639</td>
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<tr>
<td>Columbus</td>
<td>4,966</td>
</tr>
<tr>
<td>Cleveland</td>
<td>4,342</td>
</tr>
<tr>
<td>Phoenix</td>
<td>4,221</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>3,875</td>
</tr>
<tr>
<td>Dallas</td>
<td>3,392</td>
</tr>
<tr>
<td>Raleigh</td>
<td>2,986</td>
</tr>
<tr>
<td>Charlotte</td>
<td>1,584</td>
</tr>
</tbody>
</table>

Source: Bloomberg
Potential Tax Reform Effects on Affordable Housing

- Proposed tax reform, if passed in current form, will significantly affect HFAs ability to finance affordable housing using traditional methods
  - HR.1 eliminates tax-exemption on Private Activity Bonds (“PAB”) which includes
    - Single-family housing in support of First Time Homebuyers
    - Multifamily housing bond debt (generally in association with 4% LIHTC Credits)
  - Repeals Mortgage Credit Certificates (“MCC”)
  - Will not cause any direct changes to Housing Credit
    - However, more than half of the annual affordable Rental Housing production would be lost with the elimination of PABs and the effectiveness of 4% LIHTC Credits

Source: NCSHA
Housing: Rise in Home Prices and Affordability Concerns
Healthy Housing Market: Back to Pre-Crisis Levels

S&P Case-Shiller Home Price Index

- September: 67th month of YoY price increases

Foreclosures

- September: Lowest monthly foreclosure filings in over a decade

Source: Bloomberg
Home Price Appreciation in US and Ohio

Home Price Appreciation Since 1986

Source: Bloomberg
Mortgage Rate – Down (Tracking the 10-Year)

FNMA Mortgage Rate and Spread to 10-Yr TSY

Lower rates = Lower mortgage payments = ‘more’ house / higher home prices

Source: Freddie Mac and U.S. Department of the Treasury
Higher Home Prices Correlate with Supply/Demand

Supply-Demand Imbalance – Driving Prices Up

Source: St. Louis Fed
Housing Inventory has Decreased in Last 10 Years

Housing Inventory and Median Home Price

Source: Bloomberg
HFA Homeownership Programs typically serve:
- Low to Moderate Income First Time Home Buyers (“FTHBer”)
  - Lower price point for first home
- And Lower Income Renters

Challenges for HFAs

- Affordability (higher home prices) – Limited supply at affordable prices for FTHBers
  - First Time Home Buyers: 29% of home sales in September, down from 34% YoY
  - Coincides with median home prices increasing 4.2% over the same time line
- Changing Demographics
  - Millennial home purchase debt constraints – e.g., much higher student loan debt
  - *Less interest* in owning (gravitation to *Rental Economy*) – ‘zeitgeist’? Post crisis mentality?
- Elimination of tax-exemption may harm the ability of HFAs to offer compelling FTHBer and related programs (e.g., Homebuyer Education, subsidy)
Affordability Considerations?

Affordability and Median Home Price

Home Prices have increased, causing...

...affordability to decrease

Source: St. Louis Fed
Renters Up, Owners Down (Demographics?)

Occupied Rental Units and Homeownership Rate

Source: St. Louis Fed
Risk Factors: Leverage (Income/Loan Size) & Credit

- Roaring markets and ever higher prices tend to introduce risk
- In today’s markets, this may be more true at lower income registers / affordable housing
  - Higher prices imply greater leverage – higher LTVs (loan-to-value)
  - And higher DTI (debt-to-income) ratios – wages have been stagnant for a number of years
- Full documentation and 30-year fixed is the norm
  - No Subprime, Alt-A, etc. in current market
  - Higher credit scores are also the norm post crisis
The HFA Sweet Spot (Focus on OHFA)

- The HFA ‘Sweet Spot’ for Homebuyer Loan Products
  - High Credit Score
  - Generally FHA insured
  - High LTV Lending
  - Additional Assistance (Down Payment Assistance “DPA”)
    - For Closing Costs, etc.

- The OHFA Product
  - Offers a few different program types depending on borrower needs
    - Borrowers have option of taking more DPA assistance
    - Also, programs are geared to a specific type of borrowers, for example:
      - Grant for Grads program offers DPA that is slowly forgiven over 5 years
      - Veterans program provides a lower rate than “base” mortgage product

Source: Ohio Housing Finance Agency
The benefits of tax exemption are less today due to lower overall interest rates; they may disappear completely…

Source: Bloomberg and Thomson Reuters
The Rental Affordable Housing Market

- As mentioned above, since the recession there has been a significant decrease in homeownership and an increase in occupied rental units
  - Homeownership has declined 69% to 63.5%
  - Occupied rental units have increased from 34 million to 43 million

- National Vacancy rate has fallen to 7.3% from 11.1% in 2009
  - Demand for rental units has caused rents to increase

- Rents as a percentage of income are at a historic high of 29.1%, compared to average rate of 25.8% from 1985 to 2000
  - Most new buildings tend to be too expensive for most renters – luxury development is more profitable for developers

- With the demise of PABs…
  - Housing bonds are a partner to the Housing Credit
  - 4% Credits with Tax-Exempt Bonds constitute over 50% of rental housing production under the Low Income Housing Tax Credit program
Multifamily Housing Crisis

**Rental Vacancy**

**Rent as % of Income**

Source: St. Louis Fed
Some Takeaways

- The economic expansion continues to run
  - To some extent it is picking up in pace
  - Asset Prices may be high, but are they in bubble territory?

- Pay attention to Fed Policy
  - New Chair Powell is unlikely to differ significantly from Yellen’s approach
  - Will strive to avoid any moves that jeopardize continued economic growth

- Tax Code implementation and passage is a high priority of current administration
  - Tax rate cuts of some sort seem certain
  - Negotiations have a ways to go - nothing definitive yet

- Healthy housing market by most indications
  - Changing demographics and affordability concerns as price rise

- Tax reform could have huge impact on the affordable housing market!
The Rosy Outlook and the Dreary Reality

Robert Vogt
Vogt Strategic Insights
November 8, 2017
Rental Housing is Emerging as The Haves and The Have Nots
Ohio Overall Rental Market Conditions

Occupancy Rates (%)

Source: Vogt Strategic Insights’ Field Surveys
Vacancy Rates by Metro
2017/2016/2015

Source: REIS
Growth in Rental Housing

• According to the NMHC, Ohio will need 6,300 new rental housing units over the next 12 months to meet renter growth.

• In 2016, Ohio added 6,649 rental units. Of these, about one-quarter were ‘affordable’.

• By 2030, NMHC projects Ohio will need 50,000 more rental units to serve the growth in renters.
The Fuel for Renter Growth

• Households age 55+; accounted for 44% of renter household growth 2005-2016.

• Millennials. Delayed entry into home buying market, marriages and kids.

• Families with children; continuing fallout from the recession.
And High Income Households

Households earning $100,000 or more accounted nearly half (47%) of the growth in renters between 2013 and 2016.
The Continued Shift to Higher Rents

Number of Rental Units (Millions)

Real Gross Rent (2015 dollars)

- Less than 400
- 400-599
- 600-799
- 800-999
- 1,000-1,199
- 1,200-1,399
- 1,400-1,599
- 1,600-1,799
- 1,800-1,999
- 2,000-2,199
- 2,200-2,399
- 2,400 or More

2005 2015
Expect Rent Specials

• With all of the new high-end product being constructed, expect to see some rent specials.

• Primarily concentrated in downtown and growth areas with newer product.

• Should be relatively short-lived.
The Increasing Have-Nots

Cumulative change in real household income.
Unequal Income Growth

• The number of households earning <$15k grew by about 37% between 2000 and 2016.
• The number of households earning $150k+ was up 37%.
• Middle income households increased by just 16%.
This is yours, son — it's been in the family for generations.
The Housing Cost Burden

Share of Hslds. Paying 50% +

Household Income

- Under $15,000
- $15,000–29,999
- $30,000–44,999
- $45,000 and Over

Renters
Owners
The Numbers are Staggering

• According to the NLIHC, Ohio has a current shortage of over 260,000 rental units for those households earning at or below 30% of AMHI.

• For those below 50% AMHI, the shortage is over 170,000 units.

• Rents for B and C quality projects are increasing faster than A properties.
Rent Moderation?

• Supply/demand metrics suggests rents would moderate.

• Renter growth is unabated; will continue to squeeze low-income renters despite some overbuilding.

• Long-term trends will exasperate the shortage in rentals.
Strategies to Meet Demand

- Adopt local public policies to make housing affordability more feasible.
- Increase public-private partnerships.
- Leverage state-level authority to overcome obstacles to apartment construction.
- Collaborate with business and community leaders to champion apartments.
- Look at other housing resources; under utilized housing exists in neighborhoods.
2018 Outlook

- Overall, rental markets will remain well occupied in Ohio.
- Pockets of higher vacancies; rent specials.
- Continued rent growth among lower quality properties.
- Increasing share of distressed renter households.
- More senior households will transition to rent.
Robert Vogt
Vogt Strategic Insights

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