2020 Real Estate Forecast
2020 REAL ESTATE FORECAST:
NATIONAL OUTLOOK

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2020 “Perfect Vision” Real Estate Forecast

I. GDP
   A. Business Investment
   B. Consumer Spending

II. The Federal Reserve’s Decision
   A. The Phillips Curve
   B. Other Metrics

III. Capital Market
   A. Equity Markets and Property Returns
   B. Debt Markets

IV. Property Type Performance
GDP: 2.0% GDP growth, Y-O-Y to 2019Q3, however 0.66% of the increase is defense (0.27%) and State and Local Government spending (0.39%). . . .
GDP: by its components..
GDP: consumption remains robust as business investment wanes...
Business Investment: corporate profit has grown 18-fold since 1974, CPI 6-fold...
Business Investment: large repatriated business profits from abroad, $777 billion in 2018, up from $155.08 billion in 2017.
Business Investment: globally manufacturing is flagging...
Business Investment: CEOs are not confident.

Source: Matt Phillips, NYTs, “CEOs are Anxious about the Economy and That is Bad for Stocks,” October 24, 2019
Consumer Spending
. . . . Consumer spending: however, consumers have debt service and debt capacity . . .
.... Consumption: and consumer sentiment remains strong, but turns quickly.
Consumer Spending: Consumers/Investors are taking less risk.

Source: Investment Company Institute and the UW Graaskamp Center for Real Estate.
Consumer spending: vehicle purchases peaked in 2015 at 17.9 million vehicles...
Consumer spending: consumers are limiting big purchases.

Source: NAR, REALTORS Confidence Index Survey, November 2018.
The Federal Reserve Decision

Source: Economist, “America’s Economy is Reisting the Pull of Recession,” October 31, 2019
The Challenge at the Fed.

The Phillips Curve: The possibilities.

1. The Phillips Curve is an artefact: observed statistical relationships collapse once they are exploited by policy makers.

2. Inflation expectations: the public’s ability to anticipate or at least notice rising prices faster and adjust their expectations.

3. The Phillips Curve is non-linear: the Phillips curve still exists and could suddenly and quickly accelerate if wages fall below a threshold.

Source: Federal Reserve Bank, Wage Tracker and The Graaskamp Center.
#1, Artefact: Phillips curve is an artefact....
#1, Artefact: The Phillips curve is an artefact, version 2.
Inflation expectation:
Businesses and the public better anticipate price increases, and the labor market is global.
#3 Non-Linear: the Fed unemployment/inflation trade off – the 1960s experience.

Inflation/Unemployment Relationship 1960-1969

Sources: Federal Reserve Economic Data and the Graaskamp Center.
#3 Non-Linear: comparing the 1960s with the current environment

Sources: Federal Reserve Economic Data and the Graaskamp Center.
Adjusted labor force participation rates are at mid-2000 levels.

Source: Federal Reserve Economic Data.
Other Important Federal Reserve Considerations/Actions
The inverted yield curve (10 yr. less 3 mo. UST), a solid a recession predictor . . . .

Source: Federal Reserve Economic Data.
Quantitative Tightening of $50 billion per month will end in September 2019.

Sources: Federal Reserve Economic Data
unfilled job vacancies peaked in November 2018
The Global Economy and Trade

. . . . the China/U.S. trade deficit, currency manipulation, and Iran sanctions . . . .

. . . . Hong Kong unrest and China debt-fueled growth (150% of GDP in 2009 to 250% today) . . . .

. . . . Brexit? Germany’s weak economy? The EU? What could possibly go wrong . . . .

. . . . U.S. consumer get spooked, import prices/tariffs, market volatility, etc.
GDP/Federal Reserve Decision Summary

I. GDP
   • Business Investment will remain be narrowly negative in 2020
   • Consumer Spending usually follows Business Investment
   • Consumer Spending is unlikely to have a significant trigger event
   • Outcome: GDP will migrate from 2.0% to 1.0% across 2020

II. The Federal Reserve’s Decision
   • The Phillips Curve haunts Federal Reserve leadership and economist
   • Global labor markets and supply chains broke that relationship
   • Solid consumption with weak investment and global demand
   • Outcome: Federal Reserve actions will be limited, with continued accommodation the likely next moves

Source: Federal Reserve Bank, Wage Tracker and The Graaskamp Center.
Real Estate Capital Markets
Equity Capital Markets and Property Returns
Real estate transaction volume off 6% YOY, cap rates remain stable.

. . . . property income growth remains robust, sans retail . . . .

**NCREIF NOI Annual Growth**

Average: 3.2%

Source: NCREIF and the Graaskamp Center.
three-year property price appreciation rates range from 2-8% per annum depending on which index you believe.

Source: Mortgage Bankers Association, Commercial/Multifamily Databook 2019Q2.
...property returns are stable and competitive...

### Market Index Comparisons (through 2019Q2)

<table>
<thead>
<tr>
<th></th>
<th>1 Year</th>
<th>5 Year</th>
<th>10 Year</th>
<th>20 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Property NCREIF Index, (no leverage)</td>
<td>6.5%</td>
<td>8.8%</td>
<td>9.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>S&amp;P 500 Index</td>
<td>10.4%</td>
<td>10.7%</td>
<td>14.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>NAREIT (averages 35% leverage)</td>
<td>12.6%</td>
<td>8.8%</td>
<td>16.0%</td>
<td>10.6%</td>
</tr>
<tr>
<td>T-Bills</td>
<td>2.1%</td>
<td>1.0%</td>
<td>0.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>CPI</td>
<td>1.7%</td>
<td>1.5%</td>
<td>1.7%</td>
<td>2.2%</td>
</tr>
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Source: NCREIF Real Estate Performance Report, 2019Q2, and Graaskamp Center for Real Estate.
property returns across property type are similar, in the longer-run office underperforms.

<table>
<thead>
<tr>
<th>National Property Index Returns By Property Type (through 2019Q2)</th>
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</thead>
<tbody>
<tr>
<td>Property Type</td>
</tr>
<tr>
<td>National Property Index</td>
</tr>
<tr>
<td>Apartments</td>
</tr>
<tr>
<td>Industrial</td>
</tr>
<tr>
<td>Office</td>
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<tr>
<td>Retail</td>
</tr>
</tbody>
</table>
cap rate risk spreads to 10-year Treasuries are range-bound.
Real Estate Debt Capital Markets
Private debt as a percent of GDP has fallen from 171% in 2009 to 148% today.

Source: Federal Reserve Economic Data and the Graaskamp Center.
Commercial real estate debt outstanding has grown over the last several years.

<table>
<thead>
<tr>
<th>Period</th>
<th>3-Year</th>
<th>5-Year</th>
<th>10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial through 2019Q1</td>
<td>6%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Commercial through 2008Q4</td>
<td>11%</td>
<td>12%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Flow of Funds and the Graaskamp Center
multifamily debt is growing at an unsustainable pace (maybe) . . .

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<tr>
<th>Period</th>
<th>3-Year</th>
<th>5-Year</th>
<th>10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multifamily through 2019Q1</td>
<td>9%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>Multifamily through 2009Q4</td>
<td>8%</td>
<td>8%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Flow of Funds and the Graaskamp Center.
... delinquency rates are at or near 20-year lows for all but CMBS ... 

Delinquency Rate Range 1996-2018 for Select Real Estate Lenders

Source: Mortgage Bankers Association, Commercial/Multifamily Databook 2018Q3.
leveraged loan lenders are pushing traditional real estate lenders...
late cycle, covenant lite, corporate lending is the norm in leveraged loan underwriting...
Real estate debt funds are pushing bank debt underwriting.

Source: Jim Costello, Real Capital Analytics, U.S. Debt Funds Carve a Bigger Slice of Lending, October 30, 2019
Real Estate Equity and Debt Markets

There is an abundance of equity capital and it will remain abundant.

Equity investment is maintaining discipline at current cap rates.

The debt markets are awash in capital, but will start to push risk covenants.

Leveraged loan funds pushing traditional bank lender underwriting standards, leveraged loan volume will tighten.
The Property Markets
Residential and non-residential construction is shrinking . . . . supply is getting in check . . . .
. . . . industrial trends, transaction volume is up 63% YOY . . . .

Opinion of Current Industrial Pricing

<table>
<thead>
<tr>
<th>Category</th>
<th>Overpriced</th>
<th>Fairly priced</th>
<th>Underpriced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>26.0%</td>
<td>66.7%</td>
<td>7.3%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>27.0%</td>
<td>65.1%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Flex</td>
<td>27.5%</td>
<td>64.1%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Warehouse</td>
<td>45.6%</td>
<td>52.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Fulfillment</td>
<td>46.4%</td>
<td>47.7%</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

.... office trends, transaction volume is off 7% YOY. ....

Opinion of Current Office Pricing

- Medical office: 24.6% Overpriced, 69.3% Fairly priced, 6.1% Underpriced
- Suburban office: 30.0% Overpriced, 55.8% Fairly priced, 14.1% Underpriced
- Central-city office: 50.3% Overpriced, 44.1% Fairly priced, 5.6% Underpriced

... retail trends, transaction volume has plummeted 55% YOY ...

Retail pricing perceptions: Opinion of Current Retail Pricing

- Neighborhood/community shopping centers: 26.0% Overpriced, 64.6% Fairly priced, 9.4% Underpriced
- Lifestyle/entertainment centers: 34.5% Overpriced, 57.3% Fairly priced, 8.2% Underpriced
- Outlet centers: 39.0% Overpriced, 57.0% Fairly priced, 4.1% Underpriced
- Power centers: 39.4% Overpriced, 50.3% Fairly priced, 10.3% Underpriced
- Regional malls: 45.3% Overpriced, 43.0% Fairly priced, 11.6% Underpriced
- Urban/high-street retail: 47.5% Overpriced, 46.4% Fairly priced, 6.1% Underpriced

.... apartment trends, transaction volume is off 7% YOY. ....

apartment pricing perceptions, We are building 90 percent of our housing for 10 percent of our households.”

Source: ULI, Emerging Trends in Real Estate 2020, survey.
The Forecast: 2020 “Perfect Vision?”

Asset prices:
- Cap rates will widen out by 25 bp to account for new risk premiums

Equity capital:
- Transaction volumes will fall by 5% over economic and pricing concerns

Debt capital markets:
- Will begin to tighten as the Fed clamps down on leveraged loan banks

Space markets:
- Apartment overbuilding and weaker absorption will reduce YOY NOI
- Business uncertainty will reduce warehouse demand – watch your spec space

GDP growth:
- 2.0% YOY and falling to 1.0%

Wage inflation concerns will keep interest rates from falling, weak economy as an offset
- 10-year UST at about 1.80-2.00% this time next year
2020 REAL ESTATE FORECAST: LOCAL OUTLOOK

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KEYNOTE
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