

The top half of the slide features a dark background with a glowing green network of interconnected nodes and lines. In the upper left corner, the CBRE logo is displayed in white. On the right side, a faint silhouette of a city skyline is visible.

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Where do cap rates go from here? A new approach

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JING REN, PHD | ECONOMIST

TIM SAVAGE, PHD | DATA SCIENCE ADVISOR

WHERE DO CAP RATES GO FROM HERE?

Cap rates are affected by both macroeconomic and microeconomic factors.

Macroeconomic

- Bond yields and inflation, among others
- International capital flows

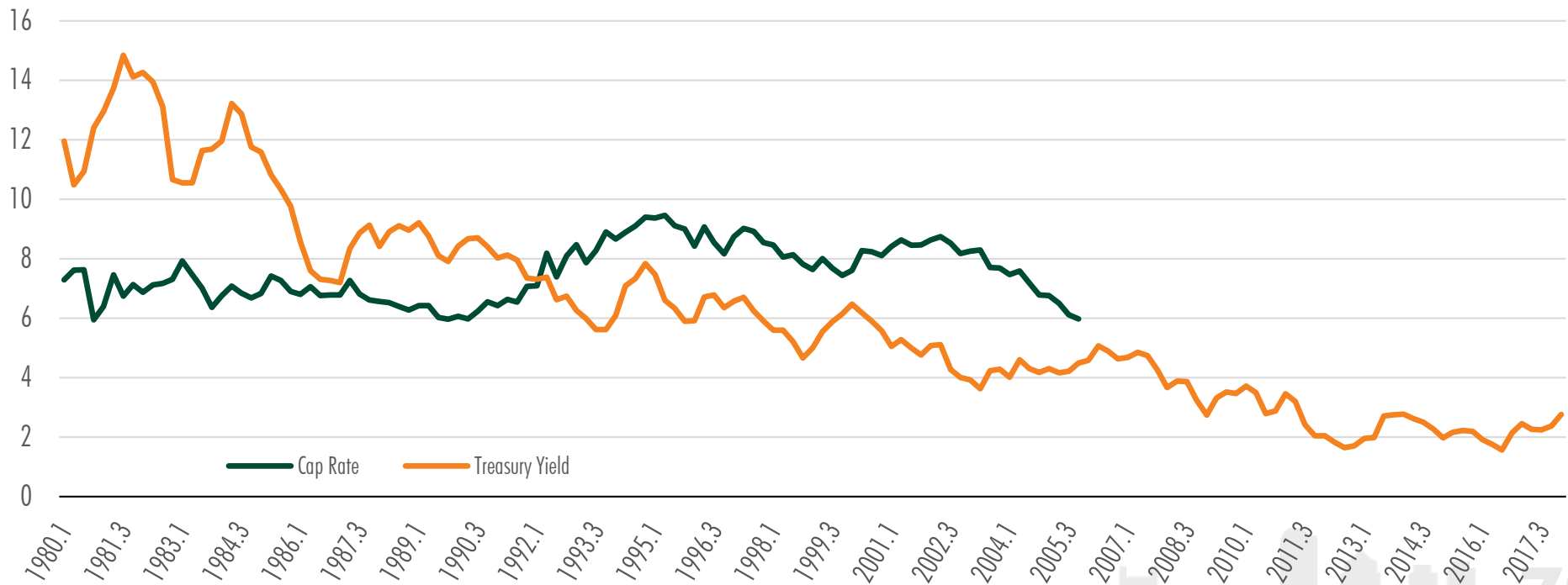
Microeconomic

- Economics of super-agglomeration, such as in San Francisco and other tech markets
- Individual market models



HOW INFORMATIVE ARE NOMINAL U.S. TREASURYS?

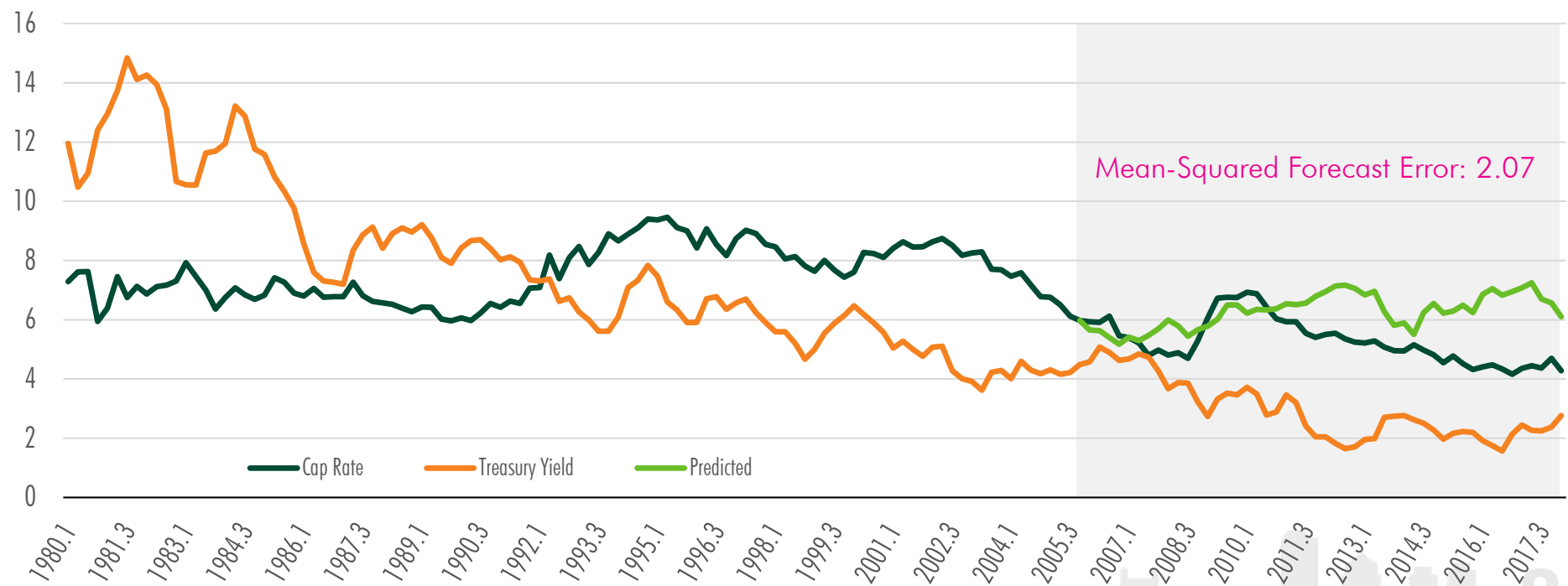
OFFICE CAP RATES AND NOMINAL 10-YEAR TREASURY YIELDS



Source: NCREIF, FRED.

LIMITED

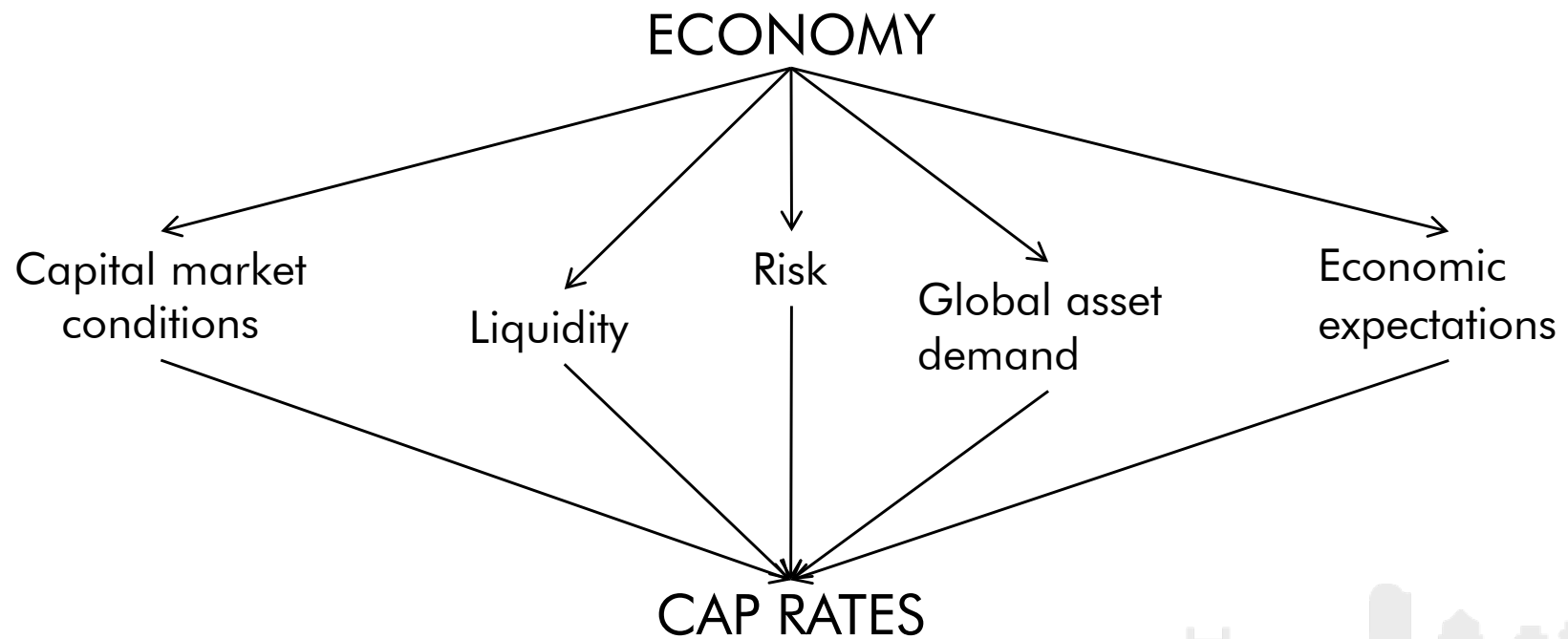
OFFICE CAP RATES AND 10-YEAR TREASURY YIELDS



Source: NCREIF, FRED.

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CHANNELS OF INFLUENCE



Source: CBRE Econometric Advisors.

THEORY AND RESULTS

| Factor Group | Model Variable | Theory | Coefficients* | P value |
|---------------------------|------------------------|--------|---------------|---------|
| Capital Market Conditions | Nominal Treasury Yield | | | |
| | Inflation | | | |
| | | | | |
| | | | | |
| | | | | |

* Estimated coefficients represent the long-term relationship between each macro variable and the cap rate.

Source: CBRE Econometric Advisors.



THEORY AND RESULTS

| Factor Group | Model Variable | Theory | Coefficients* | P value |
|---------------------------|------------------------|--------|---------------|---------|
| Capital Market Conditions | Nominal Treasury Yield | + | 0.445 | 0.000 |
| | Inflation | ? | -0.264 | 0.000 |
| Fed QE | QE | | | |
| Liquidity | Debt Growth | | | |
| | | | | |
| | | | | |

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Source: CBRE Econometric Advisors.

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| | Inflation | ? | -0.264 | 0.000 |
| Fed QE | QE | - | -0.266 | 0.000 |
| Liquidity | Debt Growth | - | -0.230 | 0.000 |
| Risk | AAA-Bond Spread | | | |
| Global Asset Demand | Dollar Value | | | |

* Estimated coefficients represent the long-term relationship between each macro variable and the cap rate.

Source: CBRE Econometric Advisors.

THEORY AND RESULTS

| Factor Group | Model Variable | Theory | Coefficients* | P value |
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| Capital Market Conditions | Nominal Treasury Yield | + | 0.445 | 0.000 |
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| Fed QE | QE | - | -0.266 | 0.000 |
| Liquidity | Debt Growth | - | -0.230 | 0.000 |
| Risk | AAA-Bond Spread | + | 0.959 | 0.000 |
| Global Asset Demand | Dollar Value | + | 0.223 | 0.000 |
| National Economic Expectation | Unemployment Rate Change | | | |
| Local Economic Expectation | Local RE, Real Rent | | | |

* Estimated coefficients represent the long-term relationship between each macro variable and the cap rate.

Source: CBRE Econometric Advisors.

THEORY AND RESULTS

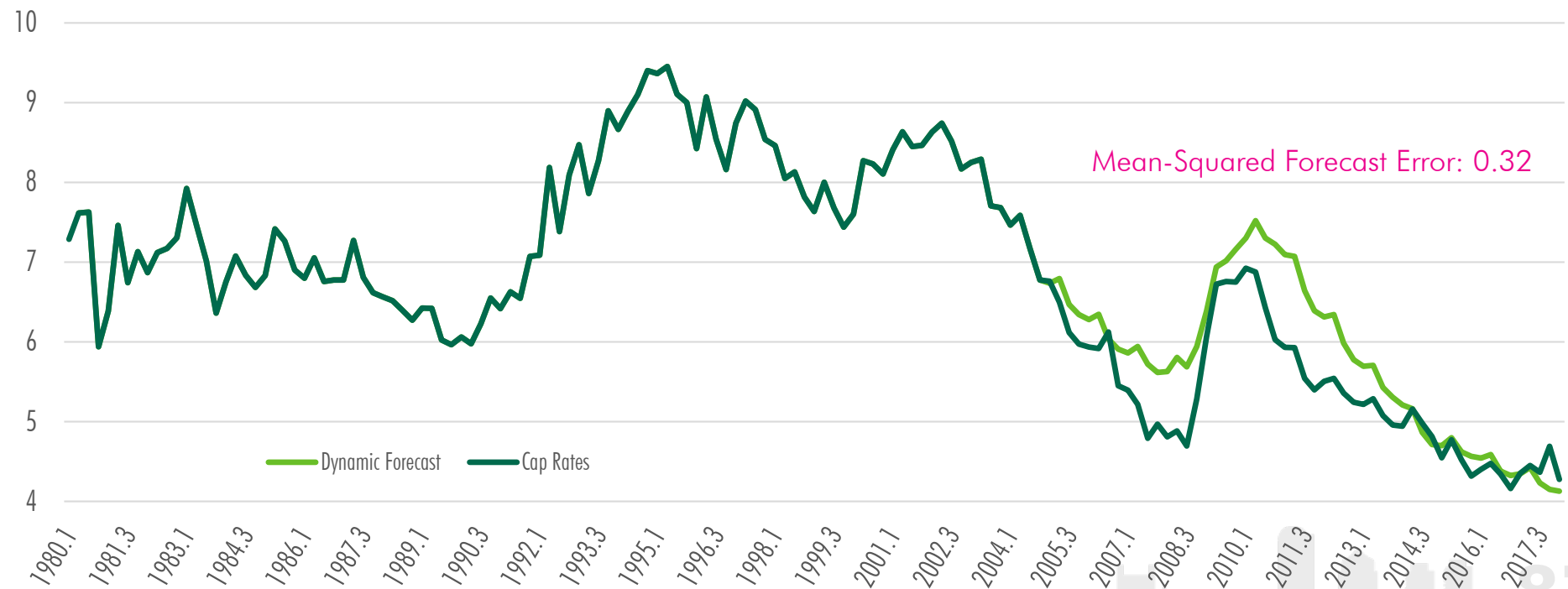
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| Fed QE | QE | - | -0.266 | 0.000 |
| Liquidity | Debt Growth | - | -0.230 | 0.000 |
| Risk | AAA-Bond Spread | + | 0.959 | 0.000 |
| Global Asset Demand | Dollar Value | + | 0.223 | 0.000 |
| National Economic Expectation | Unemployment Rate Change | + | 0.687 | 0.000 |
| Local Economic Expectation | Local RE, Real Rent | ? | -0.063 | 0.000 |

* Estimated coefficients represent the long-term relationship between each macro variable and the cap rate.

Source: CBRE Econometric Advisors.

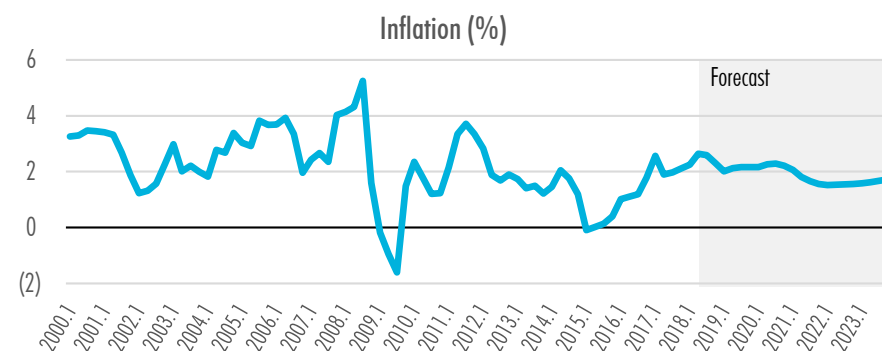
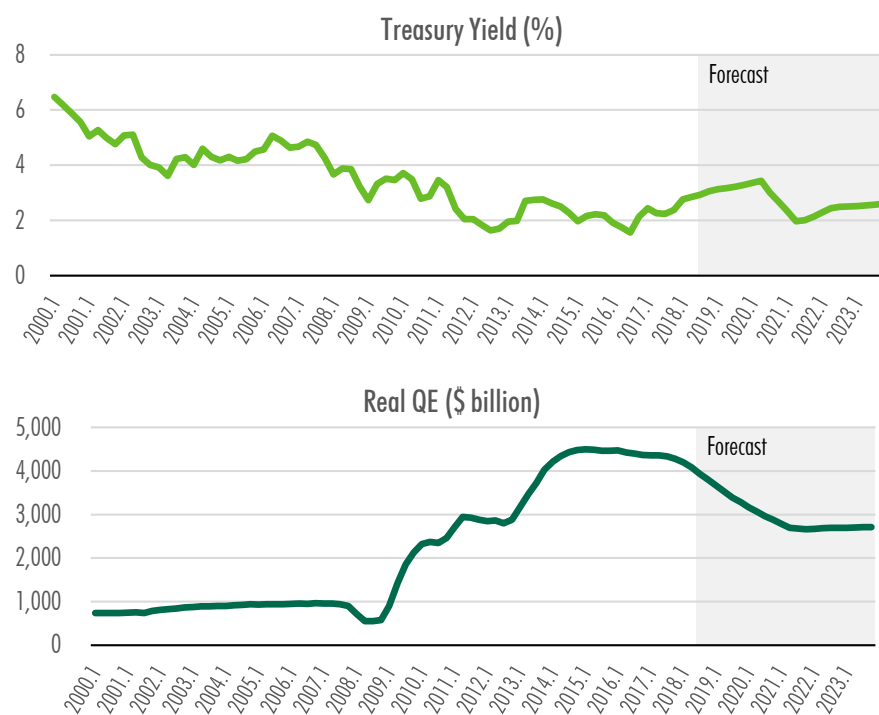
ENHANCED MODEL IMPROVES FORECAST ACCURACY

NATIONAL OFFICE CAP RATE FORECAST, BACKTEST OF 2005-2018



Source: CBRE Econometric Advisors, NCREIF.

INDIVIDUAL IMPACT BASED ON Q3 ASSUMPTIONS

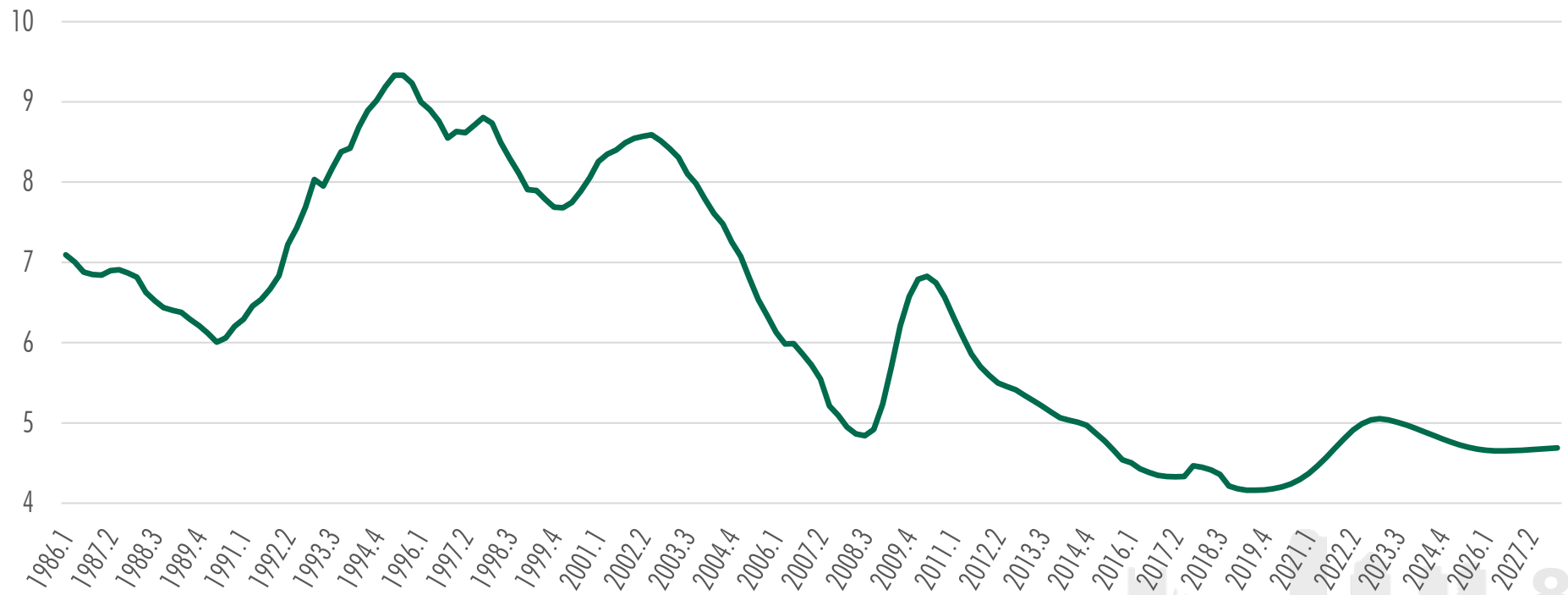


| Factor | 2-Year Forecast | Projected impact |
|-------------------|---------------------|------------------|
| Inflation | Lower Inflation | ↑ |
| QE | Lower QE | ↑ |
| Debt Growth | Higher Debt Growth | ↓ |
| Dollar Value | Higher Dollar Value | ↑ |
| Treasury Yield | Higher Yield | ↑ |
| Risk Spread | Higher Risk | ↑ |
| Unemployment Rate | Lower Unemployment | ↓ |

Source: CBRE Econometric Advisors.

MODERATE OVERALL RISE UNDER Q3 ASSUMPTIONS

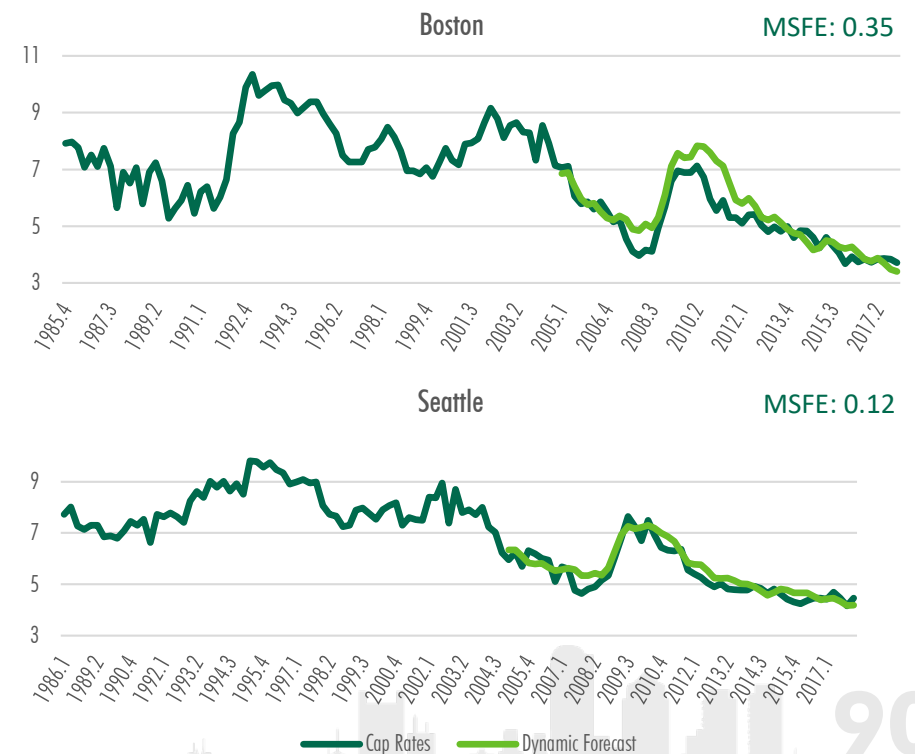
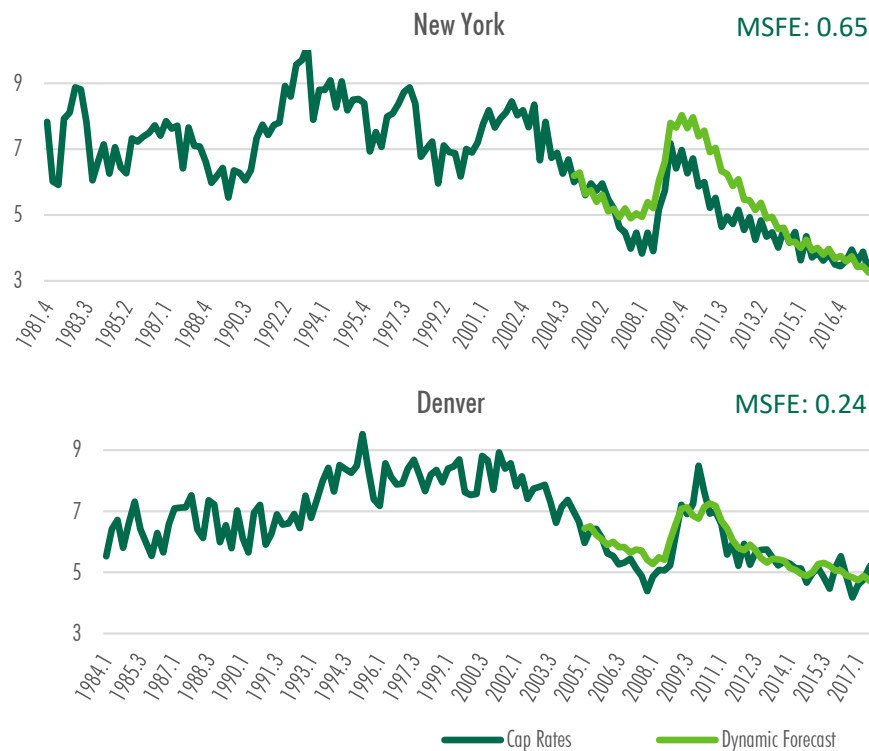
ENHANCED MODEL: NATIONAL OFFICE CAP RATE FORECAST



Source: CBRE Econometric Advisors.

IMPROVED ACCURACY AT THE MARKET LEVEL AS WELL

INDIVIDUAL OFFICE MARKET CAP RATE FORECASTS, BACKTEST OF 2005-2018

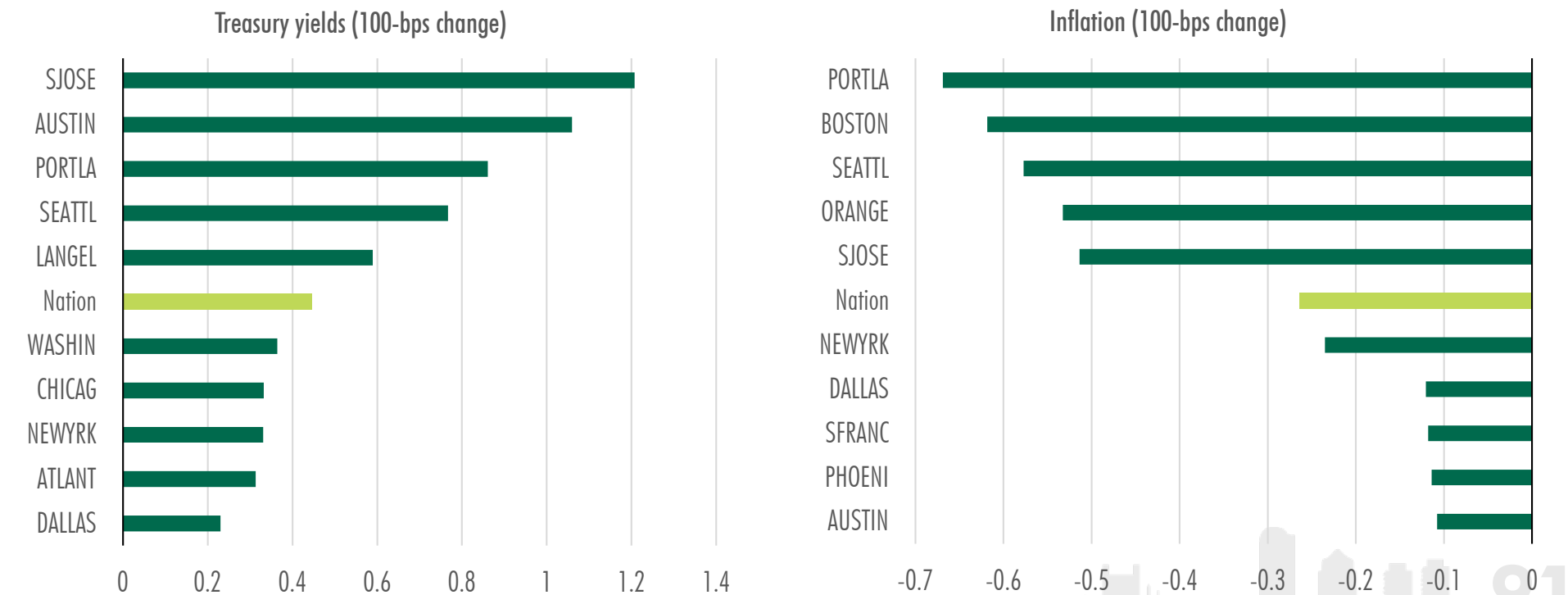


Source: CBRE Econometric Advisors, NCREIF

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MARKET SENSITIVITY TO INDIVIDUAL FACTORS RANGES WIDELY

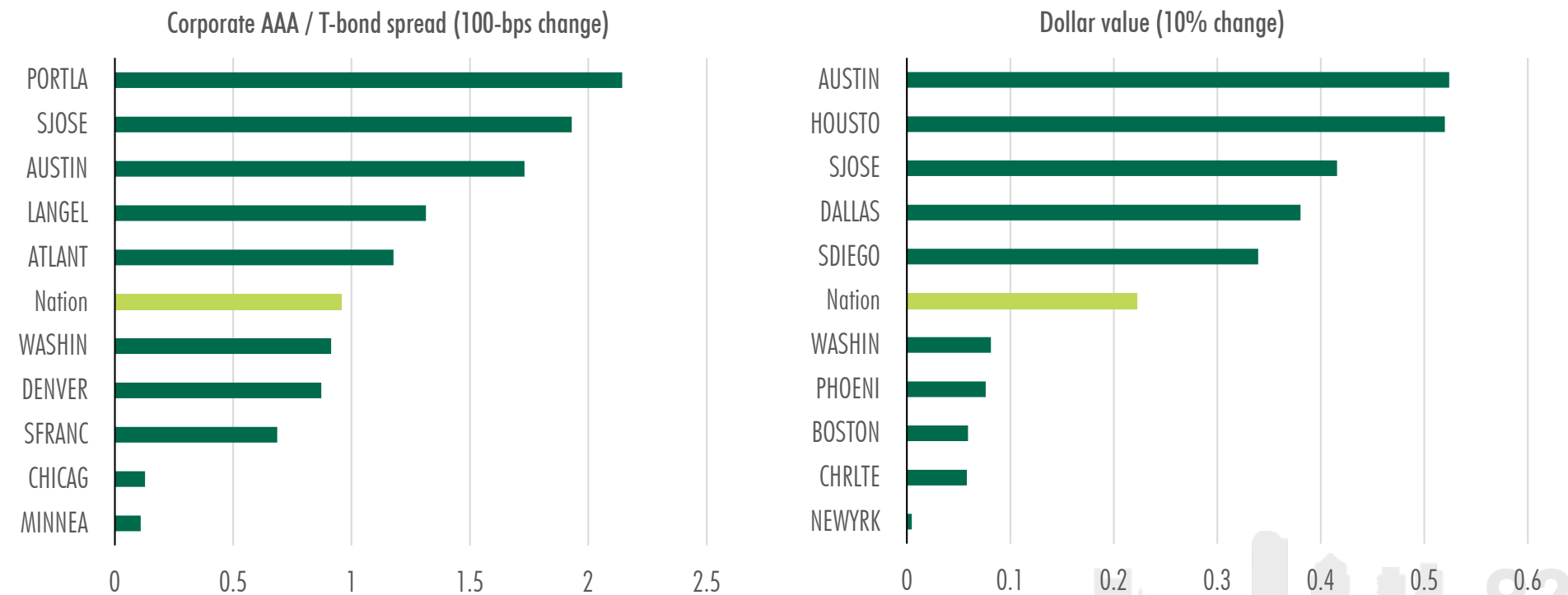
IMPACT ON CAP RATES: TREASURY YIELDS AND INFLATION



Source: CBRE Econometric Advisors.

MARKET SENSITIVITY TO INDIVIDUAL FACTORS RANGES WIDELY

IMPACT ON CAP RATES: AAA BOND SPREAD AND DOLLAR VALUE



Source: CBRE Econometric Advisors.



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THANK YOU

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