Data science market forecasting framework

PROJECT:
Data science

COMPANY:
a.s.r. real estate

LOCATION:
NL

Challenge

Real estate markets can be quite turbulent, creating challenges for effective strategic asset allocation, house view and tactical allocation. To support client-specific investment decisions, a.s.r. real estate requires accurate and reliable forecasts. However, generating accurate forecasts remains a complex challenge.

> **Machine learning models are powerful supporting tools for investment decisions."**
>
> **Vinoo Khandekar**
> Head of Research & Intelligence,

Solution / Approach

The company developed machine learning models to forecast yield gaps, market rental value growth, and occupancy rates within different economic scenarios. These models can compare expected versus required IRRs for different sector and market combinations, allowing for tailored allocation advice based on clients' unique goals.

Integrating the model into the existing data infrastructure ensures they comply with a.s.r.'s data infrastructure governance and data safety requirements. By combining innovative technology with in-depth market expertise, a.s.r. delivers actionable insights that enhances the decision-making process for investment professionals.

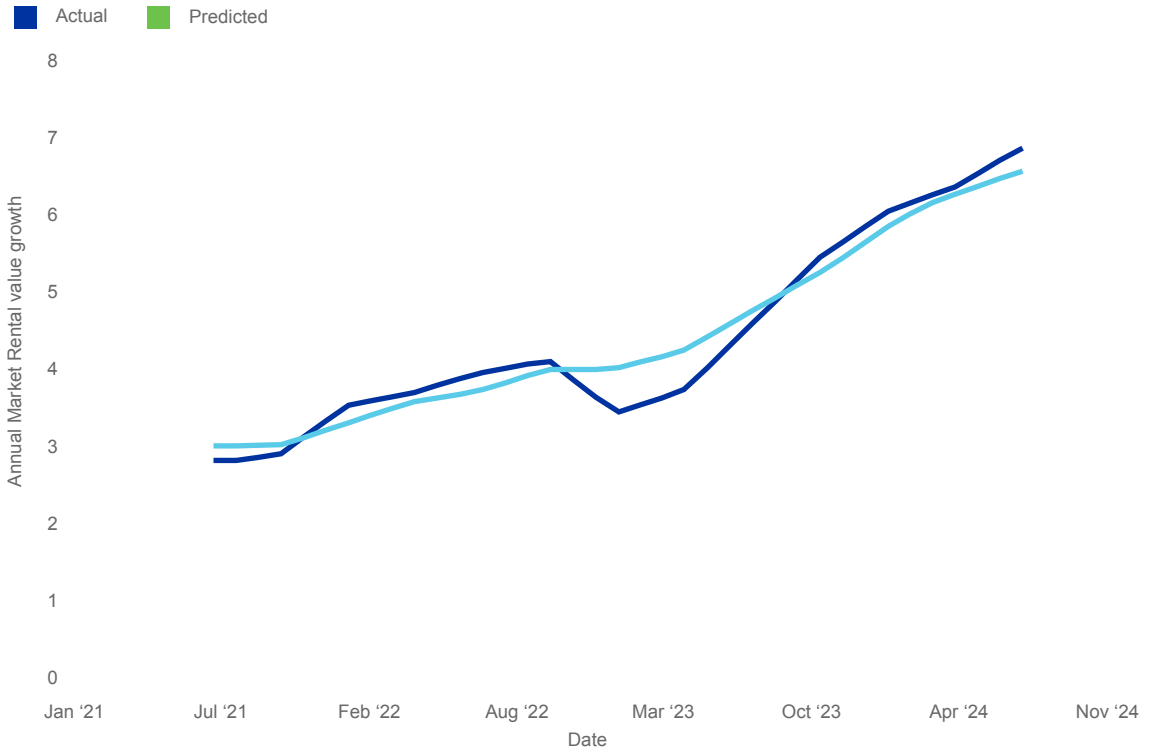
Results

The implementation of these tools has resulted in faster and more accurate market forecasts and insights, ultimately refining investment strategies. Additionally, all forecasts are reviewed by investment professionals to ensure they align with current market conditions and specific contexts.

Outcome

The model accuracy varies amongst sector-market combinations. In stable policy environments, forecast accuracy is notably higher. However, incorporating policy changes into predictive models remains difficult. In other cases, data limitations affect model quality. Forecast reliability also decreases over longer time horizons, reflecting the inherent uncertainty of future market conditions and the normalizing nature of input variables consisting out of forecasts. Despite these challenges, the a.s.r. team is broadly satisfied with the direction of the outcomes and the scenarios. By analysing multiple economic scenarios, they can better understand the range and volatility of potential outcomes, which enhances decision-making in uncertain conditions. Using this model for alternative economic scenario's saved us time, as the outcomes give an automated and good indication of the direction and the bandwidth of possible expected returns.

Figure 1: EU Residential



a.s.r. real estate
a.s.r. real estate is a leading Dutch real estate company with over 130 years of experience and a mission to "create perpetual value for investors and society by investing in sustainable high-quality real estate.