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Specialists in Strategic, Enterprise and Project Risk Management

CASE STUDY: QUANTITATIVE FINANCIAL RISK ANALYSIS FOR A EUROPEAN SHOPPING CENTRE REDEVELOPMENT

1 Background

In 2007 we undertook a quantitative financial risk assessment of a large European shopping centre.

- We developed a high-level financial model of the centre, to examine its overall value under a ‘neighbourhood’ redevelopment scenario.
- We worked with the local team, plus specialist advisers, to quantify the main drivers of variability in the centre’s value.
- We ran the quantitative model with the identified variations included, and we reviewed and discussed the financial outcomes with the development managers.

2 Quantitative Approach

The model was based largely on the cash flows generated by categories of tenants, classified as shown in Table 1. For each category, the primary drivers of income were the gross lease area (GLA, in m²), productivity (in turnover per unit of GLA) and base rent. Expense drivers were also considered.

Table 1: Tenant categories

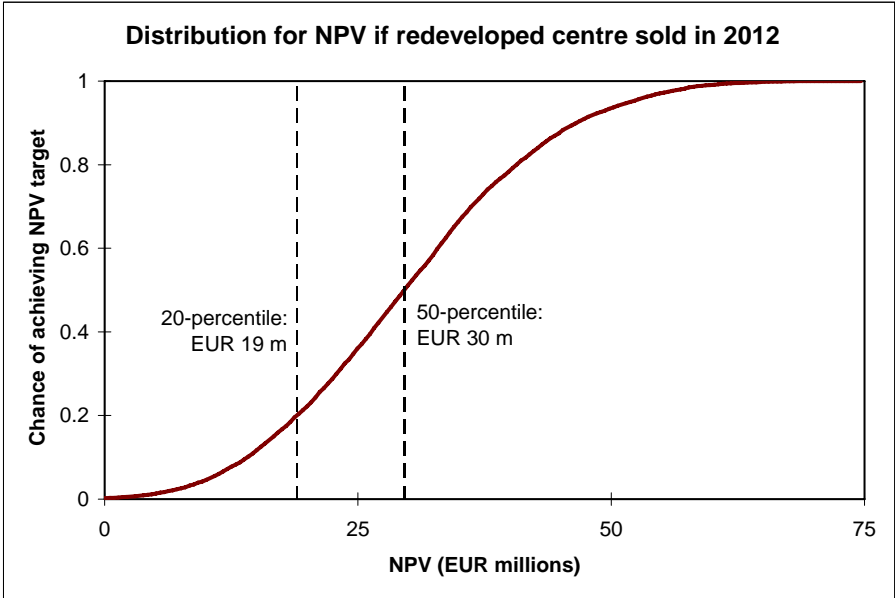
Primary category	Sub-categories included
Ground Floor Anchor	Hypermarket
FMCG	Food, beverages & tobacco; Health & bodycare
SMCG Clothing	Textiles & clothing; Shoes & leather
SMCG Durables	Technology; Household & personal needs; DIY & gardening; Furniture & furnishing
Food Court & Restaurant	Food Court; Restaurants
Level 1 Anchor	Sports megastore

During the workshops, each item in the model structure was addressed. The main assumptions, sources of variation, and high, low and likely scenarios were discussed, and values associated with each of the scenarios were assessed. Detailed notes on the discussions were maintained in data tables.

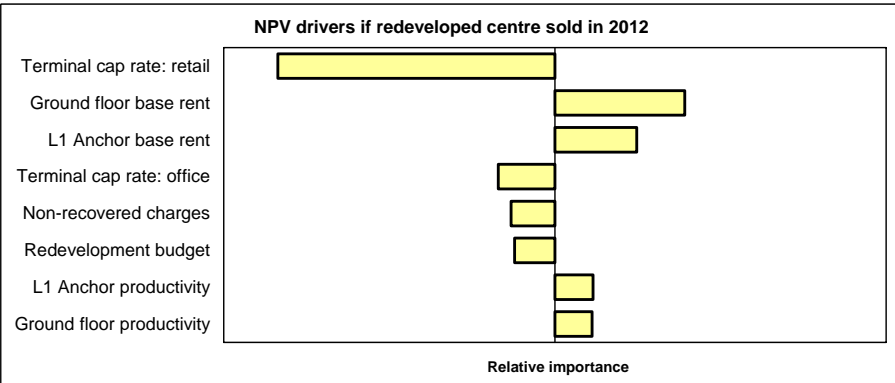
The quantitative risk model was built in Excel, and distributions were combined using simulation with @Risk. Correlations were included – for example, the productivities for most categories would rise or fall together according to the characteristics of the local catchment for the centre, with the Level 1 anchor following a different but related pattern due to the different nature of its target customer base.

3 Outcomes

In any specified year, the quantitative model developed a distribution of the net present value (NPV) of the centre if it were to be sold in that year. The NPV was based on the estimated net cash flows from now to the year of sale, with associated assumptions about the overall redevelopment plan and the terminal value.



The principal driver for the variation in NPV was the terminal cap rate for the retail component, followed by the base rent for the ground floor of the redeveloped centre. Non-recovered charges for the Level 1 anchor, capital cost variation for the construction activity and productivity were of lesser importance. (The rent for the Level 1 anchor was linked to the ground floor base rent, and the terminal cap rate for the office component was linked to the terminal cap rate for the retail component.) The productivity was of relatively low importance because the base rent dominated turnover rent for several important categories of tenants in the early years.



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