Amundi
ASSET MANAGEMENT

Amundi Immobilier

Office Property Price Indicator:

Paris market case study

AMUNDI IMMOBILIER
Research

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A company of Crédit Agricole / Société Générale

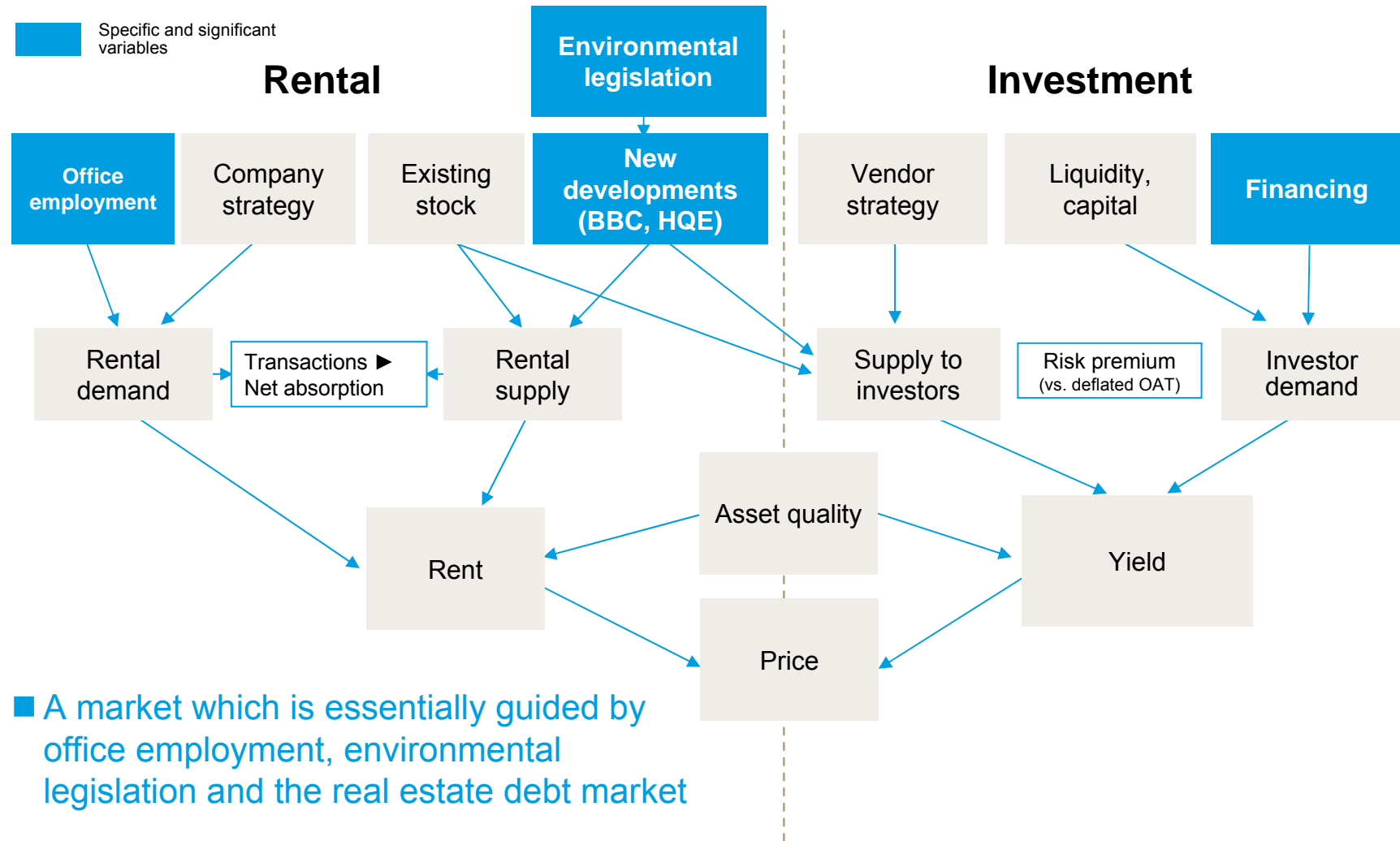## Content: From theory to practice

How to determine and forecast prices in the
Paris office market?

- ◦ Phase 1: The demand/supply approach ('pork cycle')

- ◦ Phase 2: The risk approach

- ◦ Phase 3: Modelling a benchmark

- ◦ Phase 4: Anticipating the price for a specific asset

Objectives

- ◦ Establish a theoretical price for acquisitions both for the present and to demonstrate their change over the following years by only considering variables that influence market conditions.

- ◦ Guide investment strategy by extrapolating this tool to other European markets and rank them by defining allocations by location.

- ◦ Determine and forecast the price for a specific asset and determine whether or not to purchase it.

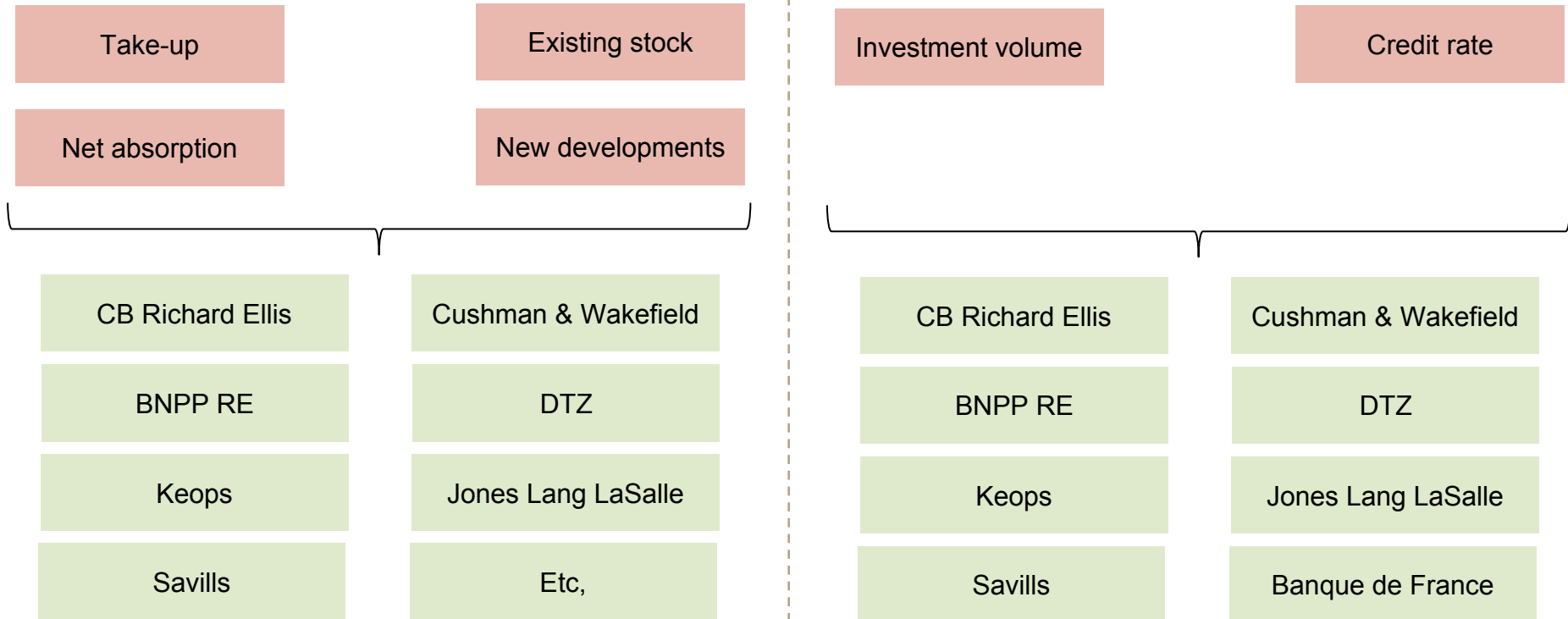# Balance of supply and demand to determine office prices

Specific and significant variables

Rental

Investment

| Office employment | Company strategy | Existing stock | New developments (BBC, HQE) | | Vendor strategy | Liquidity, capital | Financing |

Environmental legislation

Rental demand → Transactions ► Net absorption ← Rental supply

Supply to investors — Risk premium (vs. deflated OAT) — Investor demand

Rent

Asset quality

Yield

Price

■ A market which is essentially guided by office employment, environmental legislation and the real estate debt market

Source: Amundi Immobilier Research

Indicators and sources

- Indicators
- Sources

Rental

| Take-up | | Existing stock |
| Net absorption | | New developments |

CB Richard Ellis	Cushman & Wakefield
BNPP RE	DTZ
Keops	Jones Lang LaSalle
Savills	Etc,

Investment

| Investment volume | | Credit rate |

CB Richard Ellis	Cushman & Wakefield
BNPP RE	DTZ
Keops	Jones Lang LaSalle
Savills	Banque de France

Source: Amundi Immobilier Research

Characteristics of the property market

➤ Assets:

- unique locations (one address)

- inherently non-similar assets

- durable assets

➤ Market:

- opacity

- illiquidity

↳ Need to consider a prime asset to be able to rank market opportunities

Characteristics of a prime office building

◦ Represents a benchmark, an ideal situation, the perfect reference from which a price can be determined … but which only applies to a minute percentage of the market

◦ This may only be theoretical … but it allows a means for comparison through a hierarchical market structure

Prime capital values

€/sq m/year
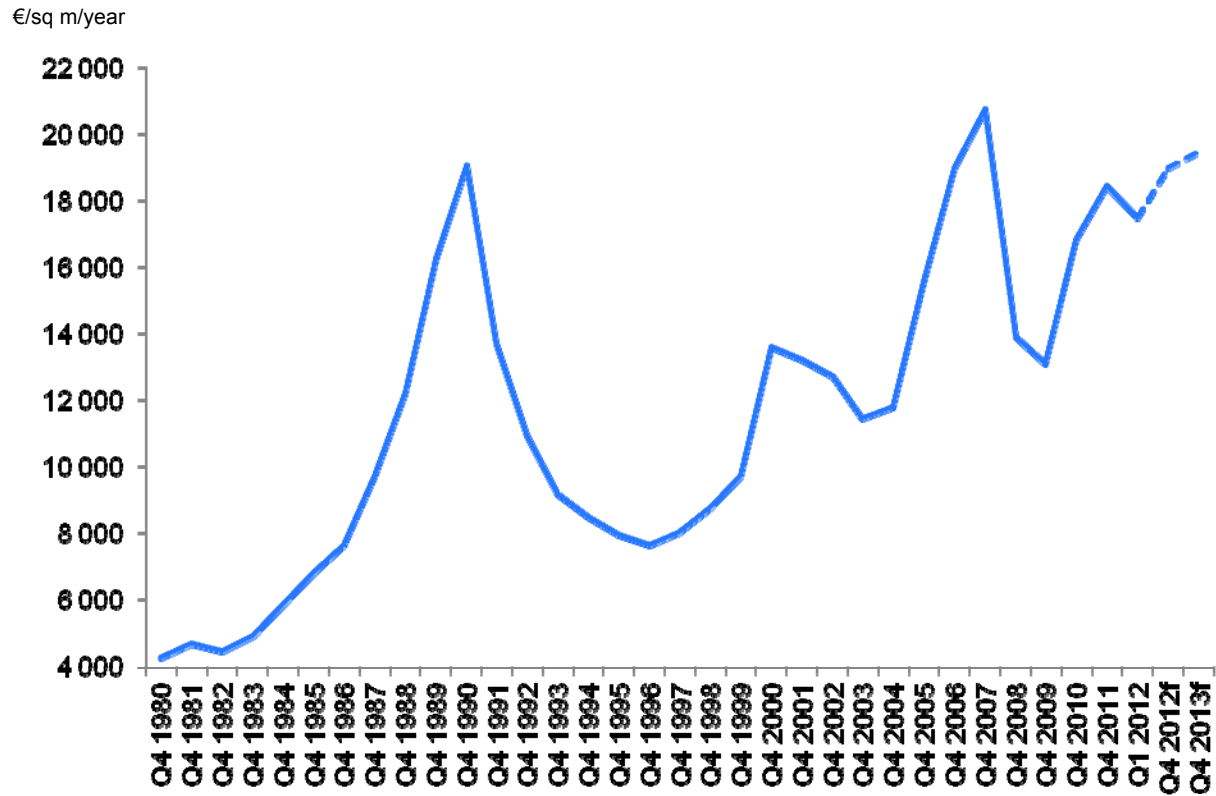
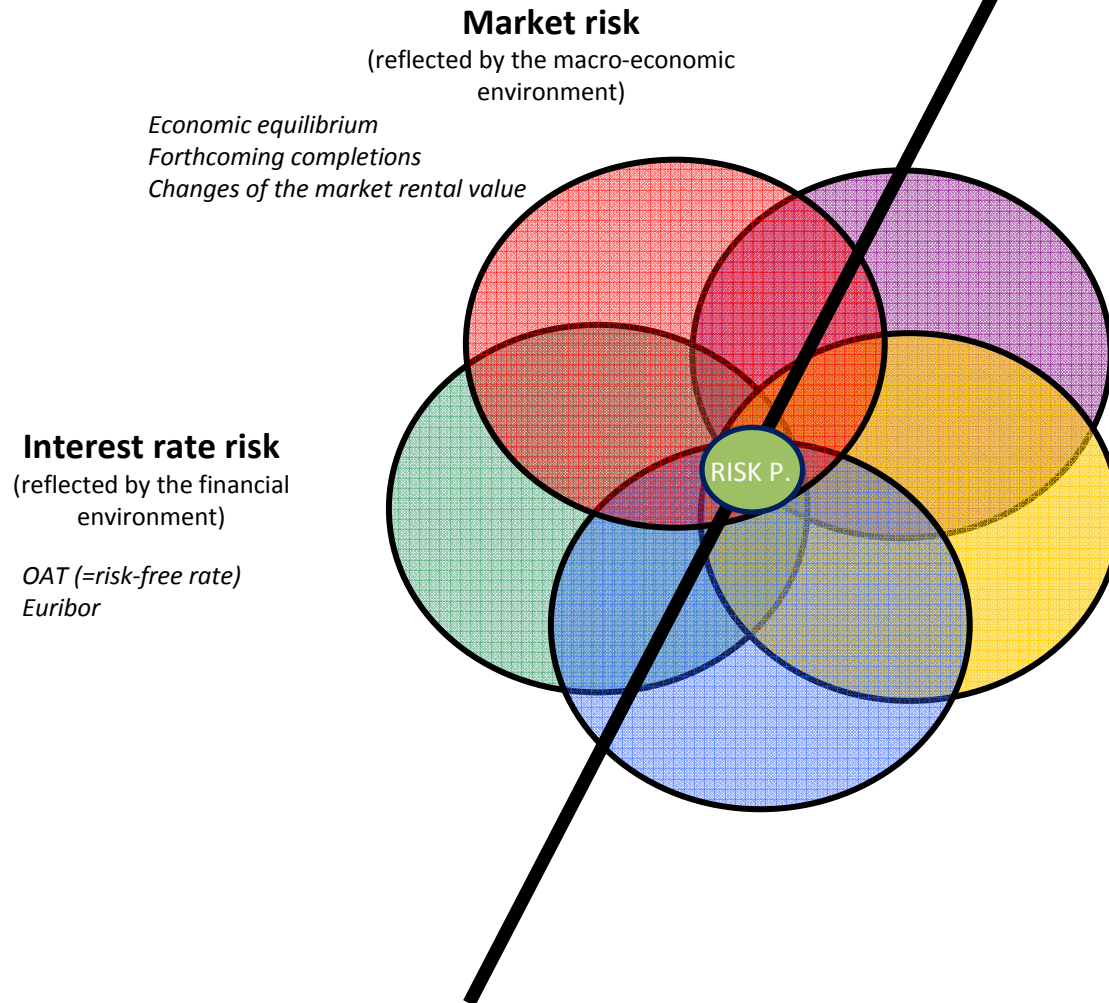Source: CB Richard Ellis, Amundi Immobilier Research

Phase 2: Risk qualification

1. <u>Systematic risk</u>: a reflection of market elements, allows prices to be determined.

2. <u>Financial risk</u>: represents price variation caused by variation in interest rates.

3. <u>Operational risk</u>: takes into account risks of location, technical quality, rental status, legal and administrative framework, etc. of a specific portfolio or asset.
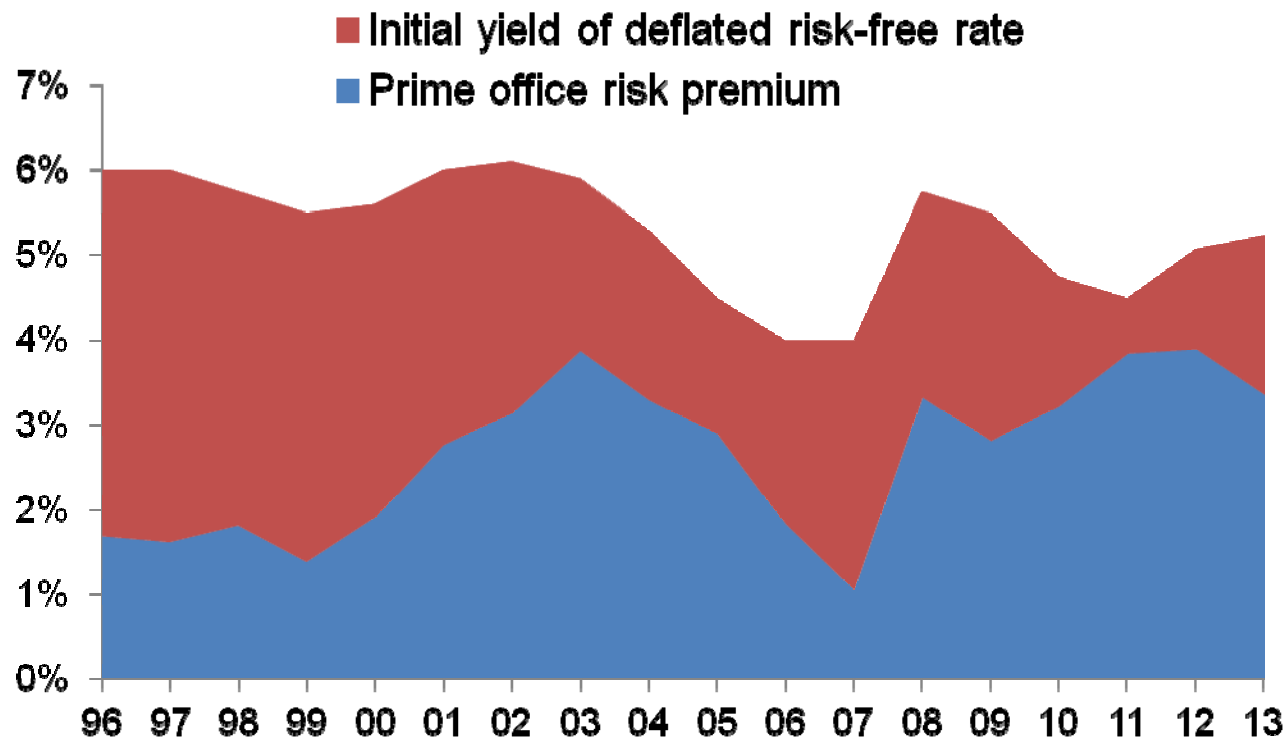
↳ Need to define these variables to account for these risks

Which types of risks?

Market risk
(reflected by the macro-economic environment)

Economic equilibrium
Forthcoming completions
Changes of the market rental value

Interest rate risk
(reflected by the financial environment)

OAT (=risk-free rate)
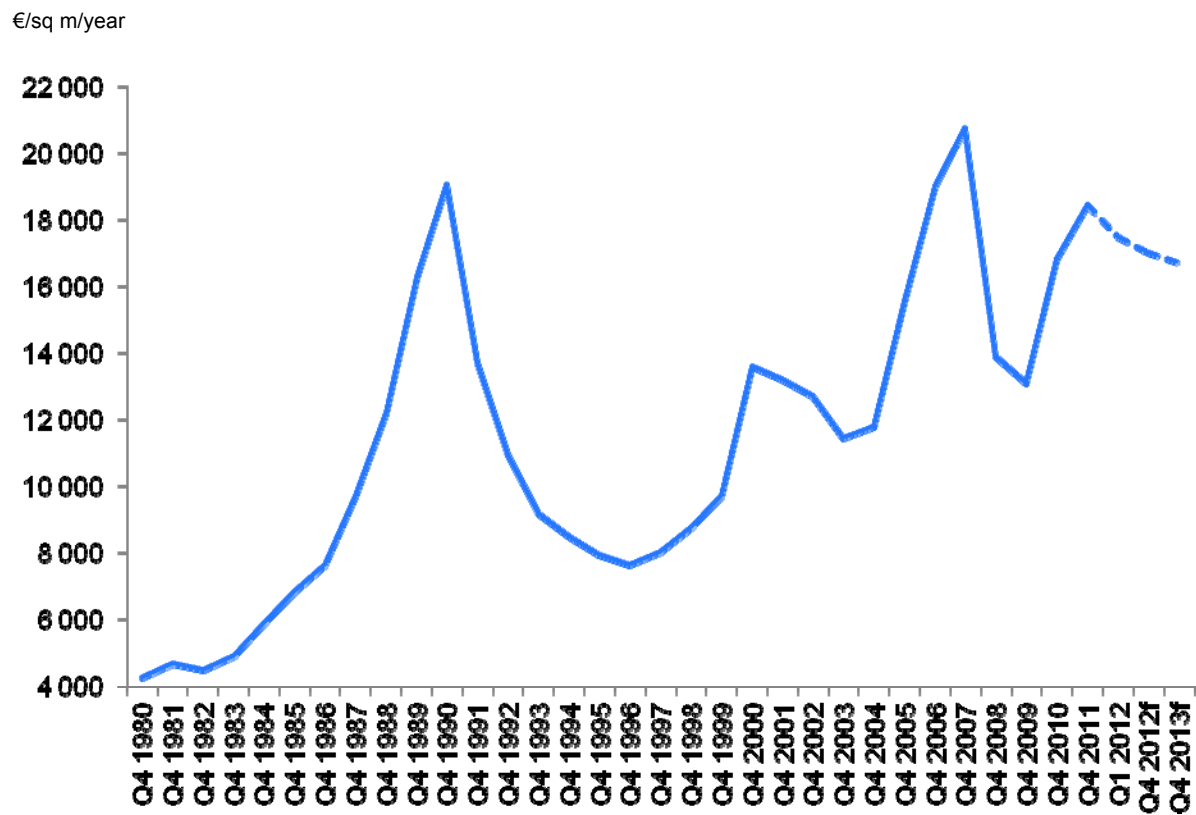*Euribor*

RISK P.

Prime yield

Source: Amundi Immobilier, Banque de France, CB Richard Ellis, Crédit Agricole S.A.

Results: Prime capital values

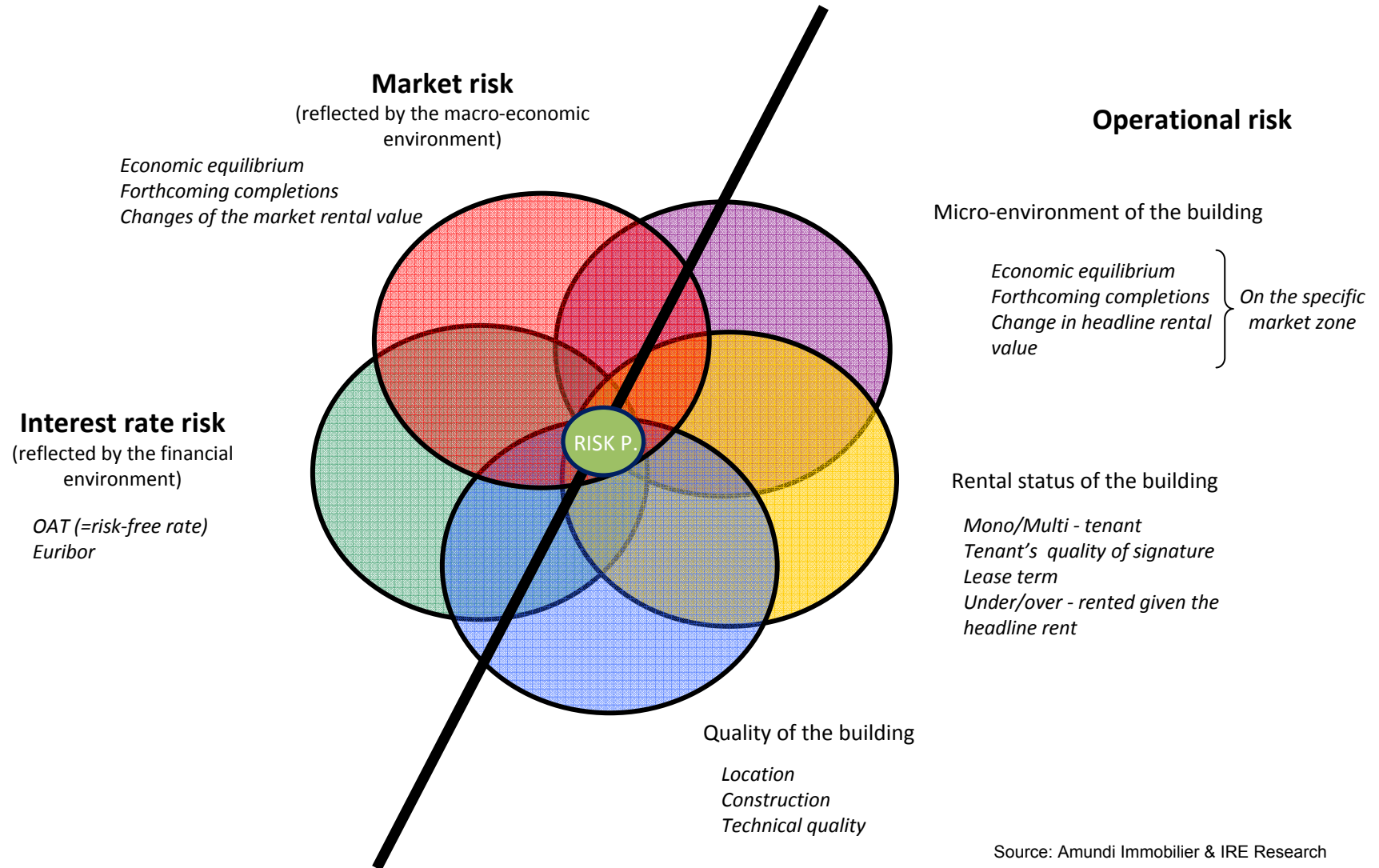€/sq m/year

Phase 4: Practical applications

Determining the price for a specific asset at acquisition

1. <u>Locational risk</u>: consists of analysing the balance of supply / demand in the area considered.

2. <u>Risks inherent to building use</u>: according to the construction date of the building, its technical condition, work required as appropriate.

3. <u>Rental risks</u>: determination of the revenues the lessor can expect over time, depending on the quality of the tenant(s) and the prospects for rental growth over the planned ownership period.

Which types of risks?

Market risk
(reflected by the macro-economic environment)

Economic equilibrium
Forthcoming completions
Changes of the market rental value

Operational risk

Micro-environment of the building

Economic equilibrium
Forthcoming completions } *On the specific*
Change in headline rental   *market zone*
value

Interest rate risk
(reflected by the financial environment)

OAT (=risk-free rate)
Euribor

RISK P.

Rental status of the building

Mono/Multi - tenant
Tenant's quality of signature
Lease term
Under/over - rented given the headline rent

Quality of the building

Location
Construction
Technical quality

Source: Amundi Immobilier & IRE Research

Add Amundi's rating to qualify characteristics of a specific asset

Location

Geographic area	Score
Prime office area	0
Recent, good quality office area	1
Recognised office area	2
Not etablished office area	3
Outside of office area	4
Risky areas	5
Accessibility/ Transport	Score
Underground	1
Bus	1
Tram	1
Railway (SNCF)	1
Car	1
Proximity to airport	0
Accessibility score	**3**

Building

Technical condition	Score
Prime	0
Prime - second hand	1
Second-hand building	2
Ageing building	3
Building needing redevelopment	4
Obsolete building	5

Rental stuation

Vacancy	Score
0%	0
0 to 5%	1
5 to 10%	2
10 to 15%	3
15 to 20 %	4
> 20 %	5
Tenant quality (Batica score)	Score
>15	0
15>b>12	1
12>b>10	2
10>b>9	3
9>b>8	4
8>b>7	5
Lease term	Score
5 years or more	0
4 years	1
3 years	2
2 years	3
1 year	4
- than 1 year	5
Reversion potential	Score
> 10%	0
from 10 % à 5%	1
from 5 % à 0%	2
from 0% à -5%	3
from -5 % à -10%	4
< - 10 %	5

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Determining and predicting a price for a specific asset?

A good mix between:

1. Develop scientific models based on economic indicators

2. Challenge the results with experience and know-how

3. Add a dose of instinct!