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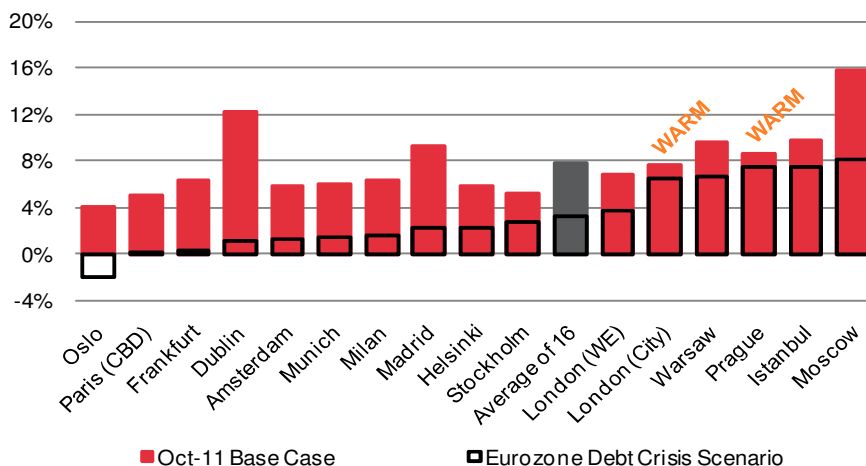
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- In this report, we quantify the impact on European office markets of a downside economic scenario via our 4-step analysis. The scenario's impact would lower forecast returns and render most European office markets unattractive. Across 45 markets, only London City and Prague remain WARM under our DTZ Fair Value Index™ approach.
- In our first step, we define our downside scenario as a double dip recession, based on a plausible scenario supplied by *Oxford Economics*, which assumes a disorderly sovereign default in three specific eurozone countries.
- The second analytical step highlights that this double dip recession would trigger declines in office demand. Consequently, rent forecasts would come down, with eurozone markets hardest hit, while Nordic, Central and Eastern European and UK markets would be more resilient.
- As a third step, we consider the impact of the scenario on our outlook for yields. In some non-eurozone markets, yields are lower than under the base case, reflecting reduced sovereign bond yields. In most eurozone markets yields are forecast to be higher, with greater upward pressure in peripheral markets.
- In our final step we note that the combined effect of rent declines and yield changes leads to lower total returns across nearly all markets over the next five years, and only two markets remain attractive based on current pricing (Figure 1). Finally, we expect that it would take another three years before the majority of markets return to an attractive classification under the scenario.

Figure 1

#### Office total returns, Q3 2011 – Q3 2016 (%pa)



Source: DTZ Research

# European scenario analysis

## Introduction

Over the summer the outlook for the global economy weakened considerably and global equity markets fell sharply. By the end of September the FTSEurofirst 300 index, for example, was 22% below its peak in mid-February. The weakening in sentiment reflects several factors. The US and several European countries reported disappointing GDP growth for Q2; Standard and Poor's stripped the US of its AAA credit rating as the debt ceiling was raised at only the last minute; and the eurozone debt crisis has steadily escalated, with no clear strategy in place to resolve it. These events have resulted in sharp falls in global equity markets and broader economic sentiment as investors worry about the durability of the economic recovery.

In our February Global Outlook Paper<sup>1</sup> earlier this year we presented scenario rental forecasts for seven key office markets around the world. We have extended our scenario analysis capabilities to include all of the 45 office markets we cover around Europe.

Given the clear downside risks present we assess what impact a disorderly default in three specific peripheral eurozone economies might have on European office markets. To do this we use an economic scenario supplied to us by Oxford Economics.

Under the scenario we find that nearly all economies across Europe re-enter recession. This hits occupier demand for offices hard and rental growth forecasts are scaled back considerably. Indeed, under the scenario, over the next five years rents actually decline in nearly all European markets. In most eurozone markets office yields are forecast to be higher in 2016 compared to our base case due to higher risk aversion and a weaker economic and occupier market outlook. However, in London, Stockholm and Prague office yields are slightly lower than the base case, reflecting reduced upward pressure on yields due to lower government bond yields as central banks hold policy interest rates at record lows.

Having produced property forecasts under the scenario we use the DTZ Fair Value methodology to assess what impact the scenario has on investment market conditions. We find that on the basis of current pricing, nearly all European office markets are unattractive from an investment perspective. This is unsurprising given that current market pricing broadly incorporates the base forecast of a slow recovery in the economy and modest rent rises. The only exceptions are London City and Prague, which seem to offer reasonable value, even under the debt crisis scenario.

## Methodology

To assess the potential impact of the debt crisis scenario on office markets around Europe we undertake the following four steps:

### Step 1: Defining the economic scenario

We outline a specific downside eurozone debt crisis scenario supplied to us by Oxford Economics. We examine its impact on economies around Europe and how they might perform in comparison to their October base case economic forecasts.

### Step 2: Impact on occupier markets

We assess what impact the economic scenario might have on occupier demand for offices and rents around Europe. We compare the scenario rent projections to our October base case forecasts.

### Step 3: Impact on investor markets

We then outline what impact the scenario might have on investor markets. In particular, we look at how changes in government bond yields, rental growth and GDP growth under the scenario might filter through to office yields.

### Step 4: Impact on Fair Value across markets

Finally, we combine the rent and yield projections under the scenario to give total returns. We analyse how returns differ under the scenario and use the DTZ Fair Value methodology to consider how investors might incorporate the scenario into investment strategy.

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<sup>1</sup> DTZ Foresight: 2011 Global Outlook, 10 February 2011.

# European scenario analysis

## Step 1: Defining the economic scenario – double dip recession from peripheral sovereign defaults

Following the escalation of the eurozone debt crisis over the summer, growth forecasts have been revised down. The Consensus forecast for eurozone GDP growth in 2012 has been downgraded, dropping from 1.6% to just 0.6%.

The heightened level of uncertainty is also reflected in the fact that Oxford Economics attaches a probability of just 45% to its base case forecast. Oxford Economics has supplied us with a eurozone debt crisis scenario, with an estimated probability of occurrence of 20%. This scenario assumes that the lack of effective management of the debt crisis results in disorderly defaults by Greece, Ireland and Portugal. However, these countries do remain in the eurozone. The sovereign defaults would hit banks hard, particularly in France and Germany.

### Double dip recession in downside scenario

Under this downside scenario, global equity markets would collapse, borrowing costs rise and business and consumer confidence plummet. This tips the eurozone economy back into a double dip recession, with GDP dropping 1.1% in 2012 under the scenario and a further 1.4% in 2013. This compares to growth of 1.1% in 2012 under the October base case and 1.9% in 2013 (Figure 2).

### Non-euro zone countries also affected

The debt crisis scenario hits both core and peripheral eurozone economies. Under the scenario, Germany's GDP growth is more than halved, to 0.8%pa for the period 2012-16, from 1.9%pa under the base case. Growth in France falls to 0.5%pa from 1.8%pa, while Italy suffers a particularly sharp downgrade, with growth falling from 1.2%pa to -0.9%pa (Figure 3).

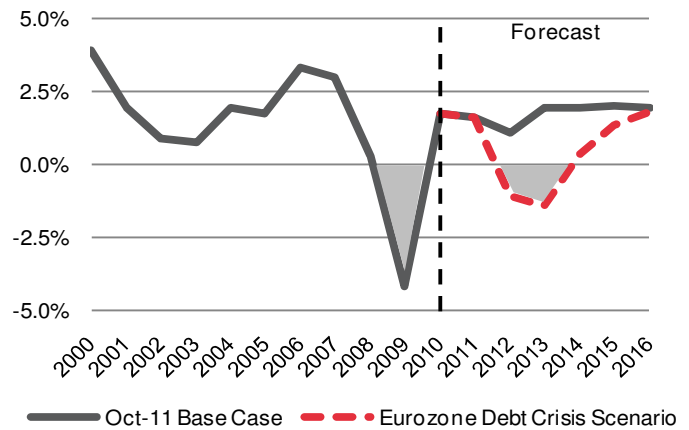
However, the impact of the eurozone debt crisis scenario reaches far beyond the borders of the Single Currency bloc. Given its strong trade links with the eurozone, the UK is also plunged back into recession. UK GDP drops 1.3% in 2012, compared to a 1.7% rise under the base case. Sweden, Russia, Poland and Turkey hold up better because their economies are less reliant on the eurozone.

### Sovereign spreads widen, with few exceptions

In response to renewed recession under the debt crisis scenario authorities hold interest rates at ultra-low levels for an extended period, somewhat similar to the experience of Japan in its "lost decade" in the 1990s. This results in government bond yields remaining at record lows in both core eurozone economies and non-eurozone countries such as the UK and Sweden. In the peripheral eurozone economies of Ireland and Spain, on the other hand, and also Italy, bond yields rise due to increased default risk/actual default (Figure 4).

Figure 2

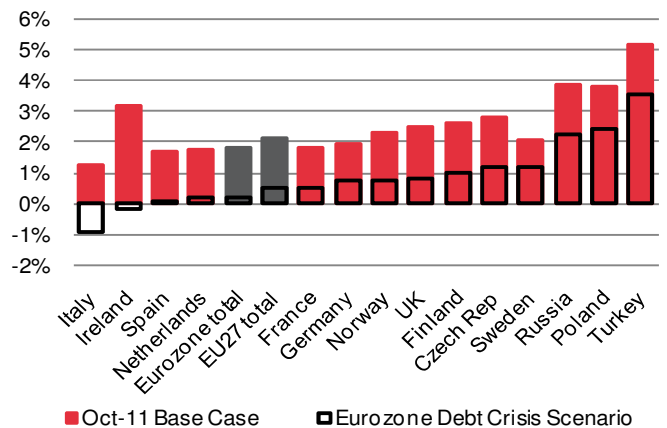
### Eurozone GDP growth, 2000-2016 (%y/y)



Source: DTZ Research, Oxford Economics

Figure 3

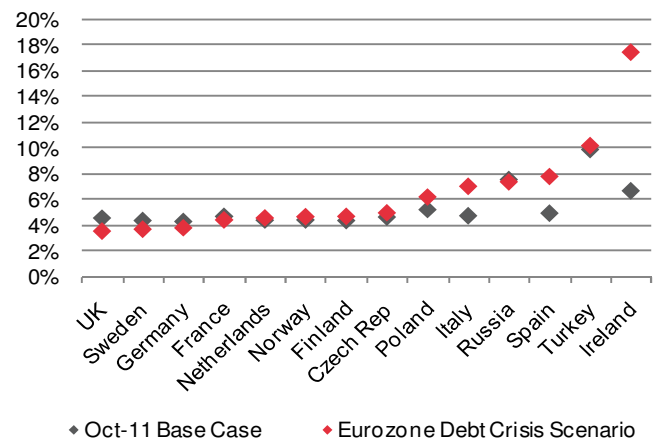
### GDP growth, 2012-16 (%pa)



Source: DTZ Research, Oxford Economics

Figure 4

### 10 year government bond yields, 2012-16 average (%)



Source: DTZ Research, Oxford Economics

# European scenario analysis

## Step 2: Impact of scenario on occupier markets – lower office employment and rental growth

The double dip recession under our downside scenario would have a knock-on impact on occupier demand for office floor space<sup>2</sup> as firms would be expected to put expansion plans on hold and reduce headcount.

### Recession hits employment

Indeed, eurozone total employment falls 4.1% between 2011 and 2016 under the debt crisis scenario, compared to a 1.6% rise under the base case. Financial and business services employment is also hit, although in most countries growth is weaker rather than negative (Figure 5). This would filter through to weaker occupier demand for office floor space. Manufacturing and public administration show larger falls in employment, of 9.4% and 4.7% respectively.

Office development would be curtailed under the debt crisis scenario as projects would be delayed or cancelled, and this would provide some cushioning for rents. To take this into account we have scaled back office completions by 20% in 2012, 40% in 2013 and 20% in 2014 compared to the base case for each market.

### Paris office rents fall, London City holds up better

Office markets in the eurozone are hit hardest, while those outside of the eurozone show a little more resilience. In Paris CBD, for example, the debt crisis scenario sees office rent forecasts revised sharply lower (Figure 6). Under our October 2011 base case we expect Paris CBD office rents to rise to €860 per sqm pa by 2016. Under the debt crisis scenario, on the other hand, rents drop 12% between the end of 2011 and 2016 to €680 per sqm pa.

This is because under the scenario the French economy re-enters recession in 2012 and shows only lacklustre growth once it emerges from recession in 2014. The rental profile for Paris CBD office rents under the scenario is similar to that which occurred in the wake of the dot.com crash around the millennium.

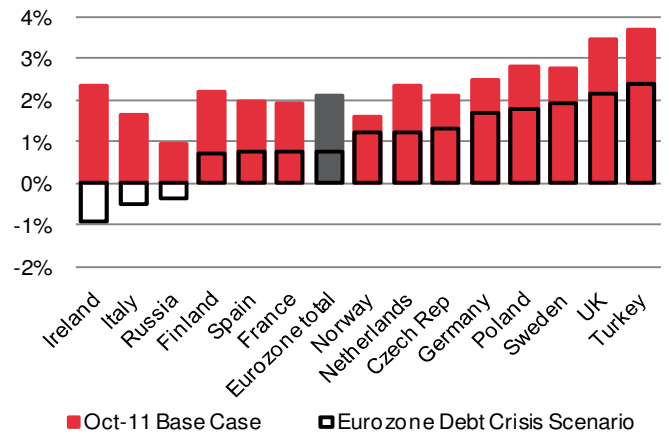
### Rents in non-eurozone markets hold up best

Under the debt crisis scenario rent forecasts are significantly lower compared to the base case, with office rents declining in most markets (Figure 7). Eurozone office markets are hit hardest, with Frankfurt, Paris CBD and Munich all seeing sharp downgrades. By contrast, the downward revisions to non-eurozone markets are smaller. As well as London City, rents in Moscow and London West also still show small rises over the five year period (Figure 7). Although the UK experiences recession in 2012 under the scenario, it subsequently shows a sharper bounceback than the core eurozone economies.

<sup>2</sup> See also DTZ Insight: Impact of Europe's Austerity Measures, 13 September 2011.

Figure 5

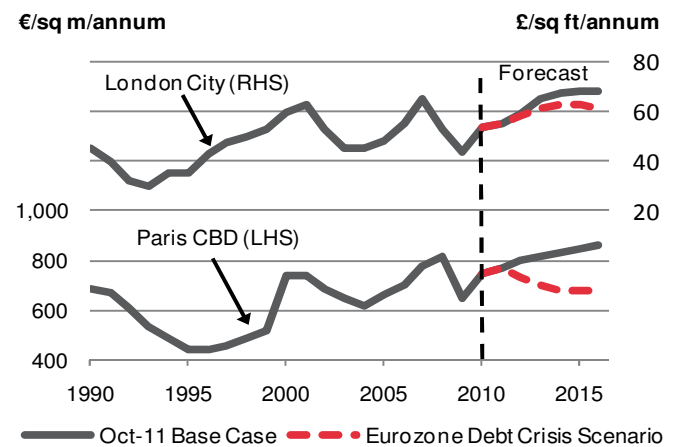
### Fin. and bus. services employment, 2012-2016 (%pa)



Source: DTZ Research, Oxford Economics

Figure 6

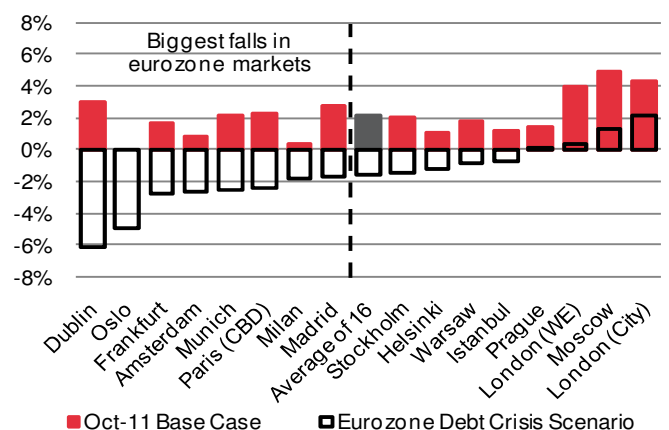
### Office rents, 1990-2016



Source: DTZ Research

Figure 7

### Office rents, 2012-16 (%pa)



Source: DTZ Research

# European scenario analysis

## Step 3: Impact of scenario on investor markets – exit yields widen for most markets

Under the debt crisis scenario in the near term weaker sentiment, increased risk aversion and reduced rental growth prospects put upward pressure on yields across Europe. In the medium term, yield trends vary by country.

### Yields rise in near term as recession bites

In the wake of the collapse of Lehman Brothers in 2008 the Paris CBD office yield rose to 6.0%. Our models suggest that the debt crisis scenario would see the Paris CBD office yield show a similar profile, rising to 5.9% in 2013 (Figure 8). Yields across Europe also rise in the near term.

In the medium term, however, trends in yields under the scenario vary by country. In London and Stockholm lower government bond yields push office yields down by 10-30bps by 2016 compared to the base case. In both the core eurozone markets of Paris (CBD) and Munich yields are 5.0% in 2016 under the base case and the scenario. Yields in Warsaw are unaltered at 6.0%, while yields in Prague are 15bps lower under the scenario at 6.1%. In Frankfurt yields are 45bps higher in 2016 compared to the base case, reflecting the sharp hit to the occupier market.

### Peripheral office yields much higher

In Spain, Italy and Ireland bond yields rise to reflect the increased riskiness of sovereign debt in these countries and high potential for losses stemming from restructurings/defaults. The riskiness of all types of assets in these countries, commercial property included, would increase. Under the debt crisis scenario office yields in Dublin, Madrid and Milan all end 2016 at least 80bps higher than the base case (Figure 9). Dublin yields push up to 8.25% in 2013 before dropping back to 7.75% by 2016.

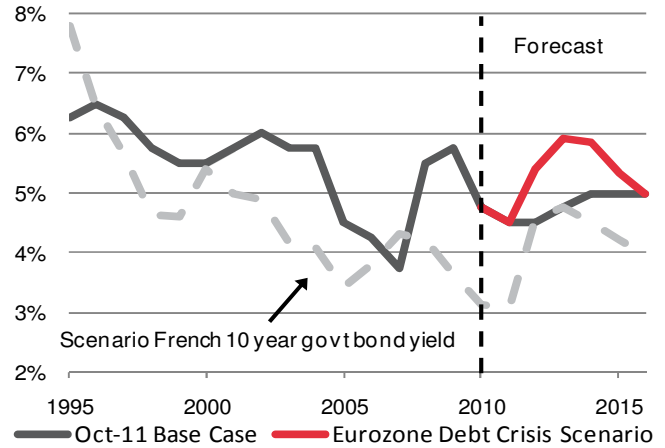
### Capital values fall across most of Europe

The significantly lower rent projections under the scenario push capital values down across Europe relative to the base case (Figure 10). Indeed, capital values fall in many core eurozone markets and are revised lower in most others. In Dublin and Oslo capital values drop by nearly 30% between the end of 2011 and 2016. In most other eurozone markets they fall by around 20%. Non-eurozone markets fare better, with capital values in Stockholm, London West End and Moscow all dropping by less than 10%, while in Warsaw and Istanbul capital values are flat.

In only two markets do capital values rise under the scenario. In Prague they increase by 7%, not too far below the 11% rise under the base case. In London City the more modest hit to rents combines with slightly lower yields to leave capital values little changed in 2016 relative to the base case. Overall we think that London would benefit from a flight to quality and its appeal as a “safe haven” outside of the troubled Single Currency bloc.

Figure 8

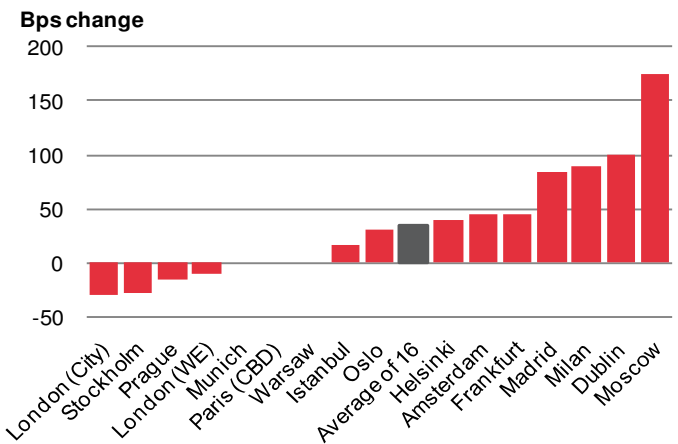
Paris CBD office yield & French bond yield, 1995-2016



Source: DTZ Research, Oxford Economics

Figure 9

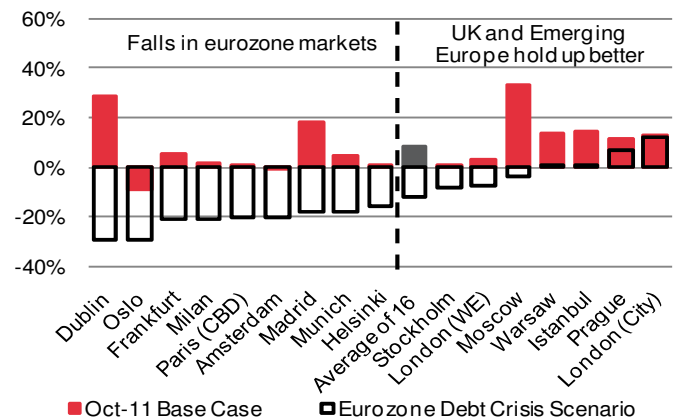
Office yields in 2016, debt scenario versus base case



Source: DTZ Research

Figure 10

Office capital value forecasts, 2012-16 (%)



Source: DTZ Research

# European scenario analysis

## Step 4: Impact on Fair Value across markets

Given the extent of the deterioration in economic conditions and the flow-through impact on property through falling rents, rising yields and consequent falls in capital values, it is not surprising that our assessment of current market conditions is considerably weaker under the scenario. This is illustrated by our Fair Value analysis.

### Total returns revised down

Under the debt crisis scenario, we expect that total returns in almost every European office market would be lower than under the base case over the next five years (Figure 11). There is, however, significant diversity of experience among the different markets. Returns in London City hold up well, with the estimated annualised return over the next five-years falling by 1.1% (from 7.7% to 6.6%). Likewise, other cities outside of the eurozone see less of an impact.

Markets within the eurozone, on the other hand, are directly exposed to the impact of the crisis and see sharply lower forecast returns under the crisis scenario. This includes markets such as Madrid and Milan in peripheral economies subject to the debt problems at the heart of the crisis scenario. However, it also includes markets at the core of the eurozone in economies traditionally regarded as offering a safe haven from economic turmoil elsewhere. Among these, we forecast total returns to drop by 6.0%pa in Frankfurt and 4.9%pa in Paris, with both locations barely managing to avoid negative returns over the period.

### Required returns rising in Q3 2011

Our Fair Value analysis compares these lower expected returns with our estimated required returns (Figure 12)<sup>3</sup>. These required returns estimates are now showing increasing divergence, with bond yields rising in peripheral countries and falling in the UK, France and Germany.

### Fair Value Index score plummets under scenario

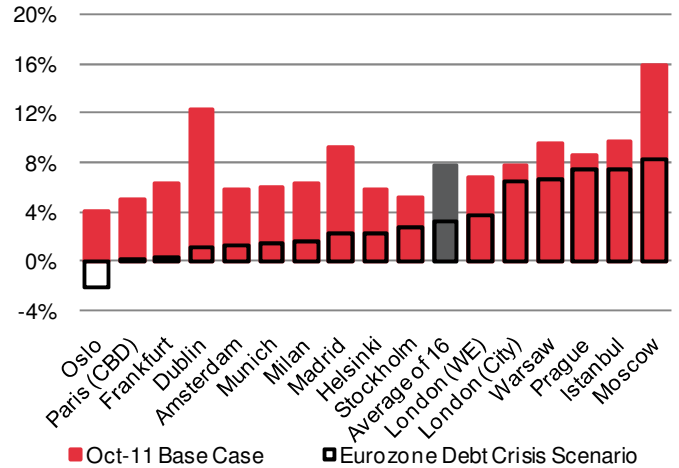
Our Fair Value Index score falls markedly under the crisis scenario, reflecting the weakened outlook for total returns (Figure 13). While 18 of 45 office markets are rated as WARM in our base case for Q3 2011, only two markets remain in the WARM category under the crisis scenario – London City and Prague.

For this exercise, we have gone further than our usual characterisation of HOT, WARM and COLD markets and added additional gradings to indicate the number of markets overvalued by different amounts. While under the base case, only eight markets are estimated to be overvalued by more than 15%, this rises to 35 under the scenario, with 13 of these estimated to be overvalued by more than 30%.

<sup>3</sup> For the Fair Value methodology, see DTZ Foresight: DTZ Fair Value Index™ Methodology, 19 August 2010

Figure 11

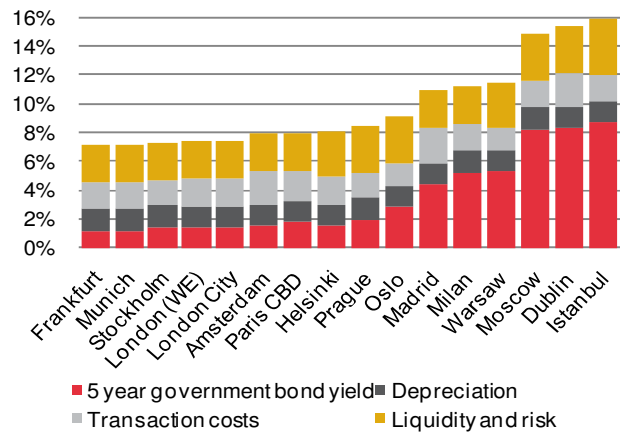
### Office total returns, Q3 2011 – Q3 2016 (%pa)



Source: DTZ Research

Figure 12

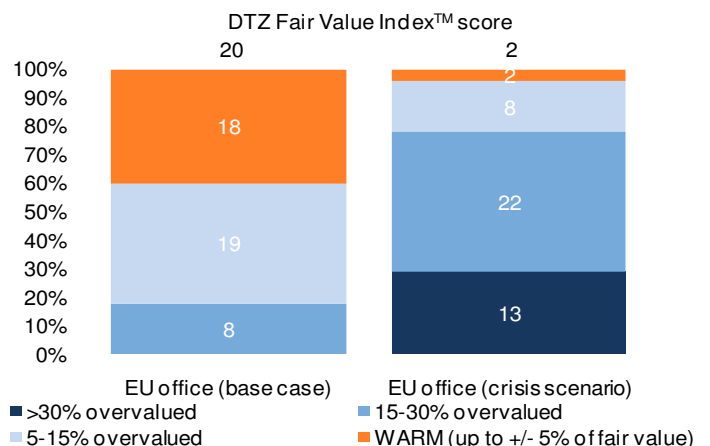
### Required returns, Q3 2011 – selected markets (%)



Source: DTZ Research

Figure 13

### Office Fair Value Index – base case and crisis scenario

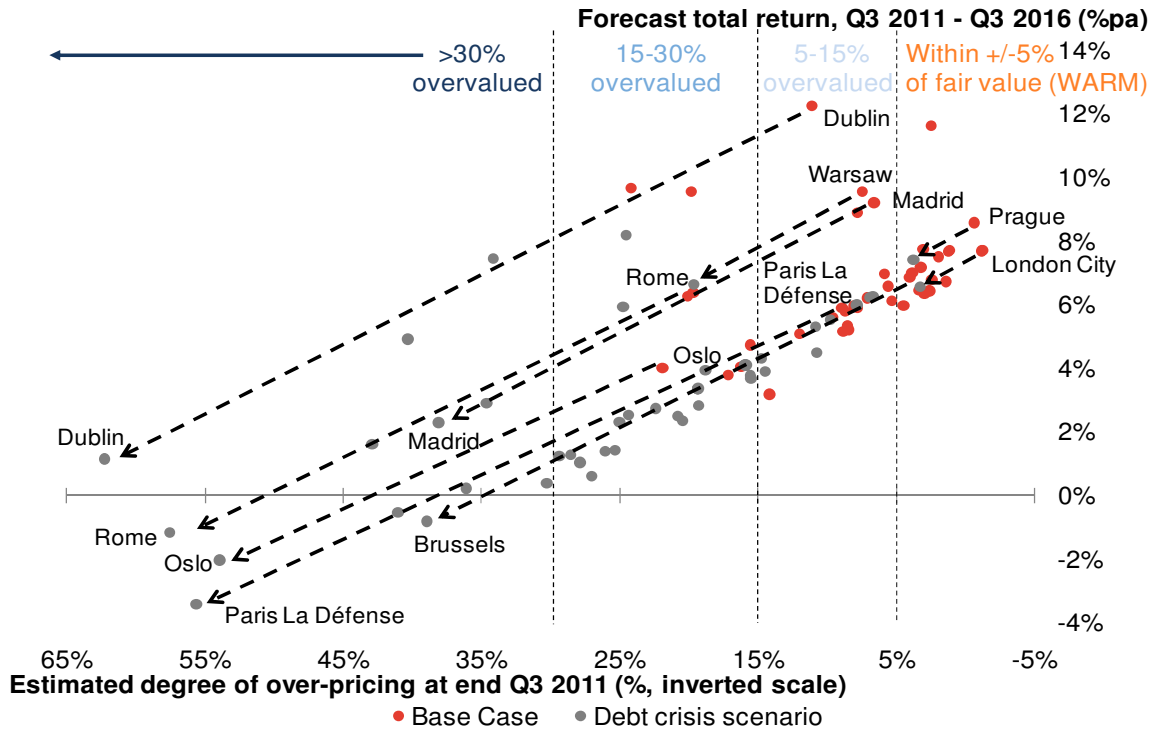


Source: DTZ Research

# European scenario analysis

Figure 14

## Forecast total returns and estimated degree of over-pricing – selected markets



Source: DTZ Research

## Selected market moves

Building on this analysis, we depict forecast total returns and estimates of market pricing relative to fair value under both the base case and the scenario (Figure 14). We have highlighted the movement of several markets; lower forecast total returns lead to a greater degree of over-pricing, and the arrows indicate this movement.

Markets less affected by the downturn move commensurately less on the chart, such as London City, Warsaw and Prague. Markets in the eurozone are hit much harder, as illustrated by the significant shift depicted for Dublin, Madrid, Frankfurt and Paris La Défense.

This illustrates that investors need to reconsider their perceptions of market risk in the current environment. We consider that in the event of a further escalation of the sovereign debt crisis, investors would be better off in markets outside of the eurozone, and that core German and French markets traditionally regarded as safe havens may actually present a higher risk of value falls.

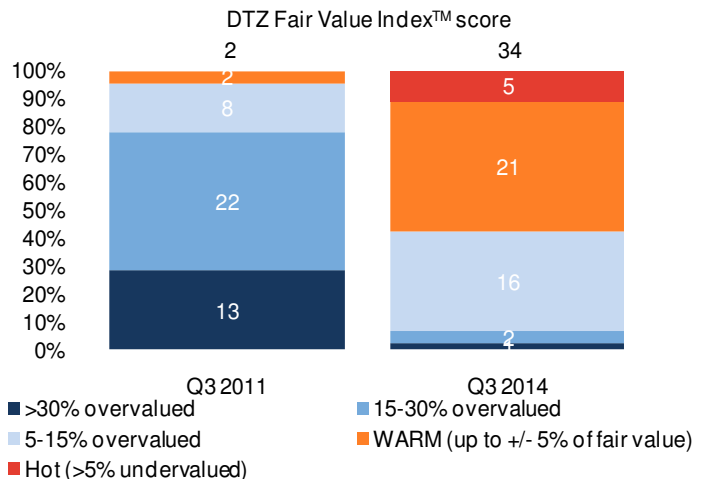
## How long until opportunities arise?

Forward thinking and opportunistic investors will also be interested in how value in the market would be expected to evolve under the scenario. For the first time, we present a forecast for the Fair Value Index (Figure 15).

We estimate that by 2014, market pricing would be considerably more favourable for investors. By this time we would expect to see yields still elevated, but rents beginning to recover in several markets. Following capital value falls in 2012 and 2013, investors could position themselves to benefit from the nascent recovery.

Figure 15

## Evolution of investment market outlook under scenario



Source: DTZ Research

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