

Methodology

*European CMBS Rating Methodology*

MARCH 2011



*Insight beyond the rating.*

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# European CMBS Methodology

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## EXECUTIVE SUMMARY

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Real estate assets have traditionally been viewed as a source of stable cash flow and a long-term hedge against inflation. 2011 remains a year of reflection for European CMBS. Valuations have continued to decline as a result of the economic recession and a period of illiquidity. The primary drivers of the valuation decline and erosion of borrower equity has been capitalisation rate expansion coupled with the deterioration of property level cash flow from lower market rents and higher vacancies. The entire market is working through a period of delevering and the commercial real estate market must do the same. As the CMBS market works through the credit deterioration, the structures will be tried and tested and the new structures will emerge.

CMBS products have historically enabled fixed-income investors to participate in investments backed by commercial mortgages; however, many market participants chose to exit the market due to the volatility within the CMBS market over the last two years. Rating agency analysis and transparency thereof are crucial to restoring investor confidence and aiding in the market recovery. In this publication, DBRS lays out our European CMBS rating methodology and the asset-specific analytical procedures to which we adhere.

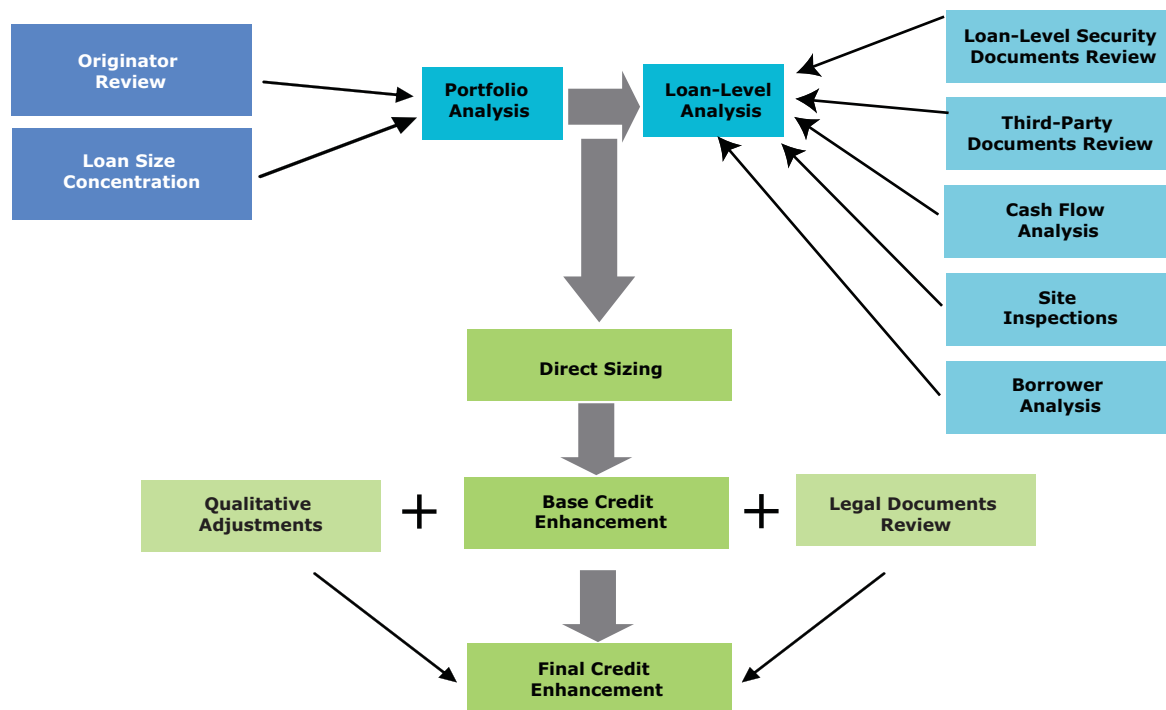
### APPLICATION OF EUROPEAN CMBS METHODOLOGY

The following diagram describes the overall process to analyse a CMBS transaction:

- (1) DBRS will conduct loan and property level analysis.
- (2) The results from the portfolio and loan level analysis are used as inputs that will be used to size each loan using a capacity of debt or large loan sizing parameters, the direct sizing approach. The resulting individual sizing of each loan will be rolled up to provide the base credit enhancement for the portfolio of loans.
- (3) A review of the legal documents that govern the transaction is undertaken and consideration of any qualitative factors is made. The resulting output represents the final credit enhancement.



### DBRS Rating Process for CMBS Transactions



### COMMERCIAL MORTGAGES AS SECURITISABLE ASSETS

Unlike other assets that are securitised, commercial mortgages (CMs) are subject to some deficiencies when compared to the “ideal” securitisable asset. Securitisation technology is built upon two basic doctrines: (1) that by segregating the risks of the seller from the performance of the assets, and (2) by adequately analysing and understanding the underlying performance/characteristics of the assets in question, it is possible to structure a transaction that has better credit risk than the seller does.

Under premise one, the “ideal” securitisable asset must perform independently of the seller’s existence or performance. CMBS transactions often lack this complete independence where day-to-day servicing and problem loan resolution are handled by the seller in its capacity as servicer. However, this is mitigated because all servicers are bound to the industry servicing standard which require them to service the CMs for the benefit of all certificateholders in the CMBS transaction. In addition, there are typically mechanisms within the trust documents to allow the trustee to replace the servicer if there is an uncured servicer event of default or there could be a named back-up servicer.

The second premise, understanding the performance characteristics of the underlying assets in question, generally relies upon (1) a high level of transparency of market information, asset reporting and ongoing performance information; (2) a large statistically diverse pool of assets; (3) a statistical universe of market performance data through cycles; and (4) an understanding of potential obstacles in market conditions that may increase costs or delay resolutions of defaulted assets.

Having characteristics associated with the “ideal” securitisable asset and methods to identify deviations, allow the use of statistical techniques to quantify the risks associated with a structured finance product. Although CMBS is particularly good at segregating the performance of the loan from the performance of the seller, CMBS transactions often fail one or more of these four characteristics. CMs’ transparency varies widely across jurisdictions, from a highly transparent public market in the U.S. to a highly privi-



leged/protected market in several countries within Europe. Pool size (in terms of numbers of mortgages) can range from single digits to several hundreds. Length of performance history varies widely across markets and even within regions and, even if data is available for a lengthy period, it is not always in the form or detail that is required by DBRS (or investors).

Given these challenges, the rating process is labour intensive compared to the statistical analysis of pools of relatively homogeneous assets. Except in the case where we have a very large pool of relatively uniform CMs with a long track record, most CMBS transactions involve an individual review of the underlying CMs or a statistically significant sampling of the underlying CMs. Such reviews attempt to assess individual credit risk.

Predicting economic cycles is hazardous at best. DBRS's rating methodology does not attempt to predict when or if an economic downturn will occur. It is assumed in each stress scenario that such an economic downturn DOES occur and that it occurs immediately. To the extent that the scenario is false (as it almost always is); amortisation of mortgage balances with no decline in property values will improve coverage levels. However, even without a recession, property values do move as a result of general economic sentiment, interest rates, lease rates, occupancy levels, etc. Through time, effective protection levels will vary.



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## CMBS PROCESS OVERVIEW

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DBRS begins its rating process by sampling the loan pool. In most cases, European CMBS transactions have consisted of a single-borrower or single loan or multiple large loans, with very little diversification and high asset and market correlations. Because of the concentration of these small pools of loans, DBRS will generally review or sample all loans within the pool as the event risk associated with any one asset is higher than a truly diversified pool. DBRS performs site inspections and management meetings (when available) for sampled properties. For multiple property loans, DBRS may choose to inspect a sample of the properties.

In addition, DBRS reviews all third-party reports provided by the Issuer, including engineering and environmental reports, to ensure no significant contingencies exist, such as environmental contamination, structural faults or deferred maintenance. The appraisal is reviewed for historical usages, market dynamics and competitive property statistics. All third party reports are typically provided by large, well known firms and while commissioned as part of the loan origination process these reports are conducted independently from the Issuer or loan seller. Finally, DBRS determines a stabilised net cash flow for each asset.

### CASH FLOW IS KING

The crux of analysing CMBS transactions is evaluating the underlying credit quality of the individual mortgages that form the pool. Fundamental credit analysis of any real estate related funding is based on an evaluation of cash flow dynamics of each asset as projected by the lease obligations in place and projected roll over, as well as the historical operating expenses. Within a pool of loans, a full analysis consistent with a formal rating for each individual property is achieved through direct analysis or sampling. The fundamentals of a property are reflected in the cash generated. Consistent with our general securitisation approach (cash flow) and the general real estate focus on cash flow, it would be inappropriate to rely significantly on other factors in assessing default risk. Ultimately, a property will pay its obligations only if, on a consistent basis, cash flow exceeds cash obligations.

### STABILISED NET CASH FLOW (NCF)

The starting point for any analysis of cash flow begins with the rent roll. The most current rent roll is indicative of the future and stabilised revenue stream. DBRS gives credit for leases signed with tenants that are in occupancy (tenants must be open for business and paying rent). By using third-party sources that provide access to historical market rental rates, DBRS can identify sustainable rents and trends. DBRS adjusts any above-market leases down to market rates with the assumption that when the tenant has to renew, it will renegotiate its lease to a rate competitive with the market.

Next, one needs to review historical financial statements (preferably audited). The trailing 12 months financials are typically unaudited as the annual audit has not yet occurred. A period of three years' financial performance, including a trailing 12 months, provides a reasonable view of sustainable financial performance. While shorter periods are acceptable, they provide less tangible support for determining stabilised cash flow - as such, more conservative estimates are utilised. By having a historical trail of financial statements, one can reasonably determine the stabilised expense line items. The DBRS stabilised NCF reflects adjustments for the following items: higher of actual or market vacancy levels and credit loss; normalised tenant improvement, leasing commissions and capital expenditure requirements; and market rate management fees. Such adjusted NCF represents a conservative assessment of sustainable performance representative of what can be expected over the term of the mortgage without any growth assumptions. DBRS analysts use pre-determined underwriting guidelines which have been developed based on prudent lender property specific underwriting assumptions, any adjustments made would be consistent from property to property for similar asset profiles. More information regarding DBRS asset specific underwriting parameters can be found in Appendices B, C and D.



## NCF STABILITY FACTORS

Once the stabilised net cash flow is determined (in which DBRS makes certain market assumptions), one must consider how stable the cash flow is likely to be throughout the loan term. Factors that increase the stability of the NCF during the term are higher tenant quality (often investment-grade rated tenants), longer lease terms, a staggered lease expiration schedule, a low expense ratio and little reliability upon the going-concern revenue. DBRS also takes into consideration factors that are likely to keep an asset that is currently under-performing the market from ever reaching market rates. Qualities such as an inferior location within a market or poor property amenities may prevent an asset from ever achieving market rental rates. And vice-versa, a superior location with superior amenities cause the property to outperform the market until such time as new competition levels the playing field. The NCF stability may influence the debt constant or capitalisation rate applied to the stabilised NCF. For example, if a property exhibited a high level of NCF stability, the analyst may choose the lower end of the range of debt constants or capitalisation rates. The ranges of debt constants and capitalisation rates are found in Appendix B.

## DSCR

Debt Service Coverage Ratio (DSCR) is generally defined as the annual net cash flow of a property divided by the annual debt service obligation. DSCR is, in our view, the best measure of the default risk of a loan as it incorporates the current operating performance of the property (NCF) and its capacity to service debt (i.e., how much debt can the cash flow support?).

### *Term DSCR*

Term DSCR is the stabilised net cash flow divided by the maximum actual annual debt service obligations of the borrower throughout the term of the loan, which often includes periods of amortisation that will be included within the mortgage loan schedule in an effort to delever the asset surrounding periods of risk within the underlying property NCF. DBRS defers to DSCR tests over Interest Coverage Ratio (ICR) tests to determine the likelihood of default over the term of the loan. This includes analysing net cash flow projections in periods of concentrated lease expirations to ensure there are adequate reserves or an appropriate amortisation schedule is in place to cover the debt service as well as anticipated costs associated with tenant rollover.

### *Refinance Risk and Refinance DSCR*

Fully amortising commercial mortgages are relatively rare in the CMBS market. As such, for most mortgages, the outstanding balance of the mortgage must be refinanced at balloon/maturity. The timing of loan maturity can have a significant impact upon the borrower's ability to refinance due to increases in interest rates, slowdown in economic activity, depressed real estate values or a drop in liquidity in the real estate markets.

DBRS addresses refinance risk by evaluating a number of different parameters of the loan. Specifically, DBRS calculates a Refinance Debt Service by applying a constant to the balloon balance of the mortgage. The constants that DBRS uses are consistent with a historical view of interest rates plus appropriate spreads and required amortisation schedules per property type. DBRS uses its stabilised NCF against the Refinance Debt Service obligation to determine the Refinance DSCR. The constants may be adjusted based on the term of the mortgage.

DBRS observed past rate spreads for CMBS loans as well as historical American Council of Life Insurance (ACLI) Commercial Mortgage Commitments dating back to the late 1990's in order to validate its estimate of rate spread by property type. The rate spread can be adjusted based on property quality, market and/or other qualitative considerations.

## AMORTISATION

While the loan's term is often shorter, if not interest-only, the loan's payment will be derived from a longer amortisation schedule. Therefore, the DBRS refinance constant assumes loans will require a maximum



of a 30-year amortisation schedule in Europe as compared to a 30-year amortisation schedule in the U.S. and a 25-year amortisation for loans within Canada. The DBRS refinance interest rates are each adjusted to take this into account.

### THE REFINANCE COST OF CAPITAL (THE CONSTANT)

The refinance cost of capital or constant used for each loan in a pool, is defined as follows:

$$\text{Refinance Constant} = \text{Risk-Free Component} + \text{Rate Spread} + \text{Amortisation}$$

By directly sizing each loan in accordance with the varying DSCRs per rating category as outlined on Appendix D, effectively each loan is assigned a different refinance constant (cost of capital) across each of the rating categories, reflecting the volatility in the risk free rate, rate spread and the stress factors which govern each rating category.

### LTV

The original appraised loan-to-value (LTV) in and of itself is neither a reliable indicator of default nor recovery. The appraised value (defined as what a willing buyer will pay and a willing seller will agree to on a certain date) becomes a point-in-time analysis and not necessarily indicative of future value or liquidation value in the event of default. That said, many components of a comprehensive appraisal report including replacement cost, market comparisons and capitalization, provide insights/support into the DBRS loan-level analysis. Within the context of commercial real estate lending, value is most relevant at maturity/balloon or in the event of default. At maturity, the market dynamics that determine capitalization rates are likely to have changed since origination. During the term, a default is likely to be precipitated by a decline in net cash flow. Therefore, DBRS Value determination is indicative of a reversion value similar to that used at the end of a 10-year discounted cash flow projection. DBRS applies a normalized capitalization rate, determined by long-term market performance, to the stabilized net cash flow to calculate DBRS Value. DBRS will review both going-in LTV and maturity LTV such that the impact of amortisation can be determined.

### DEBT YIELD

Debt Yield is a data-rich, leverage metric that bypasses the capitalisation rate estimation and directly compares the cash flow to the loan amount. Simply defined, DBRS considers a loan's Debt Yield to be the DBRS Stabilised NCF divided by the loan amount. DBRS uses Debt Yield in addition to maturity LTV as a means to review the overall ability of a loan to obtain financing at maturity and to estimate its relative leverage. DBRS uses Debt Yield benchmarks which are reversionary, stabilised and long-term. Loans with Exit Debt Yield in excess of 11% to 12% are considered reasonable candidates for refinance, based on a review of historical data.

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## BASE CREDIT ENHANCEMENT

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### DIRECT SIZING APPROACH

DBRS sizes European CMBS transactions to determine a base credit enhancement using a direct sizing approach. The direct sizing approach focuses specifically on a capacity of debt analysis and credit enhancement is determined for each loan based on property specific parameters outlined in Appendix D.

Each rating category in the direct sizing approach implies, and requires, a different level of confidence, or a different margin of safety. The amount of stress applied reflects the robustness that each rating category requires and that the DSCR and LTV parameters have been adjusted accordingly. These stresses are ultimately used to determine the ratings of the transaction as the cumulative proceeds at each rating category create base subordination levels that are then used to compare and assign ratings to the proposed structure.



### ***Direct Sizing Parameters***

The direct sizing approach measures a loan's capacity of debt based on its ability to service its debt service obligations and the perceived equity in the transaction. The DBRS direct sizing parameters outlined in Appendix D were constructed based on observations of loan-level data and property performance of a large sample of assets without regard to specific jurisdiction. As more data becomes available on loan performance throughout the cycle by jurisdiction, DBRS will be able to test some of these parameters. To account for this limitation, DBRS will make adjustments to its underlying asset cash flows to take into consideration various rights of tenants leases in the underlying assets.

The inputs DBRS uses in the direct sizing approach are Term DSCR, Refinance DSCR, Going-in LTV or Exit LTV. The more constraining parameter will act as the primary driver for the direct sizing of the loan and the Exit Debt Yield will be reviewed as a check and balance to ensure that the broader DSCR and LTV measures are reflective of appropriate debt loads given an asset's stabilised NCF.

Both Term and Refinance DSCR's are determined for every loan in a pool, at each rating category (AAA, AA, A, BBB, BBB (low), BB and B). The DSCR's used at each rating category reflect different stresses that DBRS applies to the loans by property type, with the term DSCR reflecting varying degrees of cash flow stress per rating category, over a fixed/contractual debt service and the refinance DSCR reflecting a fixed/stabilised cash flow over a stressed refinance debt service per rating category. Likewise both Going-in and Balloon LTV are determined for every loan in a pool at each rating category. An example of a loan level direct sizing can be found in Appendix E.

### ***Adjustment Factors***

The direct sizing parameters can be adjusted for several different factors, some quantitative, and others that reflect an analyst's assessment of property qualities.

### **Concentration Risk**

DBRS recognises that all pools have different concentration characteristics which may erode the benefit of diversification. Concentration is difficult to capture systematically. The direct sizing approach assumes a single loan and single asset and therefore the parameters can be adjusted at the loan level within the ranges found in Appendix D to account for varying degrees of concentration such as multiple loans, with multiple properties across multiple jurisdictions or a combination thereof.

### **Recourse**

Loans that have enforceable recourse to a financially capable guarantor are expected to have lower probability of defaults. In the event the recourse is to an investment-grade rated entity, it would imply that the unsecured debt would be rated investment-grade. As such, mortgages carrying a full recourse covenant from an investment-grade rated entity will be floored at the guarantor's rating. While generally viewed as a positive, it is difficult to quantify the impact of recourse. Therefore loans with recourse to non-investment-grade rated guarantors are considered on a case-by-case basis.

### **Property Quality**

The highest quality properties within a market often exhibit signs of viability such as the attractiveness to new tenants; therefore indicating cash flow stability. To evaluate property quality, DBRS considers the location; functional utility of the asset; the comparability of the surrounding and competing properties; and the quality of construction, property condition, ingress and egress, and property amenities. As discussed earlier in the NCF stability section above, the property quality may warrant a reduction in the debt constant or capitalisation rate applied to the DBRS stabilised NCF.

### **Sponsorship Strength**

DBRS defines a strong sponsor as one that is financially capable of doing that which is economically advisable and structured in a way that does not preclude or diminish the likelihood of capital contributions in the event of economic stress. Although financial capability does not suggest that a borrower will



cover debt service payment shortfalls unless there is significant equity to protect, neither will they cover refinancing shortfalls in an over-levered asset, DBRS generally recognises strong sponsors are less likely to default due to a short-term cash flow shortfall and less likely to exacerbate the losses in the event that their equity has eroded. An analysts assessment of sponsorship strength may cause an adjustment within the property underwriting to determine DBRS stabilised NCF. For example, a sponsor who has expansive networks and management expertise will often be able to attract tenants and keep vacancy to a minimum and thus the property may outperform the market as a result. Alternatively, a strong sponsor may have greater access to capital and therefore a lower refinance constant could be applied to the DBRS stabilised NCF as they may be able to obtain more favourable rates.

### **Single Tenant**

DBRS recognises further risk associated with properties that are leased by a single tenant. Often such arrangements can be mitigated by a loan's structural features (e.g. reserves, letter of credits, guaranteed leases that extend well beyond the loan maturity, etc.). However, such concentrations in a property's cash flow otherwise present a significant event risk that justifies an adjustment to a loan's probability of default, over and above cash flow volatility adjustments already taken.

### **Market**

DBRS recognises that in times of economic stress, real estate capital focuses on more highly populated markets with comparatively higher transparency. As such, defaulted loans in tertiary or rural markets will experience significantly higher losses, due to a limited investor base and market inefficiencies. Markets are systematically categorized based on population density within a given postal code. DBRS has measured the impact of market liquidity on credit loss which shows that loans located in dense urban locations are likely to experience lower losses and as markets become more sparsely populated, rural and/or illiquid the loss increases.

### **Owner Occupied**

DBRS recognises the additional risk inherent in having an owner occupied or partially owner occupied property. The risk associated with interruptions in a property's revenue stream are compounded by risks associated with the borrower's operating business. If the space is occupied by a business that is the borrower's life blood, the probability that the borrower will continue to fund debt service, despite a downturn, is greater. However, loss given default would be inflated because the result could be negative cash flow compounded by a specialty use build-out. As such, DBRS will use the higher end of the Direct Sizing parameters on Appendix D to account for owner occupied properties.

### **Loan Size**

Size has an impact on a loan's severity of loss given default. In general, it is observed that the larger the loan, the lower the severity of loss given default, as a percentage of principal. This can be explained, in part, by the fixed expenses associated with a workout, foreclosure or specially serviced asset, which are disproportionately large for smaller loans. It may also be explained by the nature of assets encumbered with large loan balances, which - all else being equal - tend to be located in more liquid markets, and have more sophisticated borrowers and operators. Loan size adjustments are often captured in the market or property quality adjustment, but would sway the analyst to use an upper or lower bound of a range in the Direct Sizing parameters if necessary.

### **Freehold and Leasehold Interests**

DBRS's European CMBS Methodology assumes loans are secured by either a leasehold or a freehold interest in the property. Having a freehold interest in a commercial real estate asset assumes you have a valuable asset into perpetuity; one that creates revenue and likely appreciates. A leasehold effectively splits an asset into two ownership interests: freehold and leasehold. The freehold interest maintains ownership in the land and enters into a long-term lease (typically 50 years with multiple extension options). The leasehold estate is specifically intended to enable the lessee to develop an income-producing asset (improvements) on the site, which then enables the lessee to recover construction costs and a return on

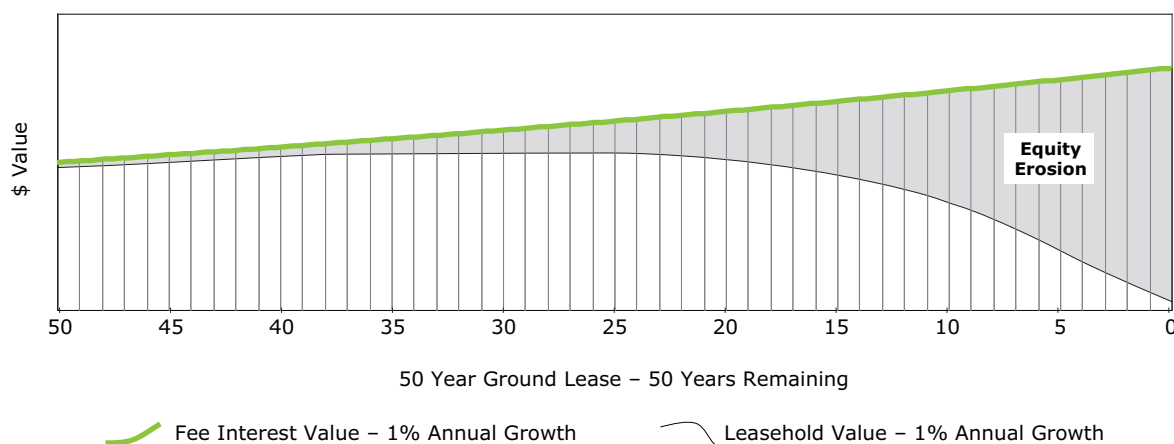


capital prior to maturity of the initial term of the lease.

The leasehold interest, whose term is finite, is viewed as a wasting asset that becomes totally worthless when occupancy rights revert to the freeholder at the termination of the ground lease. As shown in the chart below, there is significant equity erosion in the leasehold interest as compared to a freehold interest. While no growth over a 50-year time horizon is an extreme assumption, when calculating value for the graph DBRS assumed a conservative 1 % annual growth rate in NCF. By doing so, the leasehold interest value begins to deteriorate with 20 years remaining on the lease. With only 10 years remaining, the value begins to decline much more rapidly. Thus, if a loan on a property subject to a ground lease needs to be refinanced with only 20 years remaining on the ground lease, the expected valuation decline will make it difficult to get the loan refinanced. Further, it may also not be possible to fully amortise the remaining loan amount prior to the ground lease expiration if interest rates increase or a credit event, such as a major lease expiration, occurs.

Recognising that unsubordinated ground leases are not readily re-financeable, DBRS insists on an amortisation term expiring 10 years prior to the ground lease termination and will adjust its debt constant in the model to if structured with a shorter schedule. In addition to the refinance aspect, DBRS considers more factors that may cause a property subject to a ground lease to have lower cash flow stability resulting in a higher probability of default and potentially increased loss severity. Factors DBRS considers include contractual ground rent escalations, leasehold mortgagee’s notice of default and right to cure provisions and the leasehold mortgagee’s rights to become the borrower in the event of enforcement.

**Table 2: Leasehold vs. Fee Value**



## LEGAL AND STRUCTURAL CONSIDERATIONS

CMBS transactions share many similarities with the securitisation of other asset types and where possible, this methodology will include reference to the DBRS Legal Criteria for European Structured Finance Transactions. DBRS considers the legal framework and structural considerations to be critical to the overall strength of the ratings assigned, and therefore each transaction must be assessed on a case-by-case, transaction-by-transaction basis.

Key issues involved in CMBS securitisations include: (1) The overall structuring of the transaction; (2) Separation of asset risk and seller risk through a true sale; (3) Servicing issues where the seller acts as



a Servicer or Special Servicer; (4) Characteristics of a special-purpose vehicle (“SPV”) used to hold the mortgages; (5) Mortgage origination practices, including the type and nature of security taken by sellers in the mortgages; (6) Representations and warranties made by the seller in relation to the mortgages and properties; and (7) Servicing (both primary servicing and special servicing) of defaulted mortgages.

## TRANSACTION STRUCTURE

Generally, CMBS transactions in Europe are structured as debt issuances by an SPV. The SPV and the cash flows are structured to be pass-through entities that are not subject to double taxation. As discussed below, structuring the SPV as a entity unrelated to the originator also helps to minimise substantive consolidation risk.

In the European market, there are two types of structures generally used for CMBS. The first structure involves the transfer by the originator of a portfolio of commercial mortgages to an SPV, who finances the purchase through the issuance of notes. This section addresses these types of CMBS transactions.

However, there have also been a number of transactions driven by property companies and supermarkets, who use securitisation as a form of financing or refinancing a portfolio of properties, such as shopping malls or supermarkets. In these transactions (“Secured Loan CMBS”), the SPV issues notes and conduits the proceeds by way of a loan facility to the property company, who then grants security over the property portfolio. As such, there is no true sale of an asset to the SPV. Due to the nature of Secured Loan CMBS transactions, not all of the issues raised in this section apply to these types of CMBS transactions. DBRS will consider the structure of each Secured Loan CMBS transaction on a case-by-case basis.

In this section, where we refer to “SPV”, we are referring to the note issuing entity, rather than the entity which owns the underlying property.

### *Cash Flow Waterfall*

The cash flow waterfall will vary by transaction. DBRS considers the cash flow waterfall of each transaction separately, taking into consideration the structure in terms of pro rata pay, sequential pay and modified pro rata pay waterfalls. DBRS will review all triggers and the underlying loan payments and stress each appropriately in order to determine any deficiency within the availability of funds to meet obligations for noteholders. DBRS also considers the SWAP contracts within the transaction, the liquidity facility and the available funds cap as outlined below. DBRS provides details of each cash flow waterfall stress in its presale and final ratings report.

### **SWAP Providers**

The loans within the European CMBS transactions may pay fixed or floating rate and must be matched with the obligation of the bonds. If a loan is subject to a floating rate, the sponsor will enter into a floating-to-fixed interest rate swap. The Issuer will then in turn enter into a fixed-to-floating interest rate swap if the notes are floating rate. In each case, DBRS will review the agreements and confirm the parties directly responsible for any breakage fees. The SWAPs providers and counterparties are generally subject to minimum rating requirements. Each SWAP is reviewed in conjunction with the Legal Criteria for European Structured Finance.

### **Liquidity Facility**

European CMBS transactions will often include a liquidity facility that will be available to be drawn to cover scheduled interest payments, loan protection advances and swap costs in the event of loan defaults.

The liquidity facility provider will be entitled to receive interest and repayments of principal on drawings made under the Liquidity Facility Agreement in priority to payments to be made to noteholders, which may ultimately reduce the amount available for distribution to noteholders if it is not recovered from the loan sponsor or proceeds from the defaulted loan. Any such reduction is typically applied in reverse sequential order within the waterfall and will result in a downgrade of the Junior Classes. In certain cir-



cumstances, where the underlying valuation of the properties supporting the loan(s) has reduced to below the loan amount, the liquidity facility drawing will be reduced with respect to the subject loan(s), thereby preserving liquidity to the revalued proportion of the loan.

#### **Available Funds Cap**

The Available Funds Cap can be assigned to certain classes within a European CMBS transaction, most typically the lowest or most subordinate class. The Available Funds Cap is a ceiling applied to the amount of interest payable to noteholders if there is not sufficient funds to meet the total interest obligations of the SPV. This situation can arise from early repayments since European CMBS loans are not structured with lockout periods and therefore are susceptible to prepayment at any time (subject to applicable prepayment fees). DBRS will review a multitude of loan prepayment scenarios by using a monte-carlo prepayment model in order to determine if the loan margins will be sufficient to pay the full coupon to the noteholders. Any shortfall will be allocated in reverse sequential order, will not be paid and does not accrue per the Available Funds Cap. This may also be addressed by the junior notes having deferrable interest.<sup>1</sup>

#### **TRUE SALE**

Generally, the key to a CMBS securitisation involves isolating the assets from seller risk. This is usually accomplished by a “true sale” of the mortgages and related security from the seller to an SPV. Following a true sale, the mortgages and related security are not assets of the seller and are not subject to claims by creditors of the seller or a subsequently appointed insolvency practitioner. The criteria governing a true sale of mortgages is the same as the criteria governing the sale of other securitised assets. In this respect, the key is that, after the sale, the seller retains no beneficial interest or equity of redemption in the sold mortgages and related security. Having said this, sellers may retain subordinate notes in a CMBS transaction; provide representations and warranties with respect to the mortgages, which may lead to an obligation to repurchase mortgages; and may have purchase options once the pool amortises down to a specified percentage of the original pool balance. To the extent jurisdictional requirements dictate that mortgagors be notified of the sale of their mortgage to the SPV, notification triggers must be clearly outlined in the transaction documents. In Europe, there are notable differences in the way jurisdictions approach the True Sale issues in CMBS. Many jurisdictions have no true sale legislation. Structure review and stress testing has to be in context of specific advice from counsel in the relevant jurisdictions for the asset pool and structure.

#### **THE SELLER AS A SERVICER**

Other legal risks may arise when the seller is also the Master Servicer. A number of issues will need to be considered with regard to the risk of the seller entering into insolvency proceedings or applying for creditor protection to reorganise under an applicable country’s legislation. These issues include:

- (1) The ability to appoint a replacement Master Servicer.
- (2) Obtaining cash held under the control of the seller as Servicer and any commingling issues.
- (3) Obtaining any records or mortgage files in the Master Servicer’s control, including the right to use any record-keeping software in transferring the servicing function.
- (4) The ability to register transfers of mortgages and related security on title to the various properties.
- (5) Informing mortgagors of the sale and the redirection of cash flows to the replacement Master Servicer.



## THE SPV

It is important to consider the nature of the SPV in relation to the seller. Complications can arise when the SPV is a related entity of the seller. In this situation, the risk is that, if a seller enters an insolvency procedure or reorganises, the SPV will be included in the filing. Substantive consolidation case law varies in different jurisdictions, typically in most European jurisdictions a properly established independent SPV should not be subject to consolidation upon an insolvency event. Consolidation, if it can occur, would be extremely problematic for a CMBS transaction. For this reason, DBRS prefers that SPVs are structured as an entity independent of and separate from the seller.

## MORTGAGE ORIGINATION PRACTICES

The rights obtained by the SPV with respect to each individual obligor depend on the security package obtained by the seller when the mortgage was originated. It is important to examine each loan's security package because substantial differences can exist. In its preliminary analysis, DBRS assumes that the originators have exhibited a best practices approach in underwriting and that the engineering and environmental reports indicate that there are no impairments or latent defects in the subject security.

A standard origination package will include a real property mortgage, standard charge terms for the mortgage, an assignment of leases, an assignment of rents, a general security agreement and a legal opinion on the enforceability of the mortgage (or a title insurance policy). There will also be real property registrations. In addition, there may be subordination agreements entered into by the seller (as mortgagee) with the property's major tenants. The documents in the origination package for each obligor will be assigned to the SPV as part of the transaction. If the SPV has to enforce its rights against the obligor, without the benefit of subordination agreements with tenants, enforcement can become more complex since, in particular circumstances, tenants may be in a position to terminate the existing leases. Avoiding this result requires informed legal advice at the time enforcement action is taken against an obligor.

As part of the origination package, it is also important to look at the seller's practice with respect to appraisals, environmental reports and engineering reports. Ideally, these reports will be obtained at the time of mortgage origination or renewal. It is important to note, however, that the SPV may not be able to rely directly on these expert reports if the reports disclaim liability to third parties. This difficulty can be overcome by having the consultants agree to allow the SPV to rely on these reports. Having said this and depending on when the mortgage was originated or last renewed, the reports may not be of great practical value. In addition to environmental reports, DBRS will review the use of environmental insurance for CMBS transactions, provided that the insurance coverage is comprehensive and the individual and global policy limits in the insurance policy are satisfactory given the mortgage pool and types of properties involved.

## REPRESENTATIONS AND WARRANTIES

As part of the sale transaction, the seller generally provides a series of representations and warranties concerning the mortgages and related security. The representations and warranties will cover the status of the properties, the mortgages, the mortgage files, related security, the nature of the sale transaction and so forth. If a representation and warranty is untrue, and remains uncured, a repurchase obligation may arise if it materially impacts the SPV's security. The repurchase obligation is often the only legal recourse for a breach of representation and warranty, and the remedy is frequently limited by the requirement that the breach have a material impact on investors.

## SERVICING

Servicing is one of the least appreciated aspects of CMBS despite its crucial role in the transaction. There are generally three servicing roles (more than one role can be assumed by one servicer) in a CMBS transaction. The Primary Servicer is responsible for a loan's day-to-day administration and servicing. The Master Servicer is responsible for overseeing the Primary Servicer(s) as well as providing any liquidity for temporary disruptions in cash as required within the transaction. It must be stressed that this liquidity is NOT



credit enhancement. The Master Servicer will often be the originating bank (or an entity within the originating bank group) or a third-party commercial mortgage servicer. The Special Servicer generally becomes involved in the servicing process when the mortgage ceases to perform within expectations (i.e. it may be prior to actual default). The Special Servicer will often be a third-party commercial mortgage servicer.

Special servicing arrangements are an important component of CMBS transactions. Most CMBS transactions provide for the transfer of a mortgage loan from the Master Servicer to the Special Servicer in the event of default or if default appears imminent. By transferring a mortgage loan to the Special Servicer before a default occurs, it is possible to eliminate some of the delays in enforcing the mortgage and personal property security. Anything that delays the Special Servicer from taking action may ultimately increase the loss on a loan.

Generally, because different remedies can be pursued on default, either concurrently or alternatively, it is important to have a Special Servicer that is knowledgeable in workouts and also has the resources and connections to obtain advice from legal and real estate specialists. Remedial decisions can make a very tangible difference in the timing and amount of any recoveries.

Although DBRS rates commercial mortgage servicers, we reserve the right to approve a transaction's servicer on a transaction-by-transaction basis due to the complexity of the transactions and associated servicing requirements.

A number of other issues will need to be considered in a CMBS transaction, in particular, the following issues relating to the asset level of the structure:

- (1) The structure of the property holding company ("Propco").
- (2) An analysis of the security given over the property on the insolvency of the Propco.
- (3) An analysis of the tax position of the Propco and property.
- (4) The ownership and control of the Propco (including any security granted over the shares of Propco).
- (5) An analysis of key contracts at the Propco level, including property management and lease agreements.

For further information on the legal criteria for European CMBS transactions, please refer to the "Legal Criteria for European Structured Finance Transactions" available on [www.dbrs.com](http://www.dbrs.com).

## RATINGS

DBRS CMBS ratings address the likelihood of timely payment of interest and ultimate payment of principal to the notes by the final rated maturity date. DBRS does not rate to the expected or scheduled maturity date set forth by the issuer and therefore, while DBRS will identify transactions and notes that have considerable extension risk, the ratings are not impacted as loans extend. DBRS ratings on interest-only notes address the likelihood of receiving interest based on the notional amount outstanding. DBRS considers the interest-only note's position within the transaction payment waterfall when determining the appropriate rating.



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## APPENDIX A: PROPERTY TYPE UNDERWRITING

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### OFFICE

DBRS's analysis begins with a property's cash flow. Cash flow volatility can vary greatly based on a property's location, its condition, market, property type and respective expense ratio as well as the sponsor's ability to attract tenants and carry the property in distressed times. Therefore, underwriting to a stabilised net cash flow is very property -and market- specific. Following are DBRS's general office cash flow component guidelines. DBRS realises every piece of real estate is unique and will take a reasonable approach when determining stabilised net cash flow based on the property and the loan structure.

Across Europe, this approach of treating every property and jurisdiction as distinct allows DBRS to determine for any given property, portfolio and jurisdiction whether there are valuation or other criteria which overlap with other jurisdictions to assist in predictive analysis and surveillance. The basis for the real estate appraisal, or valuation must be clearly understood in accordance with local requirements and guidelines. For example, in the U.K. property valuation is regulated by the Royal Institute of Chartered Surveyors (RICS), a professional body encompassing all of the building and property related professions. The RICS professional guidelines for valuers are published in the "Red Book" which is regularly updated, most recently to include criteria encompassing "sustainability". In the U.K., it is usual for a lender to rely on a report or certificate of title which addresses certain other criteria including title issues, lease terms, planning, construction, environmental issues etc. as they all can impact the value and of course cash flow. The U.K. real estate lawyer would produce this document in conjunction with the valuation surveyor who would review the lawyers' report/certificate.

#### *Revenue*

**Base Rent:** Stabilised net cash flow is calculated based on the lower of current or market rent for tenants in-place, open for business and paying rent. In the U.K., upwards only rent review is the standard position. DBRS distinguishes between income that exists and income that may never be. Upside potential from future events will not be underwritten, though it may mitigate other cash flow events (e.g., an increase in expenses).

DBRS takes a reasonable approach to recognising income on a case-by-case basis when a signed lease or agreement for lease is in-place but the major three rules of accepting revenue are not in effect. Generally, the three events required to recognise income is that the tenant is:

- (1) In occupancy.
- (2) Paying rent.
- (3) Open for business.

DBRS looks for a signed lease or agreement for lease and considers whether the term has commenced; the landlord has satisfied all obligations and has delivered the space to the tenant; the tenant is spending its own money to complete the space unless and to the extent that landlord inducements are not made available; the tenant is an expansion tenant; and whether the loan has been structured with a reserve, letter of credit, or a holdback earn-out equal to the difference between in-place and stabilised sizing.

DBRS also considers the sponsor's sophistication and the tenant's underlying credit quality. An office building's quality is determined by the property's age, condition, design (e.g., floor sizes and layout), access to transportation, market perception, and ability or inability to offer certain amenities to its tenants, including sophisticated building systems (such as fibre-optic cables, satellite communications, or other base building technological features or green/sustainability criteria). The higher the property's



quality, the easier it is to attract creditworthy tenants and achieve higher rents. When determining achievable rents and stabilised vacancy, DBRS distinguishes between asset classes. DBRS recognises that higher rents can be achieved at trophy properties and at strategic locations instrumental to the tenant's success.

**Mark-to-Market Analysis:** DBRS recognises the lower of current, in-place, or market rents. Market rent depends upon current market conditions and types of space.

**1st Generation Space:** Rents for anchor tenants in recently constructed buildings are based on the cost of construction. If a loan amortises over the lease term, DBRS recognises the 1st generation rent. For non-amortising loans, DBRS reduces the rent to reflect 2nd generation leases in comparable buildings with the same market value.

**2nd Generation Space:** Market rents are determined based on market data. Additionally, recently signed leases at the subject and comparable buildings for similar-size space are used to measure achievable rent.

**Rent Steps:** Future contractual rent bumps that are within market ranges, and generally occur within four to six months of loan closing, are recognised as there is a high likelihood of occurrence. DBRS underwrites to the average of the contractual rent bumps over the loan term for investment-grade tenants if the tenant's lease extends a minimum of three years beyond the loan term. When calculating Refinance DSCR for properties containing investment-grade tenants with leases extending at least five years beyond the loan term, DBRS recognises the tenants' contractual rent payment at the loan's maturity.

**Free Rent:** Concessions such as a rent-free period are an obvious sign of a weak market. Attracting tenants is unlikely without it. If a lease includes a free-rent period that has not been burned off by securitisation, DBRS will underwrite to the tenant's net effective rent. If the free-rent period has expired but free rent is still prevalent in the market, DBRS will also underwrite to the tenant's net effective rent rather than in-place rent. If, however, the tenant is investment-grade, the in-place rent will be recognised.

**Amortised TIs:** The high cost of refitting office space for a new tenant can significantly erode a property's net cash flow. In order to attract users, the cost of TIs is often borne by the landlord but this is not always the position. In a healthy market, the landlord will likely be able to recoup the investment by amortising the TIs over the tenant's lease term. Although a tenant is contractually obliged to pay, it is not a component of market rent and will be excluded from DBRS's underwritten income. If, however, the credit quality of the tenant is investment-grade and the lease extends at least three years beyond the loan's maturity, DBRS will recognise the revenue over the loan term.

**Master Leased Income:** Master leased space will generally be treated as vacant as the space is often less desirable or the added leased square footage represents something higher than market occupancy.

**Investment-Grade Tenants:** As mentioned above, DBRS will often treat investment-grade tenants more favourably than non-investment-grade tenants. For high credit tenants with long-term leases (generally three years beyond the loan term), DBRS averages any fixed contractual rent bumps through the loan term (rather than lease term) when arriving at the loan's term DSCR. Averaging rental bumps through the lease term is recognising revenue that will never be achieved during the loan term. Revenue over the initial lease term has greater certainty based on the credit rating of tenants, but having an investment-grade tenant does not increase the likelihood of renewal or the likelihood that the tenant will pay above market rent at its lease expiration. When calculating the Refinance DSCR, DBRS recognises the rent at the balloon date for investment-grade tenants with lease terms at least five years beyond the loan term.

In the event, all or a majority of the income is from an investment-grade tenant and its rent alone sufficiently covers annual debt service payments, and provided its lease does not allow for early termination



options or rent abatement, DBRS will floor the loan proceeds at the rating of the tenant.

**Rollover:** A diversified rent roll isolates a landlord from the risk associated with a high concentration of space rolling within any given year. The costs and risk associated with re-signing and re-tenanting a building for comparable terms in a large rollover year can be significant. To calculate releasing costs, DBRS assumes a 60% renewal probability. DBRS considers what TIs should be given the market conditions and the space's functional utility and recognises that renewal TIs could be considerably less. However, some tenants with old leases may demand more to convert their space into more desirable, functional space. Leasing commissions will also depend upon the market environment.

DBRS will also roll to market any above-market leases expiring in the near term as it is likely that tenants will revert to market rates if that rate is lower than what they are currently paying and they are not bound by predetermined rental extension options.

**Other Income:** This often includes parking revenue, storage income, antenna rents and miscellaneous tenant services. DBRS underwrites based on historical collections given a stabilised occupancy. One-time collections are excluded and typically so is income from non-real estate related operations.

**Reimbursements:** DBRS examines actual reimbursement methods and underwritten expenses. Although it is common to utilise the historical percentage of recovered expenses, this method can prove erroneous when there is a near-term concentrated roll of legacy leases. With modified gross leases, a landlord is at risk when a large percentage of the space is rolling and released because recoveries are then reset at zero. It is important to consider recoveries in addition to base rent as compared to current market levels, which assumes a base year and recoveries of zero. DBRS resets expense recoveries for tenants on old modified gross leases with near-term expirations if their base rent plus recoveries is above current market rates.

#### Expenses

Office properties are moderate to high expense ratio assets. Many expense increases can be passed through to tenants, but then affordability becomes an issue. In the U.K., there is a current concern that certain expenses may nonetheless stay at landlord level - for example costs incurred in complying with Carbon Reduction Commitment Regulations. DBRS looks at historical expense trends and compares similar square feet comparisons based on asset class and location.

**Taxes:** As a percentage of total revenue, real estate tax burdens represent the greatest expense. As such, significant increases in tax liabilities could cause a sizeable cash flow decline. Taxes could significantly increase as a result of a property sale as the tax is reset to reflect the price (new value) of the asset. As such, for acquisitions, DBRS determines whether the underwritten tax burden reflects the property sale. In other instances, the current real estate tax bill, inflated by 3%, will be underwritten.

In instances where the property is benefiting from a tax abatement, DBRS considers the remaining term of the abatement, the difference between the abated tax and the actual tax, and considers whether any contractual future rent bumps would mitigate the burn-off of the abatement. Taxes may be underwritten to reflect the full tax liability.

**Insurance:** Insurance premiums will generally be underwritten to the current bill inflated by 3%. Because insurance expense represents a small percentage of revenue, an increase would minimally impact cash flow and the potential erosion of coverage. However, the potential cost of terrorism coverage concerns DBRS. The insurance industry has not developed an efficient market to handle this risk. If left to the commercial insurance market, the cost of terrorism insurance could increase insurance costs exponentially.

**Management Fee:** DBRS underwrites a management fee based on the higher of the contractual fee or 4%. When DBRS looks at properties with absentee borrowers, it recognises the need for professional management and the fees associated with that expertise.



**Utilities:** Energy costs may be escalating faster in some markets than others. DBRS focuses on increasing trends and, if necessary, inflates accordingly, or will underwrite to the current bill inflated by 3%.

**Operating Expenses:** Historical trends and budgeted figures are considered when underwriting operating expenses.

**Ground Rent:** DBRS considers a ground lease's structure vs. a loan's structure to determine whether a leasehold interest's value is maintained through the term and can be refinanced at balloon. DBRS averages contractual rental increases throughout the term of the loan if it is not offset by contractual rental increases.

**Capital Expenditures:** Reductions for capital expenditures are based on the higher of the engineer's recommendation, actual collected annual reserves or DBRS's minimum parameter.

### *Cash Flow Volatility*

In order to determine an office property's cash flow volatility, DBRS considers, among other things, the:

- (1) Property's location.
- (2) Property's condition.
- (3) Borrower's experience and ability to access capital.
- (4) Market conditions (rent, vacancy, absorption, new construction).
- (5) Lease terms (modified gross vs. NNN, free rent, amortised TIs).
- (6) Tenant mix.
- (7) Rollover schedule.

### *Dynamics of Supply and Demand*

Office vacancy and absorption is generally based on employment. The strength and stability of an area as a desirable business location (including labour costs, tax environment and quality of life) is crucial to the market's office sector. Employment growth creates demand for office space. About one-third of service-sector jobs are candidates for office space, including sectors such as information, financial services, and professional business services. Without job growth, demand for office space will not increase, and even with job growth, there may be a lag in increased demand due to the number of firms with more space leased than in actual use. In certain markets, the most troubling issue going forward is the space that will be coming on the market, either because of lease expiration or new construction.

## **RETAIL**

DBRS's analysis begins with a property's cash flow. Cash flow volatility can vary greatly based on the property's location, its condition, market, property type and respective expense ratio as well as the sponsor's ability to attract tenants and carry the property in distressed times. Therefore, underwriting to a stabilised net cash flow is very property and market specific. Following are DBRS's general retail cash flow component guidelines. As mentioned previously, DBRS recognises the uniqueness of each piece of real estate and takes a reasonable approach when determining stabilised net cash flow based on the property and the loan structure.

Just as with office portfolios, so with retail assets, across Europe, DBRS determine for any given property, portfolio and jurisdiction whether and to what extent there are valuation or other criteria which overlap with other jurisdictions to assist predictive analysis and surveillance. As mentioned earlier in relation to offices, so with retail too, the basis for the real estate appraisal, or valuation must be clearly understood



in accordance with local requirements and guidelines. For example, in the U.K., property valuation is regulated by the Royal Institute of Chartered Surveyors (RICS), a professional body encompassing all of the building and property related professions. The RICS professional guidelines for valuers are published in the “Red Book” which is regularly updated, most recently to include criteria encompassing “sustainability”. In the U.K., it is usual for a lender to rely on a report or certificate of title which addresses certain other criteria including title issues, lease terms, planning, construction, environmental issues etc. as they all can impact the value and of course cash flow. The U.K. real estate lawyer would produce this document in conjunction with the valuation surveyor who would review the lawyers’ report/certificate.

### **Revenue**

**Base Rent:** Stabilised net cash flow will be calculated based on the lower of current or market rent for tenants in place, open for business and paying rent. In the U.K., upwards only rent review is the standard position. DBRS feels compelled to distinguish between that which is and that which may or may not ever be. Upside potential from future events will not be underwritten although they may mitigate other cash flow events (e.g., increase in expenses).

DBRS will take a reasonable approach to recognise income on a case-by-case basis when a signed lease or agreement for lease is in-place; however, the big three rules of accepting revenue is not in effect. Generally the three events required to recognise income is that the tenant is:

- (1) In occupancy.
- (2) Paying rent.
- (3) Open for business.

DBRS looks for a signed lease or agreement for lease and considers whether the term has commenced; the landlord has satisfied all obligations and has delivered the space to the tenant; whether the tenant is spending its own money to complete the space unless and to the extent that landlord inducements are not made available; the tenant is an expansion tenant; and whether the loan has been structured with a reserve, letter of credit, or a holdback earn-out equal to the difference between in-place and stabilised sizing. DBRS also considers a borrower’s sophistication and a tenant’s underlying credit quality.

**Mark-to-Market Analysis:** DBRS recognises the lower of current, in-place, or market rents. Market rent is a function of current market conditions and types of space. DBRS attempts to determine market rents from a combination of occupancy costs and recently signed leases at the property and in the sub-market. Sales are frequently reported for anchor tenants but less often for in-line tenants (unless located in a regional shopping centre). Grocery shop occupancy costs should ideally be below 5%, as profit margins for grocers are very small. Other anchor tenants that can be found at power centres typically have occupancy costs around 10%. DBRS takes special note of any anchor occupancy costs over 20%, and then determines whether or not the tenant can continue to pay its rent and operate profitably, or if it will move to a less costly location.

**Rent Steps:** Future contractual rent bumps that are within market ranges and occur generally within four to six months of loan closing will be recognised as occurrence is highly likely. DBRS underwrites to the average of the contractual rent bumps over the loan term for investment-grade tenants if the tenant’s lease extends at a minimum three years beyond the loan term. When calculating Refinance DSCR for investment-grade tenants with leases extending at least five years beyond the loan term, DBRS recognises the tenants’ contractual rent payment at the loan’s maturity.

**Free Rent:** Concessions in the form of a rent-free period is an obvious sign of a weak market. Attracting tenants is unlikely without it. If a lease includes a free-rent period that has not burned off by securitisation, DBRS underwrites to the tenant’s net effective rent. If the free-rent period has expired but free



rent is still prevalent in the market, DBRS will also underwrite to the tenant's net effective rent rather than in-place rent given the current market conditions. If, however, the tenant is investment-grade, the in-place rent will be recognised.

**Master Leased Income:** Master leased space will generally be treated as vacant as the space is often less desirable or the added leased square footage represents something higher than market occupancy.

**Investment-Grade Tenants:** As mentioned above, DBRS often treats investment-grade tenants more favourably than non-investment-grade tenants. For high credit tenants on long-term leases (generally three years beyond the loan term), DBRS averages any fixed contractual rent bumps through the loan term (rather than the lease term) when arriving at the loan's term DSCR. Averaging rental bumps through the lease term, is recognising revenue that will never be achieved during the loan term. Revenue over the initial lease term has greater certainty based on the credit rating of tenants; however, having an investment-grade tenant does not increase the likelihood of renewal or the likelihood that the tenant will pay above market rent at its lease expiration. When calculating the Refinance DSCR, DBRS recognises the rent at the balloon date for investment-grade tenants with lease terms at least five years beyond the loan term.

In the event all or the majority of the income is from an investment-grade tenant and its rent alone sufficiently covers annual debt service payments and provided its lease does not allow for early termination options or rent abatement, and in the event the tenant goes dark, it remains obligated for all terms of its lease, DBRS will floor the loan proceeds at the rating of the tenant.

**Vacancy:** DBRS differentiates between anchor and in-line space when deriving an appropriate underwritten vacancy rate. A vacancy rate equal to the greater of in-place, market, or 5% will be applied to anchor space. A vacancy rate the greater of in-place, market, or 10% will be applied to in-line space. **Rollover:** A diversified rent roll isolates a landlord from the risk associated with a high concentration of space rolling within any given year. The costs and risk associated with re-signing and re-tenanting a building for comparable terms in a large rollover year can be significant. To calculate releasing costs, DBRS assumes a 60% renewal probability. DBRS takes into consideration what TIs should be, given the market conditions and the space's functional utility and recognising that renewal TIs could be considerably less, although some tenants with old leases may demand more to convert their space into more desirable, functional space. Leasing commissions will also depend upon market environment.

**Co-Tenancy Provisions:** Tenants often have co-tenancy provisions that allow them to terminate their leases without penalty if certain tenants or a certain percentage of NRA goes dark and are not open for business at the property. DBRS determines if any of these provisions could cause future cash flow volatility by looking to tenants' sales performance to assess the likelihood that they will leave the property. **Dark Space:** DBRS will generally not give credit to income generated by tenants that still pay on their leases but are no longer open for business because it is highly unlikely that the dark tenant will renew its lease. Therefore, any income from these tenants is not likely to last beyond lease expiration. Also, certain tenants may have go-dark provisions that allow them to stop operating their businesses while still paying on their leases. DBRS views these provisions unfavourably, as a dark anchor tenant can have a significant negative effect on a shopping centre. For this reason, in the event that go-dark provisions exist, it is favourable for the borrower to have recapture rights that allow the borrower to re-tenant the space and cancel the dark tenant's lease in order to maintain customer draw to the shopping centre.

**Other Income:** Often includes parking revenue, storage income and miscellaneous tenant services. DBRS underwrites based on historical collections given a stabilised occupancy. One-time collections will be excluded and typically so will income from non-real estate related operations.

**Percentage Rent:** Certain tenants are contractually obliged to pay a specified percentage of their sales over a breakpoint in addition to base rent. DBRS looks to historical percentage rent figures and sales



performance to determine how much can be included. Percentage rent should represent a small amount of total income, usually less than 10%.

**Reimbursements:** DBRS examines actual reimbursement methods and underwritten expenses. Most tenants at retail properties sign NNN leases wherein the tenant pays a pro rata share of all expenses at the property. Reimbursements will be underwritten in line with the level of underwritten occupancy.

### *Expenses*

Retail properties are moderate to high expense ratio assets. Although most expenses are passed through to the tenants since leases are generally full repair and insuring (FRI), also known in the U.S. as NNN, affordability becomes an issue. In the U.K., there is a current concern that certain expenses may nonetheless stay at the landlord level.; for example, costs incurred in complying with the Carbon Reduction Commitment Regulations. DBRS looks at historical expense trends and references comparables for expense per square feet comparisons based on asset class and location.

**Taxes:** As a percent of total revenue, real estate tax burdens represent the greatest expense. As such, significant increases in tax liabilities could cause a sizeable cash flow decline. Taxes could significantly increase as a result of a property sale as the tax is reset to reflect the asset's price (new value). As such, for acquisitions, DBRS determines whether the underwritten tax burden reflects the property sale. In other instances, the current real estate tax bill inflated by 3% will be underwritten.

In situations in which the property is benefiting from a tax abatement, DBRS considers the remaining term of the abatement, the difference between the abated tax and the actual tax, and considers whether any contractual future rent bumps would mitigate the bum-off of the abatement. Taxes may be underwritten to reflect the full tax liability.

**Insurance:** Insurance premiums will generally be underwritten to the current bill inflated by 3%. As the insurance expense represents a small percentage of revenue, an increase would have little impact on cash flow and the potential erosion of coverage. However, the potential cost of terrorism coverage concerns DBRS. If left to the commercial insurance market, the cost of terrorism insurance could increase insurance costs exponentially.

**Management Fee:** DBRS will underwrite a management fee based on the higher of contractual obligation or 4%. DBRS looks at properties with absentee borrowers and recognises the need for professional management and the fees associated with that expertise.

**Utilities:** Energy costs may be escalating faster in some markets than others. DBRS focuses on increasing trends and if in-line with historical will underwrite to the current bill inflated by a representative amount.

**Operating Expenses:** Historical trends and budgeted figures are considered when underwriting operating expenses.

**Ground Rent:** DBRS considers a ground lease's structure vs. a loan's structure to determine whether the value of the leasehold interest is maintained through the term and can be refinanced at balloon. DBRS averages contractual rental increases throughout the term of the loan if it is not offset by contractual rental increases.

**Capital Expenditures:** Reductions for capital expenditures will be based on the higher of the engineer's recommendation, actual collected annual reserves, or DBRS's minimum parameter.



### *Dynamics of Supply and Demand*

Major factors that can influence shopping centres' performance are demographics, traffic count and population trends. Although, in general, a high median income in the area closely surrounding a shopping centre indicates a high level of buying power, a lower median income is not necessarily disastrous. For instance, a shopping centre that focuses on value and discount consumer goods can do quite well in an area with low median income, whereas a higher-end centre would not perform as well. Traffic count is a good indication of a desirable location. Although traffic counts vary, typically a count over 10,000 vehicles per day would be considered good. While local populations generally grow slowly, some experience more rapid growth and some experience contraction. It is very difficult to forecast higher than average population growth and assume that said growth will greatly benefit a certain shopping centre. However, a declining population is a definite red flag and DBRS will further analyse the area to see why population is declining. For example, population often declines in blue collar areas that have experienced heavy job losses. Ways to mitigate the risk of further population decreases include having anchors on long-term leases and having a loan that amortises.

**Anchored Retail:** Anchored retail can be a regional shopping centre, an open-air lifestyle centre, a grocery-anchored centre, or a power centre. There are typically two or more true draws/anchors at the centre. Most important, anchored retail centres are often located on major surface streets with access to the property controlled by traffic signals (signalised access) in densely populated, in-fill locations and managed by large national operators that have established relationships with major tenants. Anchor tenants generally occupy rather large, generic boxes. Because strong anchor tenants generate traffic flow and are highly coveted by developers, their rental rates are typically significantly less than those of an in-line shop space. As a result, loan amounts, on a per square foot basis, are generally less when the anchor is included in the collateral. Because of the locations, generally utilitarian design and ample parking, even troubled anchored retail centres often have a greater turnaround story and more interest from outside investors. DBRS assesses the relative health of each anchor by reviewing historical sales volumes, floor plate size, market trends, and barriers to entry to determine the dark anchor risk for each centre. The centre should additionally have ample parking, signalised access, good visibility and strong historical sales.

**Shadow Anchored Retail:** Shadow anchored retail centres benefit from the draw dynamics of the anchor tenants. However, they have limited ability to accurately assess the anchor's relative health and have few if any remedies should an anchor cease operation. Vacant anchor space owner's economic objectives are likely to differ significantly from those of surrounding tenants. For instance, the shop tenants of a grocery-anchored centre would desire a replacement grocery if the original tenant failed. But, if that grocer had moved across the street to a larger store that better suited its needs, it would be in the grocery store's best interest to keep the space vacant or possibly lease it to a non-competitive tenant. If the vacant grocery store owner is an unrelated investor, it will find it more valuable to maximise its rental rate than traffic flow. In such a scenario, the owner may find a pet supplies store, hardware store or health club to be preferable to another grocery store.

**Unanchored Retail:** Unanchored retail centres lack the draw dynamics of an anchor tenant. They frequently offset this, however, with convenient locations in going-home traffic patterns with high visibility and easy access. Unanchored retail centres often consist of smaller strip centres that do not have the draw of national retailers. The tenant mix is typically smaller users and may be a mix of traditional retailers and service providers. When evaluating unanchored retail, DBRS looks at traffic patterns, access, visibility, leverage and amortisation. In addition, DBRS considers the tenancy mix and use of the centre, the parking availability and the nearby competition. If the centre has the closest dry cleaner, nail shop or convenience store to a large residential neighbourhood, it will likely increase the centre's success. The local borrower with many retail centres may also have access to tenants an absentee borrower may not.



## MULTI-FAMILY

DBRS's analysis begins with a property's cash flow. Cash flow volatility can vary greatly based on the property's location, condition, market, property type and respective expense ratio as well as the sponsor's ability to attract tenants and carry the property in distressed times. Therefore, underwriting to a stabilised net cash flow is very property- and market-specific. Following are DBRS's general multi-family cash flow component guidelines. DBRS realises that every piece of real estate is unique and takes a reasonable approach when determining stabilised net cash flow based on the property and the loan structure.

Just as with office and retail portfolios, so with multi-family assets, across Europe, DBRS must determine for any given property, portfolio and jurisdiction whether and to what extent there are valuation or other criteria which overlap with other jurisdictions to assist predictive analysis and surveillance. As mentioned earlier in relation to offices and retail, so with multi-family too, the basis for the real estate appraisal, or valuation must be clearly understood in accordance with local requirements and guidelines. For example, in the U.K. property valuation is regulated by the Royal Institute of Chartered Surveyors (RICS). In the U.K., it is usual for a lender to rely on a report or certificate of title which addresses certain other criteria including title issues, lease terms, planning, construction, environmental issues etc. as they all can impact the value and of course cash flow. The U.K. real estate lawyer would produce this document in conjunction with the valuation surveyor who would review the lawyers' report/certificate.

Multi-family properties' cash flow volatility is considered higher given the short-term leases to non-creditworthy tenants. The volatility in multi-family product varies depending on the market. Economic factors that positively impact multi-family performance include job and population growth. Declines in performance could be caused by a poor manager, new supply, affordable alternative housing (home ownership) or job loss. Typically, properties located in markets relying heavily on one industry (including the military) are at risk if the sector suffers. An equation for a probable well-performing multi-family property is one located in a high demographic-growth market with a limited supply of land and high cost of home ownership.

### *Revenue*

**Base Rent:** Stabilised net cash flow will be calculated based on trailing 12 month (T-12) collections. DBRS looks for three years of historical operating statements to determine if any increasing trends are sustainable. An additional vacancy allowance and credit loss factor may be necessary subject to market conditions. DBRS underwrites to the lower of actual or market occupancy. If there is new supply coming on-line and competing directly with the subject, occupancy or rents will suffer. The new product will offer a lease-up special that will attract tenants from the subject. DBRS recognises the additional stress on the properties' net cash flow and takes an additional vacancy factor.

**Concessions:** It is important to recognise what, if any, concessions are being offered at the subject and in the market. Considering current concessions, DBRS underwrites to a net effective rent. For example if a one-month free move-in special is commonplace in the market, DBRS underwrites to the effectively reduced annual rent. Other move-in incentives such as "Free Washer/Dryer" will be considered when determining revenue stability.

**Other Income:** Often includes laundry and vending revenue, as well as clubhouse rental and business centre services. DBRS underwrites based on historical collections given a stabilised occupancy. DBRS carefully assesses the situation when this income exceeds 5% of base rent.

### *Expenses*

Generally, multi-family assets are high expense ratio assets with short-term leases to non-creditworthy tenants. DBRS looks at historical expense trends and checks comparables for expense per square foot comparisons based on asset class and location.



The greater the common area, the higher the borrower's cost to maintain it, thereby increasing the property's expense ratio. In theory, luxury apartments should have the highest expense ratio; however they should also have the highest asking rents for the expansive common areas and amenities they provide. In addition, it should offset the increase in operating expenses.

**Taxes:** As a percentage of total revenue, real estate tax burdens represent the greatest expense. As such, significant increases in tax liabilities could cause a sizeable cash flow decline. Taxes could significantly increase as a result of a property sale as the tax is reset to reflect the asset's price (new value). For acquisitions, DBRS determines whether the underwritten tax burden reflects the property sale. In other instances, the current real estate tax bill inflated by 3% will be underwritten.

In instances where the property is benefiting from a tax abatement, DBRS considers the abatement's remaining term, the difference between the abated tax and the actual tax, and considers whether any contractual future rent bumps would mitigate the burn-off of the abatement. Taxes may be underwritten to reflect the full tax liability.

**Insurance:** Insurance premiums will generally be underwritten to the current bill inflated by 3%. As the insurance expense represents a small percentage of revenue, an increase would have little impact on cash flow and the potential erosion of DSCR.

**Management Fee:** DBRS underwrites a management fee based on the higher of contractual obligation or 4%. A higher management fee may be justified for a small complex with less than 100 units.

**Utilities:** Energy costs may be escalating faster in some markets than others. DBRS focuses on increasing trends and if necessary inflates accordingly or underwrites to the current bill inflated by a 3%.

**Operating Expenses:** Historical trends and budgeted figures will be considered when underwriting operating expenses.

**Capital Expenditures:** Reductions for capital expenditures will be based on the higher of the engineer's recommendation, actual collected annual reserves or DBRS's minimum parameter.

#### ***Cash Flow Volatility***

To determine the cash flow volatility of a multi-family property, DBRS will consider among other things:

- (1) The property's condition considering its age, appearance, and construction quality.
- (2) Location near employers and service providers.
- (3) Local economy and local employers, including military bases and colleges, relocating, closing, or going out of business.
- (4) Strength and reputation of management to rent units and provide adequate maintenance.  
Property amenities.
- (5) Mortgage interest rates and affordability of single-family homes, either of which may encourage tenants to purchase rather than lease housing.
- (6) In the case of student housing facilities, reliance on the financial well-being of the college or university to which it relates, as well as physical layout of the housing, which may not be readily convertible to traditional multi-family use.
- (7) Competition and prospective new supply or reduction in supply.



(8) Dependence upon governmental programmes that provide rent subsidies to tenants pursuant to tenant voucher programmes and which vouchers may be used at other properties and influence tenant mobility.

### *Dynamics of Supply and Demand*

Multi-family performance is based on a number of factors, most notably an affordable housing market and the local employment base. A low interest rate environment and a large housing supply, resulting in lower prices, would negatively affect the performance of a multi-family asset. However, the reverse holds true as well: in a market with a small supply of available homes, which drives up prices, multi-family performance would be markedly better. The strength of the local employment market and the number of major employers is crucial to multi-family stability as well. Markets with a diverse employment base are often able to weather downturns in the economy while markets that rely on one major employer or industry can face volatile periods.

## **INDUSTRIAL**

DBRS's rating analysis begins with a property's cash flow. Cash flow volatility can vary greatly based on the property's location, functionality, condition, market, property type and respective expense ratio as well as the sponsor's ability to attract tenants and carry the property in distressed times. Therefore, underwriting to a stabilised net cash flow is very property- and market-specific. Below are DBRS's general industrial cash flow component guidelines. DBRS realises the uniqueness of every piece of real estate and takes a reasonable approach when determining stabilised net cash flow based on the property and the loan structure.

As with offices, retail and multi-family, industrial sites and portfolios must be properly valued with criteria that are understood in the context of the local rules and requirements so that similarities and differences between jurisdictions can be understood and correctly analysed.

### *Revenue*

Base Rent: Stabilised net cash flow is calculated based on the lower of current or market rent for tenants in-place, open for business and paying rent. DBRS distinguishes between income that exists and income that may never be. In the U.K., upwards only rent review is the standard position. Upside potential from future events will not be underwritten, although they may mitigate other cash flow events (e.g., increase in expenses).

DBRS recognises income on a case-by-case basis when a signed lease or agreement for lease is in-place; however, the big three rules of accepting revenue are not in effect. Generally, the three events required to recognise income is that the tenant be:

- (1) In occupancy.
- (2) Paying rent.
- (3) Open for business.

DBRS looks for a signed lease or agreement for lease and considers whether the term has commenced; the landlord has satisfied all obligations and has delivered the space to the tenant, the tenant is spending its own money to complete the space unless and to the extent that landlord inducements are not made available; the tenant is an expansion tenant; and whether the loan has been structured with a reserve, letter of credit, or a holdback earn-out equal to the difference between in-place and stabilised sizing. DBRS also considers the borrower's sophistication and the tenant's underlying credit quality.

DBRS assesses a space's functionality and its overall marketability when determining achievable rent and stabilised vacancy.



**Mezzanine Space:** DBRS looks to the functionality of the mezzanine space and the ability to command rent for it. Generally, second-story and mezzanine space in industrial buildings is difficult to lease up and may be treated as vacant or excluded from a properties [NRA]. However, on a case-by-case basis, if the space is functional office space and there is a market for it, DBRS will underwrite to the lower of actual or market rent.

**Office Buildout:** For a typical warehouse/distribution facility, the percentage of interior space completed as office typically ranges from 5% to 15% of total space and a higher rent is not achieved for this common amenity. For larger buildings, the ratio of office space is generally smaller. As the ratio of office space grows, the building is often deemed inefficient and actually may negatively impact the property's value.

For R&D/flex facilities, a larger portion of office space is preferred and often this can range from 20% to 100% of total space. Properties with a higher percentage of office improvements can demand higher rents in a peak market environment as office rents push some office users out to take advantage of a lower rent in flex space. However, during weak market conditions, the office user will vacate the flex space for higher quality typical office space for a comparable rental rate, leaving the flex space functionally obsolescent to most industrial users. This will, result in high vacancies and stressed cash flows.

**Mark-to-Market Analysis:** DBRS recognises the lower of current, in-place, or market rents. Market rent will be a function of current market conditions and types of space.

**Specialised Improvements:** Rents for built-to-suit tenants in recently constructed buildings are based on the cost of construction. If the space has specialised improvements and the loan is structured such that it amortises over the lease term, DBRS will recognise this 1st generation, built-to-suit rent. For non-amortising loans, DBRS reduces the rent to reflect the marketability of this specialised use.

**Plain Vanilla Space:** Market rents will be determined based on market data. Additionally, recently signed leases at the subject and comparable buildings for similar size space are used as a measure of achievable rent.

**Rent Steps:** Future contractual rent bumps that are within market ranges and occur generally within four to six months of loan closing will be recognised as there is a high likelihood of occurrence. DBRS underwrites to the average of the contractual rent bumps over the loan term for investment-grade tenants if the tenant's lease extends at a minimum three years beyond the loan term. For investment-grade tenants with leases extending at least five years beyond the loan term, DBRS recognises the tenants' contractual rent payment at the loan's maturity when calculating Refinance DSCR.

**Free Rent:** Concessions in the form of a rent-free period is an obvious sign of a weak market. Attracting tenants is unlikely without it. If a lease includes a free-rent period that has not burned off by securitisation, DBRS underwrites to the tenant's net effective rent. If the free-rent period has expired, but free rent is still prevalent in the market, DBRS also underwrites to the tenant's net effective rent rather than in-place rent given the current market conditions. If, however, the tenant is investment-grade, the in-place rent will be recognised.

**Master Leased Income:** Master leased space will generally be treated as vacant as the space is often less desirable or the added leased square footage represents something higher than market occupancy.

**Investment-Grade Tenants:** As mentioned above, DBRS often treats investment-grade tenants more favourably than non-investment-grade tenants. For high credit tenants on long-term leases (generally three years beyond the loan term), DBRS averages any fixed contractual rent bumps through the loan term (rather than lease term) when arriving at the loan's term DSCR. Averaging rental bumps through the lease term recognises revenue that will never be achieved during the loan term. Revenue over the initial lease term has greater certainty of attainment based on the credit rating of tenants; however, having an



investment-grade tenant does not increase the likelihood of renewal or the likelihood that the tenant will pay above-market rent at its lease expiration. When calculating the Refinance DSCR, DBRS recognises the rent at the balloon date for investment-grade tenants with lease terms at least five years beyond the loan term.

In the event, all or the majority of the income is from an investment-grade tenant and its rent alone sufficiently covers annual debt service payments and provided its lease does not allow for early termination options or rent abatement, DBRS will floor the loan proceeds at the rating of the tenant.

**Rollover:** A diversified rent roll isolates a landlord from the risk associated with a high concentration of space rolling within any given year. The costs and risk associated with re-signing and re-tenanting a building for comparable terms in a large rollover year can be significant. To calculate releasing costs, DBRS assumes a 60% renewal probability. DBRS considers what TIs should be given the market conditions and the space's functional utility and recognises that renewal TIs could be considerably less, although some tenants with old leases may demand more to convert their space into more desirable, functional space. Leasing commissions will also depend upon market environment.

**Other Income:** DBRS underwrites based on historical collections given a stabilised occupancy. One-time collections will be excluded and typically so will income from non-real estate related operations.

**Reimbursements:** DBRS examines actual reimbursement methods and underwritten expenses. Typically, industrial leases are triple net (NNN).

#### *Expenses*

Industrial properties are low- to moderate-expense ratio assets. The majority of industrial leases pass expenses through to tenants. As such, any increase in expenses becomes an affordability issue for the tenant. Exceptions can create issues and need to be understood in context, for example in the U.K. costs incurred in complying with Carbon Reduction Commitment Regulations will stay with the landlord. DBRS looks at historical expense trends and references comparisons for expense per square feet assessments based on asset class and location.

**Taxes:** As a percentage of total revenue, real estate tax burdens represent the greatest expense. As such, significant increases in tax liabilities could cause an increase in the tenant's occupancy costs. Taxes could significantly increase as a result of a property sale as the tax is reset to reflect the asset's price (new value). As such, for acquisitions, DBRS determines whether the underwritten tax burden reflects the property sale. In other instances, the current real estate tax bill, inflated by 3%, will be underwritten.

In instances where the property is benefiting from a tax abatement, DBRS considers the remaining term of the abatement, the difference between the abated tax and the actual tax and whether any contractual future rent bumps would mitigate the burn-off of the abatement. Taxes may be underwritten to reflect the full tax liability.

**Insurance:** Insurance premiums will generally be underwritten to the current bill inflated by 3%. As the insurance expense represents a small percentage of revenue, an increase would have little impact on cash flow and the potential erosion of coverage. However, the potential cost of terrorism coverage concerns DBRS. The insurance industry has not developed an efficient market to handle this risk. If left to the commercial insurance market, the cost of terrorism insurance could increase insurance costs exponentially.

**Management Fee:** For Warehouse/Distribution facilities, DBRS underwrites management fee based on the higher of contractual or 3.5%. For R&D/Flex facilities, DBRS underwrites management fee based on the higher of contractual or 4%. DBRS looks at properties with absentee borrowers and recognises the need for professional management and the fees associated with that expertise.

**Utilities:** Energy costs may be escalating faster in some markets than others. DBRS focuses on increasing trends and if in-line with historical will underwrite to the current bill inflated by a representative amount.



**Operating Expenses:** Historical trends and budgeted figures will be considered when underwriting operating expenses.

**Ground Rent:** DBRS considers the ground lease's structure vs. the loan's structure to determine whether the leasehold interest's value is maintained through the term and can be refinanced at balloon. DBRS averages contractual rental increases throughout the term of the loan if it is not offset by contractual rental increases.

**Capital Expenditures:** Reductions for capital expenditures will be based on the higher of the engineer's recommendation, actual collected annual reserves or DBRS's minimum parameter.

**Tenant Improvements and Leasing Commissions:** Leasing costs associated with industrial space are typically limited to leasing commissions. Generally, industrial buildings have limited tenant improvement costs as space is very generic. However, industrial buildings with a significant amount of office improvement (20% or more), such as R&D/flex facilities, will have much higher TI costs as the cost to fit out the office space is comparable to a typical office building. For these types of buildings, DBRS segregates the space and applies separate tenant improvement amounts for the industrial and office components.

#### *Dynamics of Supply and Demand*

Functionality is the key to industrial properties. Restrictions imposed by building and site characteristics can adversely affect the value and cash flow of industrial properties. There are a number of important characteristics and qualities to consider that ultimately will keep a building desirable to tenants and valuable to property owners:

Ceiling Clear Heights are an important design feature, especially in warehouse/distribution facilities where cubic storage capacity is a major factor. In general, these properties will have ceiling heights higher than 18 feet and less than 35 feet. In recent years, the trend has been to increase the clear ceiling heights in new industrial buildings, especially in major distribution markets. For R&D/flex facilities, it is important to maintain clear heights that range from 16 to 18 feet for design flexibility to allow for alternative uses, as well as expansion.

Loading facilities are also important as they provide easy access for trucks transporting to and from the site. Larger industrial buildings typically will contain a mix of drive-in and truck dock loading facilities with a higher number of docks than drive-in doors. Warehouse/Distribution facilities typically have a higher ratio of loading docks than manufacturing facilities. For new facilities, the average number of loading docks is typically between 10 and 12 per 10,000 sf of total space. As for R&D/flex, the number of docks and loading facilities will determine how flexible the property is and ultimately can add or detract from the value.

Just as important is the truck drive and turning areas for large semis. In industrial parks, adequate truck turning areas must be provided as part of the property, so that trucks do not use public streets for turning. Most delivery areas should also be concrete paved to accommodate the heavy truck loads.

Site access and location, as with all real estate, is important. However, visibility is not as crucial as access for large trucks and tractor trailers hauling heavy loads. In addition to easy access, the ability for trucks to get to the site from major road arteries and expressways and the proximity to distribution and manufacturing centres is important. It is preferable for buildings to be in industrial parks and away from residential areas but close to motorways, major airports and transportation hubs.

Major seaports can be a great demand generator for industrial space. Currently, imports into certain countries are rising causing increased demand for industrial space in surrounding markets and causing small seaports to expand to handle the extra capacity.



We review and analyse the shift of production overseas from key consumer jurisdictions and the consequent downsizing that results to onshore facilities. We see, for example, net absorption occurred in the U.S. within the last year. The pace of imports has helped to stabilise the market as well as efficiencies in the manufacturing process and distribution without increased labour costs. Business spending on equipment has been suggested as more of a lead indicator for the health of the industrial market. With continued growth in international trade, the demand for warehousing, storage and distribution centres will continue to grow in importing jurisdictions. However, rising energy costs that cause a large rise in production costs, could hinder future leasing and development.



## Appendix B: DBRS Underwriting and Sizing Guidelines

### DBRS Underwriting and Sizing Guidelines

Property Type	NET CASH FLOW ADJUSTMENTS <sup>1</sup>						SIZING ADJUSTMENTS <sup>1</sup>				
	Revenue	Vacancy	Management Fee	Capital Expenditures	Tenant Improvements	Leasing Commissions	Interest Rate	Refinance Constant	Amortization Term	Capitalization Rate	
Multi-family	T-12	5%	4.0%	€250 per unit	—	—	—	9.00%	9.66%–10.07%	25–30	8.00–9.50%
Manufactured Housing Community	T-12	5%	5.0%	€50 per pad	—	—	—	9.00%	9.66%–10.07%	25–30	8.00–10.00%
Industrial – Warehouse	Leases-in-Place	5%	3.0%	€0.15 psf	€0.75 <sup>2</sup>	€0.50 <sup>2</sup>	5.0%	9.00%	9.66%–10.80%	20–30	8.00–10.00%
Flex (Industrial/Office)	Leases-in-Place	5%/10%	4.0%	€0.15/€0.20 psf	€1/€10	€0.50/€5	5%/4%	9.00%	10.07%–10.80%	20–25	8.50–10.50%
Office	Leases-in-Place	10%	4.0%	€0.20 psf	Based on 75% of Annual Rents PSF	50% of New Tenant Improvements	5.0%	9.50%	10.48%	25	8.50–10.50%
Regional Mall	Leases-in-Place	5%	4.0%	€0.20 psf	€10 - €25	€5 - €10	5.0%	9.00%	9.66%–10.80%	20–30	7.50–10.00%
Anchored Retail	Leases-in-Place	5%	4.0%	€0.15 psf	€3–€5	€1–€3	5.0%	9.00%	10.07%	25	8.00–10.00%
Power Center	Leases-in-Place	5%	3.5%	€0.10 psf	€3–€5	€1–€3	5.0%	9.50%	10.48%	25	8.50–10.50%
Unanchored Retail	Leases-in-Place	10%	4.0%	€0.15 psf	€2–€4	€1–€2	5.0%	10.00%	11.58%	20	9.00–11.00%
Self Storage	T-12	10%	6.0%	€0.10 psf	—	—	—	10.50%	11.33%	20	10.00–12.00%
Hotel – Full Service	T-12	NA	11–14% <sup>3</sup>	5% (EGI)	—	—	—	10.50%	11.98%	20	10.00–12.00%
Hotel – Limited Service	T-12	NA	11–14% <sup>3</sup>	5% (EGI)	—	—	—	11.00%	12.39%	20	10.50–12.50%
Assisted Living	T-12	10%	5.0%	\$350 per unit	—	—	—	10.25%	11.78%	20	10.00–12.00%
Independent Living	T-12	7.5%	5.0%	\$300 per unit	—	—	—	9.75%	11.38%	20	9.00–11.00%
Skilled Nursing Facility	T-12	5%	5.0%	\$250 per bed	—	—	—	10.50%	11.98%	20	10.00–12.00%

1. Sizing adjustments are calculated based on balloon balance, see below for sizing constraints. DBRS guidelines are subject to change based on property and market specific attributes.

2. Assumes 5% office improvements. Office buildout in excess of 5% will be addressed based on size of office buildout.

3. Combination of Franchise Fee, Management Fee and Sales and Marketing Fees.

Notes:

EGI = Effective Gross Income

DBRS will use square feet or square meters as provided for on the property's rent roll

Currency will be reflective of the mortgage loan denominator.



# Appendix C: Sample DBRS Underwriting

€15,000,000 Office Building: Current Rent Roll																			
RR As Of: 5/30/04 Short Name: DBRS Underwritten Cash Flow																			
TENANT INFORMATION			NET RENTABLE AREA			UNDERWRITTEN BASE RENT			UNDERWRITTEN GROSS POTENTIAL RENT			Lease Dates			Lease Length (Yrs)				
Tenant Name	Lease Type	Tenant Class	Tenant Status	Occupancy	Contractual	Market	Underwritten	€ /Yr	PSF/Yr	PSF/Mo	Percentage Reimburse-ments	€ /Yr	PSF/Yr	%GPR	Lease Start	Lease End	Remain	Term	
Tenant 1	Net Office	Office	Leased	22,000	16.6%	18.00	14.00	308,000	14.00	1.17	0	280,416	588,416	14.9%	01/11/2003	31/10/2016	12.4	13.0	
Tenant 2	Net Retail	Retail	Leased	14,356	10.8%	22.00	15.00	215,340	15.00	1.25	0	156,416	371,756	25.90	01/11/2003	31/10/2016	12.4	13.0	
Tenant 3	Net Office	Office	Leased	12,345	9.3%	16.00	16.00	197,520	16.00	1.33	0	162,210	359,730	29.14	01/09/1999	31/08/2009	5.3	10.0	
Tenant 4	Net Office	Office	Leased	5,672	4.3%	17.00	17.00	96,424	17.00	1.42	0	60,069	156,493	27.59	01/07/1999	30/06/2004	0.1	5.0	
Tenant 5	Net Retail	Retail	Leased	4,567	3.4%	18.00	18.00	82,206	18.00	1.50	0	57,263	139,469	30.54	01/11/2003	31/10/2013	9.4	10.0	
Tenant 6	Net Office	Office	Leased	2,355	1.8%	18.00	18.00	42,390	18.00	1.50	0	41,637	84,027	35.68	01/11/2003	31/10/2011	7.4	8.0	
Tenant 7	Net Office	Office	Leased	6,434	4.9%	19.00	18.00	115,812	18.00	1.50	0	92,452	208,264	32.37	01/07/2000	30/06/2014	10.1	14.0	
Tenant 8	Net Office	Office	Leased	7,453	5.6%	18.00	13.00	96,889	13.00	1.08	0	107,651	204,540	27.44	01/11/2000	31/10/2005	1.4	5.0	
Tenant 9	Net Retail	Retail	Leased	8,431	6.4%	20.00	20.00	168,620	20.00	1.67	0	144,560	313,180	37.15	01/11/2003	31/10/2013	9.4	10.0	
Tenant 10	Net Retail	Retail	Leased	2,354	1.8%	15.00	15.00	35,310	15.00	1.25	0	36,630	71,940	30.56	01/11/2003	31/10/2016	12.4	13.0	
Tenant 11	Net Retail	Retail	Leased	7,653	5.8%	11.75	11.75	89,923	11.75	0.98	0	119,064	208,986	27.31	01/11/2003	31/10/2016	12.4	13.0	
Tenant 12	Net Office	Office	Leased	5,243	4.0%	18.00	18.00	94,374	18.00	1.50	0	92,039	186,413	35.55	02/04/2001	01/03/2006	1.8	5.0	
Tenant 13	Net Office	Office	Leased	4,078	3.1%	19.00	18.00	73,404	18.00	1.50	0	73,809	147,213	36.10	01/07/2003	30/06/2014	10.1	11.0	
Tenant 14	Net Office	Office	Leased	5,026	3.8%	13.50	13.50	67,851	13.50	1.13	0	90,506	158,357	31.51	01/04/2000	31/03/2014	9.8	14.0	
Tenant 15	Net Office	Office	Leased	6,001	4.5%	14.00	14.00	84,014	14.00	1.17	0	97,393	181,407	30.23	01/02/2003	01/03/2006	1.8	3.0	
Tenant 16	Net Retail	Retail	Leased	3,034	2.3%	15.00	15.00	45,510	15.00	1.25	0	48,433	93,943	30.96	01/11/2003	31/10/2013	9.4	10.0	
Tenant 17	Net Office	Office	Leased	4,056	3.1%	15.00	15.00	60,840	15.00	1.25	0	63,653	124,493	30.69	01/04/2002	31/03/2006	1.8	4.0	
Tenant 18	Net Office	Office	Leased	4,365	3.3%	16.00	16.00	69,840	16.00	1.33	0	65,836	135,676	31.08	01/11/2000	31/10/2004	0.4	4.0	
Tenant 19	Net Retail	Retail	Leased	1,020	0.8%	28.00	22.00	22,440	22.00	1.83	0	22,206	44,646	43.77	01/05/2002	30/04/2010	5.9	8.0	
Tenant 20	Net Retail	Retail	Leased	500	0.4%	25.00	22.00	11,000	22.00	1.83	0	6,532	17,532	35.06	01/02/2000	31/01/2014	9.7	14.0	
Vacant Office	Net Office	Office	Vacant	3,500	2.6%	18.00	18.00	63,000	18.00	1.50	0	24,725	87,725	25.06	01/01/1901	01/01/1901	0.0	0.0	
Vacant Retail	Net Retail	Retail	Vacant	2,100	1.6%	22.00	22.00	46,200	22.00	1.83	0	14,835	61,035	29.06	01/01/1901	01/01/1901	0.0	0.0	
<b>TOTALS BY OCCUPANCY STATUS (a)</b>			<b># Spaces</b>		<b>Total</b>		<b>Total</b>		<b>Wtd Avg (b)</b>		<b>Total</b>		<b>Wtd Av</b>		<b>% Total</b>		<b>Wtd Avg (b)</b>		
Leased			20		1,977,707		1,977,707		14.92		0	1,818,773	3,796,480	28.64			8.0	10.0	
Subleased			0		0		0		0.00		0	0	0	0.00			0.0	0.0	
MTM			0		0		0		0.00		0	0	0	0.00			0.0	0.0	
Dark			0		0		0		0.00		0	0	0	0.00			0.0	0.0	
<b>Total Occupied</b>			<b>20</b>		<b>€1,977,707</b>		<b>€1,977,707</b>		<b>14.92</b>		<b>€0</b>	<b>€1,818,773</b>	<b>€3,796,480</b>	<b>28.64</b>			<b>8.0</b>	<b>10.0</b>	
Vacant			2		109,200		109,200		0.82		0	39,560	148,760	1.12			0.0	0.0	
<b>Total</b>			<b>22</b>		<b>€2,086,907</b>		<b>€2,086,907</b>		<b>15.75</b>		<b>€0</b>	<b>€1,858,333</b>	<b>€3,945,240</b>	<b>29.77</b>			<b>7.7</b>	<b>9.6</b>	
<b>Total Square Footage Has Changed</b>																			
<b>TOTALS BY TENANT CLASS</b>																			
Office			13		1,370,358		1,370,358		15.48		0	1,252,395	2,622,753	29.63			6.2	8.8	
Retail			9		716,549		716,549		16.28		0	605,938	1,322,487	30.05			10.6	11.2	

Notes:  
DBRS will use square feet or square meters as provided for on the property's rent roll  
Currency will be reflective of the mortgage loan denominator



€15,000,000 Office Building: Cash Flow Analysis

# Sq Ft: 132,543

OpStmnt Name Type As-Of Date   Mos   Adjusted Source	Historical 12/31/2002		Historical 12/31/2003		Historical 12/31/2004 3:58 pm		10/13/05		12Mo		DBRS Concluded No Underwriting % Notes
	Amount	%	Amount	%	Amount	%	Amount	%	PSF	PSF	
Physical Occupancy %	90.0%		95.0%		93.0%		0.0%				
<b>INCOME:</b>											
% GPR Base Rent	1,800,000	49.3%	1,950,000	50.6%	1,970,000	50.6%	2,086,907	50.6%	15.75	15.75	52.9% LIP (Mk to Mkt), Vacant Mk to Mkt
" CAM Reimbursement	1,850,000	50.7%	1,900,000	49.4%	1,920,000	49.4%	1,858,333	49.4%	14.02	14.02	47.1% Contractual Reimbursement
" Tax Reimbursement	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Insurance Reimbursement	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Management Fee Reimbursement	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Other Reimbursement	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Percentage Rent	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" <b>Gross Potential Revenues</b>	<b>3,650,000</b>	<b>100.0%</b>	<b>3,850,000</b>	<b>100.0%</b>	<b>3,890,000</b>	<b>100.0%</b>	<b>3,945,240</b>	<b>100.0%</b>	<b>29.77</b>	<b>29.77</b>	<b>100.0%</b>
" Less: Vacancy Loss	0	0.0%	0	0.0%	0	0.0%	394,524	10.0%	2.98	2.98	10.0% Market vacancy
" Less: Concessions	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Less: Credit Loss	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" <b>Net Rental Income</b>	<b>3,650,000</b>	<b>100.0%</b>	<b>3,850,000</b>	<b>100.0%</b>	<b>3,890,000</b>	<b>100.0%</b>	<b>3,550,716</b>	<b>100.0%</b>	<b>26.79</b>	<b>26.79</b>	<b>90.0%</b>
" Parking Income	56,000	0.42	60,000	1.6%	66,000	1.6%	60,667	1.7%	0.46	0.46	1.5% Historical Average
" <b>Effective Gross Income</b>	<b>3,706,000</b>	<b>101.5%</b>	<b>3,910,000</b>	<b>101.6%</b>	<b>3,956,000</b>	<b>101.7%</b>	<b>3,611,383</b>	<b>101.7%</b>	<b>27.25</b>	<b>27.25</b>	<b>91.5%</b>
<b>OPERATING EXPENSES:</b>											
%EGI Real Estate Taxes	300,000	2.26	325,000	8.3%	335,000	8.3%	335,000	8.5%	2.53	2.53	9.3% Actual Tax Bill
" Property Insurance	250,000	1.89	270,000	6.7%	285,000	6.9%	295,000	7.2%	2.23	2.23	8.2% Actual Insurance Premium
" Ground Rent	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" <b>Total Fixed Expenses</b>	<b>550,000</b>	<b>4.15</b>	<b>595,000</b>	<b>14.8%</b>	<b>620,000</b>	<b>15.2%</b>	<b>630,000</b>	<b>15.7%</b>	<b>4.75</b>	<b>4.75</b>	<b>17.4%</b>
" Utilities	135,000	1.02	137,000	3.6%	139,000	3.5%	139,000	3.5%	1.05	1.05	3.8% T-12
" Repairs & Maintenance	200,000	1.51	210,000	5.4%	220,000	5.4%	220,000	5.6%	1.66	1.66	6.1% T-12
" Janitorial	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Management Fee	155,000	1.17	153,000	4.0%	154,000	4.0%	142,029	4.0%	1.07	1.07	4.0% Contractual Mgmt Fee
%EGI Payroll Expense	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Advertising & Marketing	0	0.0%	206,000	5.3%	216,000	5.3%	216,000	5.5%	1.63	1.63	6.0% T-12
" Security	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Professional Fees	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" General & Administrative	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" Other Expenses	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" <b>Total Operating Expenses</b>	<b>1,040,000</b>	<b>7.85</b>	<b>1,301,000</b>	<b>28.1%</b>	<b>1,349,000</b>	<b>33.3%</b>	<b>1,347,029</b>	<b>34.1%</b>	<b>10.16</b>	<b>10.16</b>	<b>37.3%</b>
Reimbursement Ratio	177.0%		146.0%		142.0%		138.0%				
<b>%EGI NET OPERATING INCOME</b>	<b>2,666,000</b>		<b>2,609,000</b>		<b>2,607,000</b>		<b>2,264,354</b>				
<b>CAPITAL EXPENDITURES:</b>											
%EGI Tenant Improvements	75,000	0.57	73,000	1.9%	70,000	1.9%	53,776	1.8%	0.41	0.41	1.5% Calculated per rent roll projection
" Leasing Commissions	65,000	0.49	67,000	1.8%	55,000	1.7%	48,775	1.4%	0.37	0.37	1.4% Calculated per rent roll projection
" Replacement Reserves	0	0.0%	0	0.0%	0	0.0%	26,509	0.7%	0.20	0.20	DBRS minimum requirement
" Other Capital Expenditures	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.00	0.00	0.0%
" <b>Total Capital Expenditures</b>	<b>140,000</b>	<b>1.06</b>	<b>140,000</b>	<b>3.8%</b>	<b>125,000</b>	<b>3.6%</b>	<b>129,060</b>	<b>3.2%</b>	<b>0.97</b>	<b>0.97</b>	<b>3.6%</b>
<b>%EGI NET CASH FLOW</b>	<b>2,526,000</b>	<b>19.06</b>	<b>2,469,000</b>	<b>68.2%</b>	<b>2,482,000</b>	<b>63.1%</b>	<b>2,135,294</b>	<b>62.7%</b>	<b>16.11</b>	<b>16.11</b>	<b>59.1%</b>

Notes:  
DBRS will use square feet or square meters as provided for on the property's rent roll  
Currency will be reflective of the mortgage loan denominator



## Appendix D: DBRS Underwriting and Sizing Guidelines

### DBRS Large Loan Sizing Parameters

Property Type	Rating	DSCR Range		LTV Range	
		Low	High	Low	High
Regional Mall	AAA	1.90	2.10	45.0%	50.0%
Regional Mall	AA	1.70	1.90	50.0%	55.0%
Regional Mall	A	1.50	1.70	55.0%	60.0%
Regional Mall	BBB	1.35	1.55	60.0%	65.0%
Regional Mall	BBB (low)	1.28	1.48	65.0%	70.0%
Multi-family	AAA	1.95	2.15	42.5%	47.5%
Multi-family	AA	1.75	1.95	47.5%	52.5%
Multi-family	A	1.55	1.75	52.5%	57.5%
Multi-family	BBB	1.40	1.60	57.5%	62.5%
Multi-family	BBB (low)	1.33	1.53	62.5%	67.5%
Retail – Anchored	AAA	2.00	2.20	40.0%	45.0%
Retail – Anchored	AA	1.78	2.00	45.0%	50.0%
Retail – Anchored	A	1.58	1.78	50.0%	55.0%
Retail – Anchored	BBB	1.45	1.65	55.0%	60.0%
Retail – Anchored	BBB (low)	1.38	1.58	60.0%	65.0%
Industrial	AAA	2.00	2.20	40.0%	45.0%
Industrial	AA	1.78	2.00	45.0%	50.0%
Industrial	A	1.58	1.78	50.0%	55.0%
Industrial	BBB	1.45	1.65	55.0%	60.0%
Industrial	BBB (low)	1.38	1.58	60.0%	65.0%
Office	AAA	2.20	2.50	37.5%	42.5%
Office	AA	1.90	2.20	42.5%	47.5%
Office	A	1.60	1.90	47.5%	52.5%
Office	BBB	1.50	1.80	55.0%	60.0%
Office	BBB (low)	1.43	1.73	57.5%	62.5%
Retail – Unanchored	AAA	2.25	2.55	35.0%	40.0%
Retail – Unanchored	AA	1.95	2.25	40.0%	45.0%
Retail – Unanchored	A	1.65	1.95	45.0%	50.0%
Retail – Unanchored	BBB	1.55	1.85	52.5%	57.5%
Retail – Unanchored	BBB (low)	1.48	1.78	55.0%	60.0%
Lodging – Full	AAA	2.95	3.35	27.5%	32.5%
Lodging – Full	AA	2.60	3.00	32.5%	37.5%
Lodging – Full	A	2.20	2.60	37.5%	42.5%
Lodging – Full	BBB	1.85	2.25	42.5%	47.5%
Lodging – Full	BBB (low)	1.75	2.15	47.5%	52.5%
Lodging – Limited	AAA	3.00	3.40	25.0%	30.0%
Lodging – Limited	AA	2.65	3.05	30.0%	35.0%
Lodging – Limited	A	2.25	2.65	35.0%	40.0%
Lodging – Limited	BBB	1.90	2.30	40.0%	45.0%
Lodging – Limited	BBB (low)	1.80	2.20	45.0%	50.0%

1. DSCR is determined based off the more constraining of Term DSCR or Refinance DSCR. Term DSCR is calculated using the cut-off balance measured against DBRS's stabilized net cash flow and the maximum actual annual debt service. By applying refinance constants to the balloon amount DBRS calculates Refinance Debt Service. DBRS's stabilized net cash flow is then divided by the Refinance Debt Service to obtain a Refinance DSCR.

2. LTV is calculated based on DBRS's stabilized net cash flow capped at DBRS's capitalization rates.

3. Refinance constants and capitalization rates are determined based on property quality, cash flow stability, market conditions and sponsor strength.



# APPENDIX E: DBRS DIRECT SIZING EXAMPLE

DBRS Large Loan Sizing									
Property Info		Loan Info			DSCR Sizing	DSCR Hurdle	Proceeds	Cumulative Proceeds	C/E
Property Name	Office Building	Interest Rate	5.750%		AAA	2.35	369,971,374	369,971,374	30.846%
Size	1,500,000	Remaining Term	120		AA (high)	2.20	25,225,321	395,196,695	26.131%
Address	123 High Street	Remaining Amort	360		AA	2.05	28,916,831	424,113,526	20.726%
City, Nation	London, UK	Remaining IO	120		AA (low)	1.95	21,749,412	445,862,937	16.661%
Property Type	Office	Annual DS (post IO)	37,465,377		A (high)	1.85	24,100,699	469,963,637	12.156%
					A	1.75	26,855,065	496,818,702	7.137%
					A (low)	1.71	12,106,814	508,925,516	4.874%
Amortization		Net Cash Flow			BBB (high)	1.67	12,711,606	521,637,122	2.498%
Current Balance	535,000,000	Issuer NCF	77,233,872		BBB	1.63	13,362,878	535,000,000	0.000%
Balloon Balance	535,000,000	DBRS NCF	76,075,364		BBB (low)	1.58			
% Amortized	0.0%	Haircut	-1.5%		BB (high)	1.48			
DSCR		LTV			BB	1.45			
Issuer DSCR	2.06	DBRS LTV	59.8%		BB (low)	1.42			
DBRS Term DSCR	2.03	DBRS Ref LTV	59.8%		B (high)	1.38			
DBRS Ref DSCR	1.63	DBRS Cap Rate	8.500%		B	1.35			
DBRS Constant	8.750%	DBRS Value	895,004,279		B (low)	1.32			
Actual Constant	7.003%	Appraised Value	1,000,000,000		NR				
		Appraised LTV	53.5%						
Other Parameters									
DSCR Hurdle Type	Midpoint				LTV Sizing	LTV Hurdle	Proceeds	Cumulative Proceeds	C/E
LTV Hurdle Type	Midpoint				AAA	40.000%	358,001,712	358,001,712	33.084%
Country	U.K.				AA (high)	42.500%	22,375,107	380,376,818	28.902%
DSCR Constraining	Ref				AA	45.000%	22,375,107	402,751,925	24.719%
					AA (low)	46.667%	14,916,738	417,668,663	21.931%
					A (high)	48.333%	14,916,738	432,585,401	19.143%
					A	50.000%	14,916,738	447,502,139	16.355%
					A (low)	52.500%	22,375,107	469,877,246	12.172%
					BBB (high)	55.000%	22,375,107	492,252,353	7.990%
					BBB	57.500%	22,375,107	514,627,460	3.808%
					BBB (low)	59.776%	20,372,540	535,000,000	0.000%
					BB (high)	64.167%			
					BB	67.500%			
					BB (low)	70.833%			
					B (high)	74.167%			
					B	77.500%			
					B (low)	80.833%			

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