

Real Estate Secured Debt Credit Rating Methodology

Fedafin's credit rating methodology for credit rating assignments to real estate (pool) secured debt instruments

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1. General Remarks

This credit rating methodology is generally applicable on debt instruments secured with a real estate property or a real estate property pool as collateral.

The most common instruments are property secured mortgages, loan notes, or bonds issued by private or corporate borrowers in order to cover their funding needs. Frequent corporate borrowers are real estate companies and cooperatives. The credit rating methodology for this group of instruments evaluates the relevant risk factors predominantly addressed by the analysis of the quantitative risk profile, the soft risk profile, and the support profile.

Specific risk factors in a more complex transaction environment with potential impact on an instrument's creditworthiness are addressed by a further analysis of the structural risk profile.¹ Borrowers in this context, frequently affiliated with financial institutions, are often non-corporate issuers such as real estate funds, trusts, foundations, and special-purpose vehicles (SPV).

2. Expected Loss Credit Rating Assignment

As a starting point for the assignment of a real estate secured debt credit rating the quantitative risk profile is analysed as described in fedafin's expected loss credit rating methodology (see figure 1).²

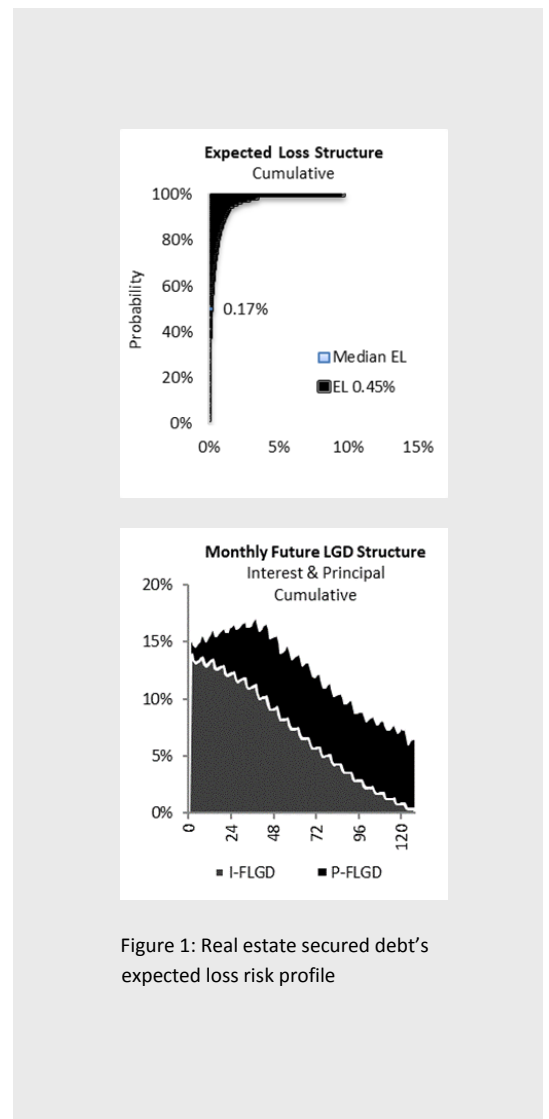


Figure 1: Real estate secured debt's expected loss risk profile

¹ This methodology also applies to senior unsecured debt instruments such as, for example, instruments with privileged recourse to the asset pool in a real estate fund.

² Available for download on fedafin's website (www.fedafin.com)

3. Stand-alone Credit Rating Assignment

Soft Risk Profile

In a next step, the credit risk assessment is amplified by the evaluation of qualitative collateral features, which might impact an instrument's creditworthiness (see figure 2). The evaluation of the soft risk profile considers two categories of criteria, which are specified by the following examples of credit rating relevant issues:

Property Quality

- property type, age and size structure
- micro and macro location features
- appraiser's valuation methodology and guidelines

Tenant Quality

- tenant type and diversification structure
- average (minimum) rental period
- level and volatility of vacancy rate

The price sensitivity of real estate properties may substantially depend on qualitative features such as the property age, apartment size, and living standard. These characteristics are assessed together with the regional location of a property and the regional growth situation. Project developments are considered separately and assessed depending on the business model and specific risk features. Property appraisers are assessed in terms of regulatory recognition, valuation methodology, and reputation. In addition to that, the analysts may choose to check appraiser's estimates on commercial property valuations based on own assumptions on rental income, vacancy rate, and age-related expenditure needs.

The tenant structure can provide insights on about the stability of rental income and rental income potential. The tenant type ranges from a single operating company to very heterogeneous tenant groups. Long-term tenancies, sometimes with minimum requirements in rental and operating contracts, are beneficial for the credit rating assignment. A major risk for rental income stems from vacancies. Low and stable vacancy rates tend to improve the credit rating assignment.

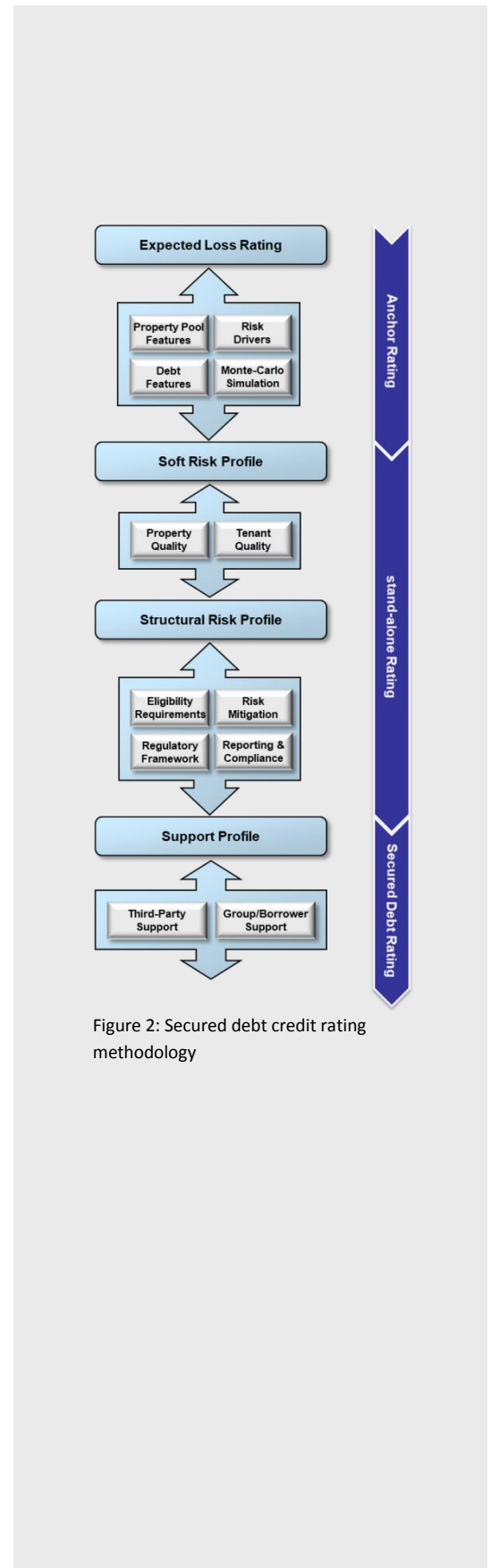


Figure 2: Secured debt credit rating methodology

In a property pool context, further factors such as concentration risk and delinquency rates on rental income are considered. Concentration risk is usually measured by a Gini coefficient focusing on diversification in terms of geography, real estate segment, and rental income.

Structural Risk Profile

In a next step, the credit risk assessment is amplified by the evaluation of structural features determining the transaction environment, which might impact an instrument's creditworthiness (see figure 2). The evaluation of the structural risk profile considers four categories of criteria, which are specified by the following examples of credit rating relevant issues:

Regulatory Framework

- asset segregation in case of insolvency
- mandatory oversight and control provisions
- mandatory credit enhancement provisions

Eligibility Requirements

- property pool diversification requirements
- funding and liquidity requirements
- treatment of under-performing assets and income producing real estate (IPRE)

Risk Mitigation

- contractual credit enhancement provisions
- property sale and debt redemption provisions

Reporting & Compliance

- reporting and disclosure standard
- eligibility criteria and requirements compliance

The analyst's task starts with an evaluation of the relevant legal and regulatory framework governing the issuance of secured debt instruments. In the absence of the before-mentioned framework the contractual agreements are considered instead. Independent oversight, effective asset segregation in the case of related entity's insolvency event, mandatory risk management guidelines, requirements for over-collateralization, and credit enhancement features are beneficial for the credit rating assignment.

Frequently, eligibility criteria are set up in order to maintain a certain quality and diversification standard of a property pool. Such criteria may include, among others, diversification requirements for real estate segments and geographical locations, property valuation requirements, funding and over-collateralization requirements, minimum liquidity reserves or the treatment and replacing of under-performing assets.

Risk mitigating features include, among others, liquidity cushions provided by reserves and credit facilities of the issuer and related entities. Refinancing risk mitigation can be achieved through effective property sale provisions or the exclusion of early redemption provisions for debt instruments.

Reporting and disclosure standards are a prerequisite for a thorough understanding and assessment of all credit rating relevant risk factors. Furthermore, a high standard allows for a comprehensive track record of compliance with requirement and eligibility criteria by the issuer and its affiliated entities.

4. Secured Debt Credit Rating Assignment

Finally, the credit risk assessment is completed by the evaluation of explicit guarantees and possible factors, which might raise the probability of a support impacting an instrument's creditworthiness (see figure 2). Support can originate from a corporate borrower or from affiliated entities within a group. The evaluation of the support profile considers the following two categories of support providers:

Third-Party Support

- economically or politically too-important-to-fail
- public sector control, ownership or pre-emption rights

Borrower Support

- corporate core business line or real estate properties
- corporate commitments to maintain payment ability

The assessment of the likelihood of an implicit public-sector support for a borrower's legal entity is based on criteria such as the nature and extent of mandatory public services; regional or systemic contagion risks at the expense of public sector budgets or political opportunity costs to preserve re-election opportunities. In addition to significant institutional control and ownership rights, for example, public

sector entities frequently hold pre-emption rights for real estate portfolios of residential construction cooperatives.

A borrower or an affiliated entity may demonstrate its capacity and willingness to provide additional funds and thus reducing the risk of a potential payment shortfall. The credit risk assessment may be improved by commitments to maintain due payment ability such as, among others, granting shareholder loans or providing a letter of intent declaring a significant limitation of dividend or fee payments. Moreover, real estate secured funding becomes increasingly present in the public sector, generally raising the issue of ranking in the assignment of public entity credit ratings. In terms of collateralizing public-sector loan notes, for example, a municipal core property as collateral may be beneficial for the credit rating assignment too.

5. Credit Rating Assignment Methodology

Based on the quantitative risk analysis, the credit risk assessment is amplified by the evaluation of qualitative, structural and support credit rating criteria impacting an instrument's creditworthiness (see figure 3).

The qualitative risk profile is assessed on the basis of a matrix with five levels for the soft risk profile and seven levels for the structural risk profile. The scope of a possible credit rating change due to the qualitative risk assessment is in a range of +/- five credit rating notches. The analyst team may deviate from the standard selection and weighting of credit rating relevant risk factors, if it considers this to be appropriate in a specific credit rating case. Fedafin therefore acknowledges that in certain cases a very pronounced strength can more than compensate other existing weaknesses and, conversely, a very pronounced weakness can override major strengths in other areas.

The support profile is assessed on a scale of six levels from 0% to 100%. The extent of any credit rating enhancement depends (1) on the analyst team's assessment of the support likelihood and (2) on the credit rating distance between the stand-alone credit rating and the issuer credit rating of the relevant support provider. If, at the time the credit rating is assigned, no issuer credit rating for the supporter exists as a reference, the corresponding issuer credit rating of another accredited credit rating agency may alternatively be used.

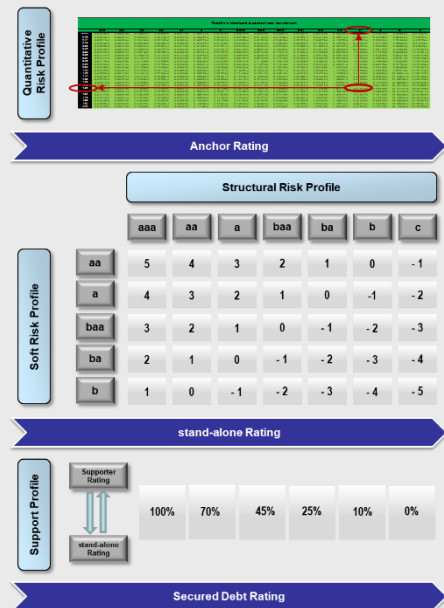
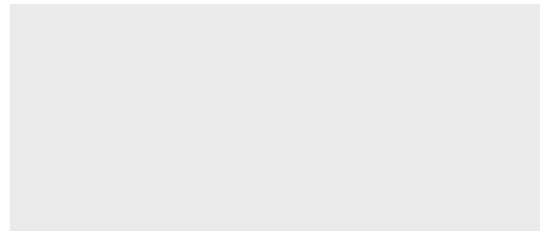


Figure 3: Credit rating assignment methodology

The final assessment by the analyst team leads to a credit rating proposal to the credit rating committee. The final credit rating is decided upon and released by the credit rating committee in accordance with fedafin's internal guidelines and compliant with the relevant regulatory standards.



Contact

fedafin AG
Galerieweg 8
CH-9443 Widnau

Phone: +41 71 552 32 00
Email: info@fedafin.ch
Website: www.fedafin.ch

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Annex 1: fedafin's Idealised Annual Cumulative Expected Loss Rates Benchmark

	Aaa	Aa+	Aa	Aa-	A+	A	A-	Baa+	Baa	Baa-	Ba+	Ba	Ba-	B+	B	B-	C
1	0.0008%	0.0021%	0.0041%	0.0077%	0.0133%	0.0224%	0.0381%	0.0671%	0.1381%	0.2227%	0.3516%	0.5417%	0.9052%	1.7767%	3.4083%	7.1046%	17.1281%
2	0.0019%	0.0052%	0.0104%	0.0194%	0.0331%	0.0567%	0.0949%	0.1690%	0.3244%	0.5212%	0.8072%	1.2200%	2.0093%	3.7514%	6.7317%	12.7277%	27.6912%
3	0.0036%	0.0099%	0.0197%	0.0357%	0.0605%	0.1038%	0.1702%	0.3020%	0.5501%	0.8792%	1.3456%	2.0065%	3.2534%	5.8093%	9.8635%	17.2548%	34.3875%
4	0.0061%	0.0165%	0.0325%	0.0572%	0.0965%	0.1641%	0.2644%	0.4636%	0.8098%	1.2860%	1.9508%	2.8772%	4.5891%	7.8746%	12.7598%	20.9610%	38.7799%
5	0.0094%	0.0254%	0.0495%	0.0847%	0.1418%	0.2381%	0.3774%	0.6515%	1.0999%	1.7338%	2.6091%	3.8110%	5.9779%	9.8988%	15.4105%	24.0441%	41.7784%
6	0.0139%	0.0372%	0.0713%	0.1185%	0.1969%	0.3262%	0.5091%	0.8642%	1.4176%	2.2166%	3.3095%	4.7899%	7.3901%	11.8521%	17.8238%	26.6473%	43.9171%
7	0.0196%	0.0523%	0.0982%	0.1593%	0.2623%	0.4284%	0.6593%	1.0999%	1.7607%	2.7292%	4.0421%	5.7988%	8.8026%	13.7177%	20.0164%	28.8752%	45.5125%
8	0.0270%	0.0709%	0.1308%	0.2076%	0.3383%	0.5450%	0.8276%	1.3574%	2.1271%	3.2670%	4.7987%	6.8247%	10.1986%	15.4870%	22.0082%	30.8052%	46.7543%
9	0.0361%	0.0937%	0.1695%	0.2636%	0.4252%	0.6758%	1.0136%	1.6353%	2.5146%	3.8260%	5.5720%	7.8569%	11.5659%	17.1571%	23.8196%	32.4950%	47.7579%
10	0.0472%	0.1208%	0.2147%	0.3278%	0.5232%	0.8208%	1.2167%	1.9321%	2.9215%	4.4025%	6.3560%	8.8870%	12.8957%	18.7290%	25.4703%	33.9886%	48.5950%

Annex 2: fedafin's Idealised Annual Cumulative Default Probability Benchmark

	Aaa	Aa+	Aa	Aa-	A+	A	A-	Baa+	Baa	Baa-	Ba+	Ba	Ba-	B+	B	B-	C
1	0.0026%	0.0056%	0.0097%	0.0171%	0.0279%	0.0448%	0.0738%	0.1261%	0.2531%	0.3995%	0.6187%	0.9368%	1.5410%	2.9819%	5.6459%	11.6273%	27.7188%
2	0.0065%	0.0140%	0.0247%	0.0428%	0.0691%	0.1136%	0.1835%	0.3175%	0.5946%	0.9348%	1.4201%	2.1096%	3.4207%	6.2961%	11.1510%	20.8301%	44.8133%
3	0.0123%	0.0264%	0.0467%	0.0787%	0.1264%	0.2078%	0.3293%	0.5676%	1.0084%	1.5769%	2.3674%	3.4698%	5.5386%	9.7498%	16.3389%	28.2391%	55.6502%
4	0.0205%	0.0440%	0.0773%	0.1263%	0.2016%	0.3286%	0.5115%	0.8711%	1.4844%	2.3065%	3.4321%	4.9753%	7.8125%	13.2161%	21.1366%	34.3047%	62.7584%
5	0.0318%	0.0680%	0.1178%	0.1868%	0.2962%	0.4768%	0.7301%	1.2243%	2.0161%	3.1098%	4.5904%	6.5901%	10.1770%	16.6133%	25.5275%	39.3505%	67.6109%
6	0.0469%	0.0995%	0.1695%	0.2615%	0.4114%	0.6531%	0.9848%	1.6239%	2.5985%	3.9757%	5.8226%	8.2829%	12.5810%	19.8917%	29.5252%	43.6109%	71.0721%
7	0.0664%	0.1396%	0.2336%	0.3515%	0.5480%	0.8578%	1.2753%	2.0669%	3.2274%	4.8950%	7.1115%	10.0274%	14.9857%	23.0227%	33.1572%	47.2570%	73.6541%
8	0.0912%	0.1895%	0.3111%	0.4579%	0.7068%	1.0912%	1.6009%	2.5508%	3.8989%	5.8596%	8.4426%	11.8014%	17.3623%	25.9921%	36.4566%	50.4155%	75.6637%
9	0.1220%	0.2501%	0.4031%	0.5815%	0.8883%	1.3531%	1.9606%	3.0729%	4.6093%	6.8622%	9.8031%	13.5864%	19.6899%	28.7953%	39.4573%	53.1811%	77.2878%
10	0.1595%	0.3226%	0.5105%	0.7232%	1.0930%	1.6434%	2.3535%	3.6307%	5.3550%	7.8962%	11.1823%	15.3676%	21.9539%	31.4334%	42.1915%	55.6255%	78.6425%