

Risk-Weighted Asset Calculation Methodology Under Basel III

What are Risk-Weighted Assets?

Quick research on risk-weighted assets produced the following explanation from an article in 2020 on Investopedia (full article linked below) *“Risk-weighted assets are used to determine the minimum amount of capital a bank must hold in relation to the risk profile of its lending activities and other assets. This is done to reduce the risk of insolvency and protect depositors. The more risk a bank has, the more capital it needs on hand. The capital requirement is based on a risk assessment for each type of bank asset.*

For example, a loan that is secured by a letter of credit is considered to be riskier than a mortgage loan that is secured with collateral and thus requires more capital.”

Basel III Capital Adequacy Ratio Minimum Requirement

Similarly, quick research on Basel III produces the following from another Investopedia article from 2021 (also linked below) *“The capital adequacy ratio is calculated by adding tier 1 capital to tier 2 capital and dividing it by risk-weighted assets. Tier 1 capital is the core capital of a bank, which includes equity capital and disclosed reserves. This type of capital absorbs losses without requiring the bank to cease its operations; tier 2 capital is used to absorb losses in the event of a liquidation. As of 2020, under Basel III, a bank’s tier 1 and tier 2 minimum capital adequacy ratio (including the capital conservation buffer) must be at least 10.5% of its risk-weighted assets RWA). That combines the total capital requirement of 8% with the 2.5% capital conservation buffer. The capital conservation buffer recommendation is designed to build up banks’ capital, which they could use in periods of stress.”*

Basel III Example

“For example, assume Bank A has \$5 million in tier 1 capital and \$3 million in tier 2 capital. Bank A loaned \$5 million to ABC Corporation, which has 25% riskiness, and \$50 million to XYZ Corporation, which has 55% riskiness.

Bank A has risk-weighted assets of \$28.75 million ($\$5 \text{ million} \times 0.25 + \$50 \text{ million} \times 0.55$). It also has a capital of \$8 million ($\$5 \text{ million} + \3 million). Its resulting total capital adequacy ratio is 27.83% ($\$8 \text{ million} / \$28.75 \text{ million} \times 100$), and its Tier 1 ratio is 17.39% ($\$5 \text{ million} / \$28.75 \text{ million} \times 100$).

Therefore, Bank A attains the minimum capital adequacy ratios under Basel III.”

Source: <https://www.investopedia.com/terms/r/riskweightedassets.asp>

<https://www.investopedia.com/ask/answers/062515/what-minimum-capital-adequacy-ratio-must-be-attained-under-basel-iii.asp>