

Impact of Basel III on Trade Finance: The Regs, the Numbers and the Business PART II

Pricing Models

Ana Kube

May 2016

Key Profitability Metrics

Standardized Approach vs. Advanced Approach

| Basel III Standardize Approach (B3S) | |
|--------------------------------------|---|
| B3A= | $\frac{\text{Net Income After Tax (NIAT)}}{\text{B3A Capital}}$ |

- A deterministic measure not related to a borrower's risk profile
- Provides an uniform view based on regulatory defined Risk-Weights
- Excludes operational risk and credit valuation adjustment
- Can overstate or understate capital in varying market cycles

| Basel III Advance Approach (B3A) | |
|----------------------------------|---|
| B3A= | $\frac{\text{Net Income After Tax (NIAT)}}{\text{B3S Capital}}$ |

- An empirical, risk based approach based on statistical drivers and specific experience/data of individual banks
- Includes operational risk and credit valuation adjustments
- Takes into consideration variable risk factors depending on varying market cycles

Overview of Regulatory Capital

Standardized Approach vs. Advanced Approach

B3 Standardized Approach (B3S)

- Applies to all banks and replaces Basel I
- A deterministic measure not related to a borrower's risk profile
- A uniform view based on regulatory defined Risk-Weights
- Excludes operational risk and credit valuation adjustment
- Can overstate or understate capital in varying market cycles
- Provides uniform and standard approach for measuring and comparing capital ratios across firms

$$RWA = (\text{Funded} + (\text{Unfunded} \times \text{CCF})) \times RW^{(1)}$$

| Selected B3S CCFs by Product Type | |
|---|------|
| Loans & Leases | 100% |
| Unfunded Binding Commitments <1yr (e.g., 364-Day Revolvers) | 20% |
| Unfunded Binding Commitments >1yr | 50% |
| Commercial Letters of Credit | 20% |
| Standby - Performance | 50% |
| Standby - Financial | 100% |

B3 Advanced Approach (B3A)

- Banks can apply for permission to use advanced model
- An empirical, risk-based approach based on statistical drivers and specific experience/data of individual banks
- Includes operational risk and credit valuation adjustment
- Takes into consideration variable risk factors:
 - Favorable capital impact in positive market cycles
 - Less favorable capital impact in stressed market cycles

$$RWA = EAD \times K \times 12.5$$

| Risk-Based Drivers | | |
|-----------------------------------|-------------------------------|--------------------|
| Exposure at Default (EAD) | • Obligor risk rating | • Utilization rate |
| | • Instrument type | • Commitment type |
| K ⁽²⁾ | Probability of Default ("PD") | |
| | Loss Given Default | • Collateral Value |
| | • Instrument type | • Country |
| Maturity or Remaining Tenor ("M") | | |



- U.S. Regulators passed the Collins Amendment to The Dodd-Frank Act, ruling that banks may not hold any less capital under Basel 3 than was previously required under Basel 1
- Large US banks must report capital under both approaches and hold capital equivalent to the higher of B3S or B3A
- EU Banks can choose to apply for permission to use advanced models for credit, market, operational and counterparty risk

(1) RWA = Risk Weighted Assets; CCF = Credit Conversion Factors; RW = Risk Weight

(2) K = Capital Requirement Factor

Basel 3 Standardized Risk Weights and Credit Conversion Factors

1

2

$$\text{B3S RWA} = \text{EAD} * \text{Risk Weight Factor}$$

- Off-balance sheet (unfunded) exposures are converted to Exposure at Default (EAD) based on the credit conversion factors (CCF) below
- B3 Standardized RWA is then calculated by applying the applicable risk weight (table to the right) to the EAD

1. B3 Standardized Conversion factors for off-balance sheet items

| | |
|---|------|
| Unused portion of an unconditionally cancellable commitment | 0% |
| Self-liquidating trade-related contingent items, with an original maturity ≤ 1 year | 20% |
| Amount of a commitment with original maturity ≤ 1 year, not unconditionally cancellable | 20% |
| Amount of a commitment with original maturity > 1 year, not unconditionally cancellable | 50% |
| Transaction-related contingent items (performance bonds, bid bonds, warranties, and standby letters of credit) | 50% |
| Guarantees, repos, securities lending & borrowing transactions, credit-enhancing reps & warranties (not securitizations), financial standby LCs, and forward agreements | 100% |

2. Exposure Type

Risk Weight %

| | |
|--|---|
| Cash | 0% |
| Exposures to, and portions of exposures directly and unconditionally guaranteed by, the U.S. government, its agencies and the Fed. | 0% |
| Exposures to certain supranational entities and multilateral development banks | 0% |
| Exposures to foreign governments and their central banks | 0% - 150% based on Country Risk Classification |
| Equity exposures | 0% - 600% based on counterparty |
| Cleared derivatives and securities financing transactions | 2% - 4% for trade exp. to qualifying central counterparties |
| Portions of exposures conditionally guaranteed by U.S. government, its agencies and the Fed. | 20% |
| Exposures to U.S. government-sponsored entities (GSEs) | 20% |
| Exposures to U.S. depository institutions and credit unions | 20% |
| Collateralized transactions, including derivatives and securities | 20% floor (simple approach); No floor (repos & derivatives) |
| Securitization exposures | 20% risk weight floor; SSFA or 1250% |
| Equity exposures to investment funds | 20% risk weight floor |
| Exposures to foreign PSEs | 20% - 150% based on Country Risk Classification |
| Exposures to foreign banks | 20% - 150% based on Country Risk Classification |
| Exposures to U.S. PSEs, including U.S. states and municipalities | 20% for general obligations |
| Exposures to U.S. PSEs, including U.S. states and municipalities | 50% for revenue obligations |
| Residential mortgage exposures | 50% for first-lien residential mortgage exposures |
| Residential mortgage exposures | 100% for all other resi. mortgage exposures |
| Exposures to qualifying securities firms | 100% |
| Corporate exposures | 100% |
| Retail exposures | 100% |
| Commercial real estate | 100% |
| Default RW for items not specifically assigned to a risk weight category | 100% |
| High-volatility commercial real estate (HVCRE) loans | 150% |
| Past due exposures | 150% |

Country Risk Classifications (CRCs)/Multilateral Development Banks

| | | Risk Weight | | | |
|-----------------------------------|--------------------|-------------|---------------------|----------------|-------------------------|
| | | CRC | Sovereign Exposures | Banks Exposure | PSE General Obligations |
| Country Risk Classification (CRC) | OECD (without CRC) | 0% | 20% | 20% | 50% |
| | 0 | 0% | 20% | 20% | 50% |
| | 1 | 0% | 20% | 20% | 50% |
| | 2 | 20% | 50% | 50% | 100% |
| | 3 | 50% | 100% | 100% | 100% |
| | 4 | 100% | 150% | 150% | 150% |
| | 5 | 100% | 150% | 150% | 150% |
| | 6 | 100% | 150% | 150% | 150% |
| | 7 | 150% | 150% | 150% | 150% |
| Non-OECD Member with no CRC | | 100% | 100% | 100% | 100% |
| Sovereign Defaulted | | 150% | 150% | 150% | 150% |

| Multilateral Development Banks | International Bank for Reconstruction and Development | Multilateral Investment Guarantee Agency |
|--------------------------------|---|--|
| | International Finance Corporation | Inter-American Development Bank |
| | Asian Development Bank | African Development Bank |
| | European Bank for Reconstruction and Development | European Investment Bank |
| | European Investment Fund | Nordic Investment Bank |
| | Caribbean Development Bank | Islamic Development Bank |
| | Council of Europe Development Bank | Any other multilateral lending institution or regional development bank in which the U.S. government is a shareholder or contributing member or which the primary federal supervisor determines poses comparable credit risk |