Approved “Rules of the Road” Margins

Reference Manual
Contents

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A. Overview

A1. Introduction

These margin levels are intended to provide qualified clients with a portfolio-based margin for a range of product transactions, obviating the need for trade-specific margin levels to be agreed on before each trade.

Many of our products have the same economic risk and we therefore assign roughly equivalent margin levels for equivalent risks.

Market risk within and across trades have been analyzed by a statistical process resulting in set of possible outcomes for gain and loss in the portfolio. The complete portfolio risk deemed to be acceptable for those trades, however, will depend upon the market risk study and the assessment of credit worthiness of the counterparty as deemed by the Deutsche Bank Credit Department.

The counterparty assessment criteria will include consideration of the size of the client's capital base, the diversity of its trading styles, and the nature of the relationship. With these criteria established, the margin levels appropriate for a client are assigned.

Note that financing spreads are usually assigned on a specific basis for each asset class and are not the same for all asset classes. The margins described in this document are specific to financing spreads applicable to each asset class at the time the document was written. More aggressive margins will usually require a higher spread and vice-versa, a lower than expected financing spread will cause the margin to be higher than that described in this document.

A2. General Requirements for Rules-Based Equity Trading

- Deutsche Bank Credit has approved the client for rules-based trading.
- The maximum benefit from rules-based margining will occur when the client is trading diversified portfolios in recognizable market-neutral trading styles, devoid of large single name, sector, and industry concentrations.
- Securities must be documented such that Deutsche Bank has first lien on them.
- Securities must have an active, observable price so that Deutsche Bank can mark the positions to market with accurately given the size of the position. In general, securities which cannot be readily priced are private placements or are restricted for some reason will receive onerous margin treatment. Deutsche Bank, in its sole discretion, will assess this.
- The client must have current, legal, executed documentation for all relevant entities. For example, should a client expect margin offset between securities in a Prime Brokerage account and those financed under an ISDA agreement then proper documentation must be in place.
- Securities will be priced daily (when such price can be obtained) and margins will be calculated daily. Sufficient equity must be maintained in the portfolio to meet the margin requirement.
- To the extent a product is not mentioned herein, it will not be subject to Rules of the Road Margin Requirements and will be margined by Deutsche Bank in its sole discretion.
- Other requirements as set forth in each section must also be strictly observed when applying the relevant margin levels.

A3. Methodology

Client portfolios contain market risks even though most clients trade market-neutral strategies. It is important to understand how these trades behave across a broad set of circumstances. The nature of the risk that these strategies may incur include the following

Issuer exposure
- earnings warnings
- credit downgrades
- mergers/acquisitions/takeovers

Macroeconomic risks
- sovereign default
- energy price shocks
- disasters

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By examining how these trading styles have behaved through a history full of these events, we've developed a coherent, conservative set of margin rules that apply to client portfolios.

Our margining approach considers the two primary risk components to each trade: the arbitrage aspects of the position (the hedged component) and any remnant naked position (the unhedged component). For example, consider a long position in a single equity. It is exposed to both price movement in the general market and also to stock-specific events. If that stock is currently the target of a take-over, the stock specific risk includes the outcome of the merger. This two-phase margining approach first looks at this position as a pure risk arbitrage transaction and factors in the unique risks of this trading style. Subsequently, the margining approach evaluates any residual equity risk in the wider context of the whole portfolio.

Within this document we employ these definitions:

1. Portfolio – the ensemble of positions which are held by a legal entity
2. Strategy – the subset of those positions in the portfolio which Deutsche Bank recognizes as belonging to any of the trading styles discussed in this document.
3. Trade – the aggregate set of positions which comprise a single investment within a strategy, e.g., a convertible bond and its underlying security and a credit default swap held as hedges.
4. Position – a quantity invested (long or short) in a single security

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Deutsche Bank will apply these rules across products of these types and regions:

1. As equity swaps transacted with Deutsche Bank (domestic and international)
2. As security transactions where Deutsche Bank is the prime broker (domestic and international)
3. As listed futures and equity options transacted with Deutsche Bank (domestic and international)
4. As vanilla OTC equity derivatives (calls and puts) and credit default swaps (bought for credit protection of a debt security) transacted with Deutsche Bank
5. Government and single name corporate debt
6. Geographical regions recognized by Deutsche Bank are US/Canada, Europe, Asia, and Emerging Markets.

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Margining for securities may encompass and include positions in these products:

International Prime Brokerage	Yes
Domestic Prime Brokerage	Yes (Regulatory margin takes precedent)
Enhanced Prime Brokerage	Yes
International Swaps	Yes
US Swaps	Yes
US Hybrid Swaps	Yes
International Hybrid Swaps	Yes
US Credit Default Swaps	Yes
International Credit Default Swaps	Yes
US Vanilla OTC Derivatives (Calls and Puts)	Yes
International Vanilla OTC Derivatives (Calls and Puts)	Yes
Listed US Futures and Options	Yes (Regulatory margin takes precedent)
Listed International Futures and Options	Yes (Regulatory margin takes precedent)

We apply the margin percentages to the market values of individual trades based on a given strategy. We evaluate portfolios for diversification and hedging efficacy in the calculation of the appropriate margin percentages.

At each stage (except the last), all equity positions in the portfolio, whether from the original portfolio or from synthetic equity positions which have been generated from the hedging process, are available for hedging any subsequent securities which might benefit from it. In this way we allow residual positions that may result from one segment of the portfolio to be further allocated for hedging purposes in another.

Any positions in securities within portfolios which are explicitly NOT financed, i.e., non-leverage securities margined at 100%, will be exempt from these Rules. Further, any portfolio-wide calculations (eg, portfolio gross market value) will NOT include any value from these fully margined positions. Margin requirements will not exceed 100% for long positions.

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Deutsche Bank will rigorously and continually monitor the application of these margin rules.

B. Summary of Margin Rules

1. Equity Securities, Equity Futures, and ETFs
2. Equity Pairs
3. Equity Options
4. Variance Swaps
5. Government Debt
6. Corporate Bonds
7. Convertible Securities
8. Emerging Market Sovereign Debt
9. Bank Loans
10. Credit Default Swaps
11. Foreign Exchange Cash, Forwards, and Futures

B1. Equity Securities, Equity Futures, and ETF Margin Rules

Margining for equities in a portfolio that do not qualify as pair trades or as hedges to derivative trades. Examples may be equities in long/short statistical arbitrage portfolio trades, directional positions, and synthetic equity positions from the hedging process. No rate larger than 100% will be applicable.

Margin Requirements

The equity basket is that portion of the complete portfolio which consists solely of equity securities which don't meet the criteria above. The margin requirements on equity baskets gives consideration for "hedging" on that portion of the GMV of the basket where LMV=SMV. Hedged margin rates are the lowest rates for baskets. Unhedged rates are higher and apply to that fraction of the basket where the NMV<>0. Differences in the long/short values in an equity portfolio within 1% of that required to be market neutral (in the base reporting currency of the portfolio) are considered to be market neutral.

To illustrate: *consider a portfolio with an LMV of 100 and an SMV of 90 (with less than 10% of the GMV in unhedged EM securities). Then, the margin requirement on the long positions will be the "hedged" rate for 90% of the LMV and the unhedged rate for 10% of the LMV. The margin requirement on the SMV will be the "hedged" rate for 100% of the SMV.*

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Equity securities from Emerging Market countries (see Appendix for discussion) are treated differently. Such equities are considered hedged only to the extent that there is no net market value within the same country. However, if less than 10% of the GMV in the portfolio is EM then the EM portion is exempt from special treatment.

To illustrate: *consider a portfolio with a total LMV of 100 but with an LMV of 30 from country EMa. The total SMV is 100 and an SMV of 25 from country EMb. The NMV of 70 which is NOT EM receives hedged treatment. The 30 of EMa and the 25 of EMb receive unhedged treatment as they are NOT from the same country. The extra 5 of SMV receives unhedged rates.*

All unhedged equity securities will be margined according to the following rates (subject to the ***exceptions*** immediately following). The margin is a percentage of the GMV of the position.

Selection Universe	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Major Index Equity Issuers	10%	15%	15%	20%	25%	50%
Emerging Market TierC Issuers	20%	25%	25%	30%	40%	50%
All Other Equity Issuers	15%	20%	20%	25%	30%	50%
Major Equity Index Futures	5%	7.5%	7.5%	10%	15%	35%
Emerging Market Futures	15%	20%	20%	25%	30%	50%
Other Equity Index Futures	10%	15%	15%	20%	25%	50%
Major Exchange Traded Funds	7.5%	10%	10%	12.5%	17.5%	35%
Emerging Market Exchange Traded Funds	15%	20%	20%	25%	30%	50%
Other Exchange Traded Funds	10%	15%	15%	20%	25%	50%

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The rates in the below table, however, are the "hedged" rates. The margin is a percentage of the GMV of the position.

Selection Universe	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Major Index Equity Issuers	5%	8%	10%	15%	20%	40%
Emerging Market TierC Issuers	10%	15%	15%	25%	30%	40%
All Other Issuers	6%	10%	12%	17%	25%	40%
Major Equity Index Futures	2.5%	5%	5%	7.5%	15%	35%
Emerging Market Futures	10%	15%	15%	20%	25%	40%
Other Equity Index Futures	5%	7.5%	7.5%	10%	17.5%	40%
Major Exchange Traded Funds	5%	7.5%	7.5%	10%	17.5%	35%
Emerging Market Exchange Traded Funds	10%	15%	15%	20%	25%	40%
Other Exchange Traded Funds	7.5%	10%	10%	12.5%	20%	40%

Another exception to the margin rates applies when the LMV or SMV of naked equities, futures and ETFs becomes a substantial fraction of the GMV of the portfolio. When the unsigned net market value of these positions becomes greater than the specified percentage of the portfolio GMV, the requirement shown below applies as percentage of the GMV of the positions. ***These rates supersede and replace the preceding rates when larger.***

Unsigned NMV of naked eq/futures/ETF Positions as % of GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25%-50%	12.5%	15%	17.5%	25%	30%	40%
50%-100%	15%	20%	22.5%	30%	35%	50%

For purposes of clarity, the replacement rates apply when the total LMV or SMV of naked equities, futures and ETFs becomes a substantial fraction of the GMV of the portfolio – however, we would apply different rates for the major futures as below - for major index futures (from developed markets only), the corresponding replacement rates would be as follows

Unsigned NMV of naked eq/futures/ETF Positions as % of GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25%-50%	10%	12.5%	15%	17.5%	25%	40%
50%-100%	12.5%	15%	17.5%	20%	30%	50%

For outsized equity positions (excluding major equity indices), that is positions which have a GMV greater than the specified percentage of the portfolio GMV, the additional requirement shown below applies as percentage of the GMV of the position.

Position as % of GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10%-25%	3%	5%	5%	5%	5%	10%
25-50%	5%	7%	7%	7%	7%	15%
50-100%	15%	18%	18%	21%	22%	24%

When the ratio of the absolute difference between the LMV and SMV within a single industry in the equity basket to the GMV of the portfolio exceeds 25%, there is an additional requirement on the positions in that industry. However, positions which have been determined to be outsized receive no further requirement.

Industry % of GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	5%	7%	7%	7%	7%	11%
50-100%	15%	18%	18%	21%	22%	24%

Equity baskets which exhibit high volatility will receive an additional requirement. There will be an additional requirement when the total GMV of the securities in the equity basket which have volatilities greater than 45% exceeds 25% of the portfolio GMV. The excess GMV of the high volatility equities over and above the 25% of the total GMV will receive the add-on shown. The total add-on will be reflected as an overall margin increase in all of the volatile securities.

Volatility	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
>45%	8%	10%	10%	10%	10%	20%

When the sum of all unhedged Emerging Market exposure in the equity basket to the GMV of the portfolio exceeds 10%, there is an additional requirement on the unhedged portion of those positions. This add-on applies independently of other add-ons.

% of unhedged GMV in EM	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10-25%	5%	7%	7%	7%	7%	11%
25-50%	10%	12.5%	12.5%	15%	15%	20%
50-100%	15%	18%	18%	21%	22%	25%

Additional Liquidity Requirements

Holdings in equity securities will not be financed when the position in an issuer exceeds 9% of the lesser of market capitalization or free float, or if the issuer derives the majority of its revenues in an emerging market country, when the position exceeds 5% of the lesser of market capitalization or free float. Further, no financing will be permitted when the ratio of trading volume to the lesser of market capitalization or free float exceeds 5% in any case.

For large equity positions with respect to the daily trading volumes of the securities, as measured by the APT trading volume, these incremental amounts will accrue to the requirement on the position as a liquidity penalty PROVIDED that the individual position is less than 2% of portfolio GMV and the total GMV of positions greater than five days trading volume is less than 15% of portfolio GMV

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
2.5 – 5.0	6%	8%	8%	10%	15%	20%
5.0 – 15.0	12.5%	17.5%	17.5%	22.5%	25%	40%
15.0 – 50.0	25%	30%	30%	35%	40%	100%
> 50.0	40%	50%	50%	60%	100%	100%

When an individual position is more than 2% of portfolio GMV OR the total GMV of positions greater than five days trading volume is more than 15% of portfolio GMV then these rates supersede those in the respective row in the immediately preceding table. Rates for developed markets are:

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
5.0 – 15.0	17.5%	22.5%	25%	30%	35%	60%
15.0 – 50.0	30%	40%	40%	50%	75%	100%
> 50.0	60%	80%	100%	100%	100%	100%

And for all emerging market TierB and TierC countries are:

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
5.0 – 15.0	20%	25%	30%	40%	50%	100%
15.0 – 50.0	40%	50%	50%	60%	100%	100%
> 50.0	60%	80%	100%	100%	100%	100%

B2. Equity Pairs Margin Rules

Margining for equity securities that are trading as pairs, e.g., corporate names involved in

- mergers/takeovers
- firm capital infrastructure
- ETF/Index trades
- ADR/Common trades
- sector trading pairs
- rights offerings
- capital holdings trades

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are presented here. Deutsche Bank will not finance equity pairs where the acquirer or holding firm is defined as an emerging market country (see appendix) unless explicitly agreed. Please note, stub positions from cash buy-outs post the tender period expiry date will not be financed without specific review and at DB's discretion.

Margin Requirements

Margin requirements are presented in the following table for the hedged portion of merger/risk arbitrage and capital holdings trades. These requirements are the percentage of the LMV of that portion of the trade which is hedged. A merger/takeover or capital holdings trade is considered to be hedged if the difference in share ratio between the positions in the securities involved in the trade are within 1% of hedge ratio based upon the terms and conditions of the trades. When the trade involves a cash/share proration or there is optionality in the final terms, differences as large as 5% in the hedge ratio will be considered hedged, where the hedge ratio is as determined by Deutsche Bank.

Issuers	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Emerging Market Target	13%	15%	20%	25%	30%	50%
All Other	8%	10%	15%	20%	25%	50%

Margin requirements are presented in the following table for hedged firm capital infrastructure, ETF/index, rights offerings, and ADR/Common trades. A pairs trade is considered to be hedged if the difference of the market value between the securities involved in the trade is within 1%.

Issuers	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Emerging Market Target	8%	10%	15%	20%	25%	35%
All	4%	5%	8%	10%	15%	25%

For outsized merger/takeover trades or capital holdings trades, where a trade is of the following percentage of the portfolio LMV, the additional margin shown below applies as a percentage of the LMV of the trade:

Position as % of LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10%-25%	3%	5%	5%	5%	5%	10%
25%-50%	5%	7%	7%	7%	7%	15%
50%-100%	15%	18%	18%	21%	22%	24%

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For outsized firm infrastructure, ETF/index, ADR/Common trades, where the trade is the following percentage of the portfolio LMV, the additional margin shown below applies as a percentage of the LMV of the trade:

Position as % of LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	2%	3%	3%	5%	5%	10%
50-100%	10%	12%	12%	20%	25%	25%

For portfolios where the percentage of LMV in cash-only deals exceeds these percentages of the total portfolio LMV, the additional margins shown below will apply to all of those cash-only deals.

Position as a % of the portfolio LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	3%	4%	4%	5%	5%	10%
50-100%	6%	8%	8%	10%	20%	25%

Merger/RiskArb pairs with high industry concentrations, where the LMV in a single industry exceeds 25% of the portfolio LMV, receive an additional requirement on those positions in that industry. Securities in those industries which have been identified as outsized trades (per above), and have already been additionally margined as such, receive no further industry penalty.

Industry % of LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	5%	7%	7%	5%	5%	10%
50-100%	15%	18%	18%	20%	20%	25%

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Other pair strategies with high industry concentrations, where the LMV in a single industry exceeds 25% of the portfolio LMV, receive an additional requirement on those positions in that industry. Securities in those industries which have been identified as outsized trades (per above), and have already been additionally margined as such, receive no further industry penalty.

Industry % of LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	5%	7%	7%	5%	5%	10%
50-100%	15%	18%	18%	20%	20%	25%

Additional Liquidity Requirements

Equity pair trades will not be recognized when either position in an issuer exceeds 9% of the lesser of market capitalization and free float or, if an issuer derives the majority of its revenues in an emerging market country, when the position exceeds 5% of the lesser of market capitalization and free float. Further, no financing will be permitted when the ratio of trading volume to lesser of market capitalization and free float exceeds 5% in any case.

For large equity positions with respect to the daily trading volumes of the securities, as measured by the APT trading volume, these incremental amounts will accrue to the requirement on the position as a liquidity penalty PROVIDED that the individual position is less than 2% of portfolio GMV and the total GMV of positions greater than five days trading volume is less than 15% of portfolio GMV. The liquidity penalty will be calculated using the least liquid leg of the equity pair. Please note cash buyouts will not attract liquidity add-ons.

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
2.5 – 5.0	6%	8%	8%	10%	15%	20%
5.0 – 15.0	12.5%	17.5%	17.5%	22.5%	25%	40%
15.0 – 50.0	25%	30%	30%	35%	40%	100%
> 50.0	40%	50%	50%	60%	100%	100%

WHEN an individual position is more than 2% of portfolio GMV OR the total GMV of positions greater than five days trading volume is more than 15% of portfolio GMV then these rates supersede those in the respective row in the immediately preceding table. Rates for developed markets are:

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
5.0 – 15.0	17.5%	22.5%	25%	30%	35%	60%
15.0 – 50.0	30%	40%	40%	50%	75%	100%
> 50.0	60%	80%	100%	100%	100%	100%

And for all emerging market TierB and TierC countries are:

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
5.0 – 15.0	20%	25%	30%	40%	50%	100%
15.0 – 50.0	40%	50%	50%	60%	100%	100%
> 50.0	60%	80%	100%	100%	100%	100%

Sector Pair Trades

For positions in a pair of equity securities (sector pairs) where the two issuers are:

- in the same sector and geographical region
- both in developed markets, i.e., no emerging market TierB or TierC countries as defined in the appendix
- each with market capitalization of "Large"
- both securities have annualized volatilities less than 45%
- the "pairs score" (a measure of correlation determined by APT (see appendix)) is greater than 70%
- the market value of each member of the pair is within 5% of the other

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then a reduced requirement on the pair as shown below will be taken on the long side of the pair. There is no requirement on the paired short position.

Pairs Score	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
>70%	8%	10%	15%	20%	25%	50%

For outsized sector pair trades, where a trade is of the following percentage of the portfolio LMV, the additional margin shown below applies as a percentage of the LMV of the trade:

Position as % of LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10%-25%	3%	5%	5%	5%	5%	10%
25%-50%	5%	7%	7%	7%	7%	15%
50%-100%	15%	18%	18%	21%	22%	24%

Sector pair trades will not be recognized when either position in an issuer exceeds 9% of the lesser of market capitalization and free float or, Further, no financing will be permitted when the ratio of trading volume to lesser of market capitalization and free float exceeds 5% in any case.

For large equity positions with respect to the daily trading volumes of the securities, as measured by the APT trading volume, these incremental amounts will accrue to the requirement on the position as a liquidity penalty PROVIDED that the individual position is less than 2% of portfolio GMV and the total GMV of positions greater than five days trading volume is less than 15% of portfolio GMV

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
2.5 – 5.0	6%	8%	8%	10%	15%	20%
5.0 – 15.0	12.5%	17.5%	17.5%	22.5%	25%	40%
15.0 – 50.0	25%	30%	30%	35%	40%	100%
> 50.0	40%	50%	50%	60%	100%	100%

WHEN an individual position is more than 2% of portfolio GMV OR the total GMV of positions greater than five days trading volume is more than 15% of portfolio GMV then these rates supersede those in the respective row in the immediately preceding table. Rates for developed markets are:

Days Volume	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
5.0 – 15.0	17.5%	22.5%	25%	30%	35%	60%
15.0 – 50.0	30%	40%	40%	50%	75%	100%
> 50.0	60%	80%	100%	100%	100%	100%

B3. Equity Option Strategies Margin Rules

For listed equity options, listed warrants, and vanilla OTC (calls and puts) options done with Deutsche Bank, including single name, index, LEAP options.

Option Volatility Strategy Margin Requirements

The margin determination for option strategies is similar to that of the OCC-approved margining methodology for broker/dealer trading of options, an extension of the SPAN system used to margin futures.

First, each of the options with a common underlying are grouped together with the underlying. In the OCC calculation, the underlying equity is shocked at specific increments and the P&L of the portfolio calculated. After all of the prescribed shocks, the maximum loss to the group for the shocks is taken to be the margin requirement. The OCC calculation is extended here to understand the impact of volatility moves to the group. Again, the underlying is shocked at specific increments (described below), but in addition, the volatility of the underlying is altered and the underlying shocks repeated. The maximum loss to the group is taken to be the maximum margin requirement for the group.

Subsequently, the number and industry distribution of underlyings in the overall portfolio is analyzed to determine whether further margin consideration is warranted.

In detail, the procedure is:

1. Gather all options and equities by common underlying (including any ADR/GDR securities on the same underlying)

2. Determine the implied volatility of each option from the market value of the option, the market value of the underlying, interest rate to maturity in the country of issue, European exercise, and no dividend yield (all in the specific country/currency of the underlying).

3. From the set of options, choose the option whose strike is nearest to at the money and call that implied volatility the ATMvol. This ATMvol will determine the range of underlying price movements to be used to calculate the margin according to whether it qualifies as a high/low volatility underlying (see 6 below).

4. Compute option deltas at these implied volatility levels and sum. Net that with any underlying position in the portfolio.

5. Create a position in the underlying so that there is no net delta position (this may involve adding or subtracting underlying to an existing position). If the initial naked underlying position in the portfolio is within 5% of what Deutsche Bank determines is the required hedge, the option positions are considered to be hedged. The remainder is the naked unhedged position. The portfolio now consists of a delta-hedged combination of option/underlying and the naked unhedged shares. *These naked unhedged shares are then allocated to the Equity Basket strategy and are margined accordingly.*

6. Determine the margin (by underlying) according to the following procedure:

   - Where ATMvol is less than an annualized 45%:
     - shock the underlying price for single underlyings from –15% to 15% in 5% increments for a developed market issuer.
     - shock the underlying price for broad indices from –10% to 10% in 5% increments for a developed market issuer and use the +/-10% scenarios for the +/-15% scenarios as well
     - shock the underlying price from –30% to 30% in 10% increments for Emerging Market TierB issuers.
     - shock the underlying price from –45% to 45% in 15% increments for Emerging Market TierC issuers.
   - Where the ATMvol is greater than an annualized 45%:
     - shock the u nderlying price for single underlyings from –24% to 24% in 8% increments for a developed market issuer.
     - shock the underlying price for major indices from –16% to 16% in 8% increments for a developed market issuer and use the +/-16% scenarios for the +/-24% scenarios as well
     - shock the underlying price from –36% to 36% in 12% increments for Emerging Market TierB issuers.
     - shock the underlying price from –54% to 54% in 18% increments for Emerging Market TierC issuers.

   - At each new price, revalue the optio ns and add that to the value of the underlying position for this price.
   - Increase the original volatility by 40% (multiply volatility by 1.4) and repeat above.
   - Decrease the original volatility by 20% (multiply volatility by 0.8) and repeat above.
   - From these 21 points, disregard the results from these 5 shocks (per the issuer domicile as above):

Equity Move (ATMvol<45%)	Equity Move (ATMvol>45%)	Volatility Move
-15%, -30%, -45%	-24%, -36%, -54%	-20%
-10%, -20%, -30%	-16%, -24%, -36%	-20%
-15%, -30%, -45%	-24%, -36%, -54%	0%
+15%, +30%, +45% +10%, +20%, +30%	+24%, +36%, +54% +16%, +24%, +36%	+40% +40%

   - Identify and select the remaining sum where the portfolio value has the largest decrease. The absolute value of this sum is the margin requirement forthe current underlying.

7. Sum the individual margins across all underlyings including indices, adjusting for any effects of foreign exchange where appropriate as the portfolio margin is always reported in portfolio reference currency. This sum is defined to be the total scenario loss.

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8. Reduce the total scenario loss for the option portfolio according to the following schedule to provide further benefit to diversified portfolios subject to the "Diversification Benefits" below. Number of underlyings refers to the number of underlyings in the total portfolio, not specific to options.

Number of Underlyings	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Less than 10	0%	0%	0%	0%	0%	0%
Between 10-20	12.5%	10%	10%	5%	0%	0%
Between 20-40	25%	20%	20%	15%	0%	0%
Greater than 40	50%	40%	40%	25%	0%	0%

9. In order to qualify for the diversification benefit, the following condition must be satisfied for each underlying. The group of options on the underlying which fail this condition will receive no diversification benefit.

Number of Underlyings	Diversification Treatment Condition
Less than 10	N/A
Between 10-20	Margin per underlying must be less than 15% of portfolio margin
Between 20-40	Margin per underlying must be less than 10% of portfolio margin
Greater than 40	Margin per underlying must be less than 5% of portfolio margin

10. The margin requirement is the lesser of the total underlying loss and the ultimate loss.

11. Option strategies with high industry concentrations will be subject to an additional requirement. When the sum of individual margins within an industry group exceeds 25% of the total loss the names within that industry will not receive any diversification benefit.

The margin number for each underlying is taken from the most negative valuation in the tableau

Options Hedging Scenario Results for IBM		Margin = 931 + Residual Shares of 286						
		Equity Move						
Position	VolMove	-15%	-10%	-5%	0%	5%	10%	15%
10 IBM Calls	+40%	(466)	(114)	481	1395	2698	N/A	N/A
-5 IBM Puts	+40%	(5,554)	(3,879)	(2,445)	(1,250)	(278)	N/A	N/A
-336 IBM Shares	+40%	5,089	3,393	1,696	0	(1,696)	N/A	N/A
TOTAL		**(931)**	(600)	(268)	145	723		
10 IBM Calls	0%	N/A	(673)	(458)	0	836	2,182	4,129
-5 IBM Puts	0%	N/A	(2,818)	(1,245)	0	933	1,596	2,046
-336 IBM Shares	0%	N/A	3,393	1,696	0	(1,696)	(3,393)	(5,089)
TOTAL			(99)	(60)	0	72	385	1,086
10 IBM Calls	-20%	N/A	N/A	(695)	(468)	74	1,133	2,886
-5 IBM Puts	-20%	N/A	N/A	(651)	625	1,513	2,080	2,414
-336 IBM Shares	-20%	N/A	N/A	1,696	0	(1,696)	(3,393)	(5,089)
TOTAL				350	157	(110)	(180)	211

Options Hedging Scenario Results for CIEN		Margin = 276 + Residual Shares of 950						
		Equity Move						
Position	VolMove	-15%	-10%	-5%	0%	5%	10%	15%
8 CIEN Calls	+40%	1,410	1,071	766	495	253	N/A	N/A
-12 CIEN Puts	+40%	456	108	(292)	(742)	(1,236)	N/A	N/A
990 CIEN Shares	+40%	(2,122)	(1,414)	(707)	0	707	N/A	N/A
TOTAL		(255)	(235)	(233)	(247)	**(276)**		
8 CIEN Calls	0%	N/A	672	314	0	(272)	(505)	(704)
-12 CIEN Puts	0%	N/A	707	387	0	(450)	(957)	(1,515)
990 CIEN Shares	0%	N/A	(1,414)	(707)	0	707	1,414	2,122
TOTAL			(36)	(7)	0	(14)	(47)	(98)
8 CIEN Calls	-20%	N/A	N/A	95	(247)	(538)	(780)	(979)
-12 CIEN Puts	-20%	N/A	N/A	714	371	(51)	(545)	(1,103)
990 CIEN Shares	-20%	N/A	N/A	(707)	0	707	1,414	2,122
TOTAL				102	124	119	90	39

The total portfolio margin is the sum of the individual hedged margins the excess equity requirements. Here, the total margin requirement would be (assuming 20% of GMV for naked Major NA names):

Name	Hedged Margin	Unhedged Margin	Total Margin
IBM	$931	20%*286*100.95 = $5,774	$6,705
CIEN	$276	20%*276*8.93 = $493	$769
Total	$1207	$6,267	$7474

Volatility Dispersion Strategy Margin Rules

The Margin Requirement for option portfolios where the strategy is to trade single name volatility AGAINST index volatility, i.e., so called volatility arbitrage strategies where the single names are index constituents, shall be calculated according to the following procedure.

Note: that all option valuations assume European style exercise with a dividend yield of 0%. The volatility referred to is the implied volatility under the above assumptions. The central index is agreed between Deutsche Bank and client. All beta measures are provided by a third party vendor to Deutsche Bank. The betas are published with the margin reports.

The total portfolio requirement consists of two contributions, the risk requirement and the liquidity requirement. The total portfolio requirement is the greater of the two.

First the risk requirement is determined as follows:

1. The margin requirement is calculated from the results of a series of portfolio shocks. There are equity shocks and volatility shocks. The equity movements shock the central index of the strategy by +/- 15% in 5% increments (the "index shocks"). Volatility is shocked up 40% and down 20%. These shocks create a total of 21 portfolio shock scenario tests.
2. All other underlyings are moved by their respective beta to the central index by the incremental change. That is, Equity_A has beta_A. That is, the 10% down "index shock" implies a 10%*beta_A down move in Equity_A.

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3. At each value of the specific shock (for either equity or index) the options on that portfolio are revalued, a total of 21 P&L's. The ignored P&L's correspond to these shocks:

Index Move	Volatility Move
-15%	-20%
-10%	-20%
-15%	0%
+15%	+40%
+10%	+40%

This leaves a total of 16 shocks (16 P&Ls) relevant to the margin determination.

4. The P&L's for all positions having a common underlying, including any indices, are summed at each shock point.

5. The P&L's for all positions for ALL underlyings are summed across the portfolio at each shock point. The minimum P&L, the largest loss, for the 16 shocks across the portfolio is the "stock beta margin" level.

6. This entire process is repeated with all betas set to 1 (beta=1), generating the "beta one margin" level.

7. The minimum P&L, the largest loss, for the 16 shocks for each underlying in the "beta one margin" series is defined to be the "per name loss" level. This will be used later when specifying the diversification requirements on the portfolio.

8. The risk requirement is the average of the "stock beta margin" and the "beta one margin" levels plus a position bid-offer amount equal to the total stock-specific bid-offer volatility spread applied to gross vega per underlying of the portfolio.

Further, there will be requirements for diversification in the portfolio as set forth below. The diversification penalties are specified with these definitions:

- The "per name loss" levels are summed for all single names to create the "all single name loss".
- The "per sector index loss" is the "per name loss" for sector indices. Each sector index will count for 10 single names. Sector indices include the NDX, QQQ, SOXX, and other exchange traded sector indices. Each sector index belongs to a specific industry, with the exception of the NDX (and QQQ) which will be distributed among industries as reflected in the weightings of the underlying equities constituting the index.
- The "per major index loss" is the "per name loss" for other index positions, NOT including the central index. Each major index will count for 20 single names. These indices do not belong to an industry and so do not contribute to any industry concentration calculation.
- The "non-central index loss" is the sum of the "per name loss" amounts attributed to single names, sector indices, and major indices.
- The "central index loss" is the "per name loss" attributed to positions in the central index, including exchange traded funds or tracking indices on the central index. These positions do not belong to an industry and so do not contribute to any industry concentration calculation.

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– The "total loss" is the sum of all of the following:

1. All "per name loss" amounts
2. All "per sector index loss" amounts
3. All "per major index loss" amounts
4. Any "central index loss" amount

– The "per industry loss" is the sum of the "per name loss" levels for all underlyings (including sector indices) which belong to the same industry, as identified by Deutsche Bank.

Proposed margin terms are conditional upon there being listed option positions in the portfolio with the characteristic that there be at least 30 distinct underlyings (the "Minimum Underlying Requirement") represented as any combination of single name, sector index, and major index positions. Should this requirement not be met, additional margin penalties will accrue as described below.

Further, should any of the following occur:

1. *Number of single name equivalents be <10*
2. *Amount of "per name loss" as a percentage of "total loss" be >5%*
3. *Amount of "per industry loss" as a percentage of "total loss" be >50%*

then the margining methodology will change. There will be NO netting between underlyings. The "total loss" will be the risk requirement (as determined by the "beta one margin" calculation), subject to the additional penalties as described in the subsequent section.

Minimum Liquidity Requirement

The liquidity requirement is a minimum requirement of 2.5% of the gross market value of the portfolio.

Additional Margin Penalties in the Event of Guideline Failures:

1. Margin terms are conditional upon no "per name loss" for single names exceeding a large fraction of the "total loss". Should such an excess occur, the degree of excess will be specified in the form of a violation count according to the following table:

Amount of "per name loss" as a % of "total loss"	Total Number of Violations
<=5%	0
>5% & <=25%	1
>25% & <=50%	3
>50%	5

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2. Proposed margin terms are conditional upon no “per industry loss” exceeding large fractions of the “total loss”. Should such an excess occur, degree of excess will be specified in the form of a violation count according to the following table:

Amount of “per industry loss” as a % of “total loss”	Number of Violations
<=25%	0
>25% & <=50%	1
>50% & <=75%	3
>75%	5

3. As the number of names in the portfolio decreases (according to the “Minimum Underlying Requirement”), the risk requirement will be increased according to the following table.

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Number of Underlyings	Margin Increase
>=30	0%
>=20 and <30	50%
>=10 and <20	100%
<10	200%

4. Further, the risk requirement will increase as the number “per name loss” and “per industry loss” violations increases, according to the following table.

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Number of “per loss” violations	Margin Increase
0	0%
1	25%
2	50%
3	75%
4	100%
5	200%
>=8	400%

Total Dispersion Requirement

The total portfolio requirement is the greater of the liquidity requirement and the risk requirement.

B4. Variance Swaps Margin Rules

Single name variance swaps

All variance swaps and options with the same underlying are grouped together with the underlying. Once grouped together, the portfolio is subject to various shock scenarios, identical to the shocks that are currently applied to options portfolios:

- shock the underlying price from –10% to 10% in 5% increments for a developed market major index and the +/-10% scenarios are also used for the +/-15% scenarios
- shock the underlying price from –15% to 15% in 5% increments for a developed market issuer.
- shock the underlying price from –30% to 30% in 10% increments for Emerging Market TierB issuers.
- shock the underlying price from –45% to 45% in 15% increments for Emerging Market TierC issuers.

- shock the volatility from –20%,0%, and 40% for developed market issuers.
- shock the volatility from –30%,0%, and 50% for Emerging Market TierB issuers.
- shock the volatility from –40%,0%, and 75% for Emerging Market TierC issuers.

The maximum loss under the stress scenarios is taken to be the margin requirement. All concentration add-ons will be the same as the margin rules defined for option strategies. Greeks, determined by DB's proprietary pricing models, are used to estimate the impact of various scenarios on variance swap P&Ls.

The P&L impact of implied volatility movements on a variance swap will be approximated by:

P&L of variance Swap = vega exposure × change in implied volatility

Initially, the vega exposure is the same as the vega notional. The worst case loss for a long variance swap will occur in a "Down Vol" scenario. Similarly, a short variance swap will have a worst loss in an increasing volatility environment. Variance swaps also are affected by spot movements through Gamma. That contribution of this component to the P&L is

P&L due to Gamma = 0.5 * Gamma * (change in equity stress scenario) ** 2

For a portfolio of options and variance swaps with a common underlying, there will be a minimum margin requirement that will be a multiple of the net vega of variance swaps on the underlying. The multiple is specified in the table below:

VarSwap Type	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Index	1.0	1.5	1.5	2.0	4.0	8.0
Single Name, Volatility<=45%	1.5	2.0	2.0	3.0	5.0	10.0
Single Name, Volatility>45%	3.0	4.0	4.0	6.0	10.0	20.0

Index variance swaps

Where variance swaps on indices are not offset with options/variance swaps on single names and other indices, the margin will be calculated as outlined above. For each shock scenario, if there is a gain/loss in index variance swaps and a loss/gain in options and variance swaps on a particular single name (or other indices), from the same country, the loss in the scenario for the index or single name will be eligible for reduction. The amount of loss eligible for relief will be determined by the guidelines described in points 2 to 4. The loss eligible for relief will be reduced as shown in the table.

	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
Relief	60%	55%	50%	40%	0%	0%

1) For scenarios where there is a gain in variance swaps on an index and losses in options and variance swaps on single names, the losses eligible for relief, for the single names, will be prorated by the loss amount. A maximum of 5% of the gains from variance swaps on an index can be matched against options and variance swaps on a particular single name. Conversely, gains on a single name can only be matched off with 5% of losses on variance swaps on an index.

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2) Gains/losses on variance swaps on sector indices can only be matched off with losses/gains on single names in the same sector, with a maximum of 10% per name. For variance swaps on major indices, only 35% of gains/losses can be matched off with losses/gains from options and variance swaps on single names and sector indices within the same sector.

3) The order in which losses and gains will be matched off is:

   i) Sector Indices vs Single Names
   ii) Major Indices vs Single Names
   iii) Sector Indices vs Sector Indices
   iv) Major Indices vs Sector Indices
   v) Major Indices vs Major Indices

4) Once the scenarios have been adjusted, for all portfolios of indices and single names, the scenarios that produce the maximum losses will be the margin requirements.

An Example

1. Consider the following variance swap on an equity:

Maturity: 2 years
Underlying Price: 100
Strike: 27%
Annualized at-the-money volatility: 20%
Vega Notional: $200,000

The worst case loss for a long variance swap will occur in the volatility down 20% scenario:

Worst Loss of Long variance swap = $200,000×20%×20%×100 = -$800,000

Similarly, a short variance swap will have a worst loss at volatility increasing by 40%:

Worst Loss of Short variance swap = $200,000×40%×20%×100 = -$1,600,000

2. Assume Gamma = -$400,000 per 1% move in underlying .
The P&L impact of the +15% scenario will be 0.5*(-$400,000)*(15%)*(15) = -$450,000

3. Consider the following sample portfolio of variance swaps:

Underlying Security	Direction	Gamma*	Vega*	Implied Volatility
Semiconductor Index	Long	400,000	200,000	20%
Semiconductor A	Short	200,000	50,000	25%
Semiconductor B	Short	40,000	30,000	30%
Semiconductor C	Short	50,000	40,000	30%

* Gamma is defined as USD per 1% move in underlying, vega as USD per 1% absolute move in volatility.

The +15% underlying and +40% vol scenario has the following P&L impact on each of the 4 positions:

Semiconductor Index: 0.5*($400,000)*(15%)*(15%) + (200,000)*(20)*40% = $2,050,000
Semiconductor A: -0.5*($200,000)*(15%)*(15%) - (50,000)*(25)*40% = -$725,000
Semiconductor B: -0.5*($40,000)*(15%)*(15%) - (30,000)*(30)*40% = -$405,000
Semiconductor C: -0.5*($50,000)*(15%)*(15%) - (40,000)*(30)*40% = -$536,250

Since the single names all belong to the sector, the gains in the sector index swap can be used for relief. However, only 10% of Semiconductor Index's gains can be employed against 1 name (10%* $2,050,000 = $205,000). The scenario impact on the single name variance swaps after including the offset are:

Semiconductor A: -(1-0.6)*min($725,000,$205,000) – max(($725,000-$205,000),0) = -$602,000
Semiconductor B: -(1-0.6)*min($405,000,$205,000) – max(($405,000-$205,000),0) = -$282,000
Semiconductor C: -(1-0.6)*min($536,250,$205,000) – max(($536,250-$205,000),0) = -$413,250

The +0% underlying and -20% vol scenario has the following P&L impact on each of the 4 positions:

Semiconductor Index: -(200,000)*(20)*20% = -$800,000
Semiconductor A: (50,000)*(25)*20% = $250,000
Semiconductor B: (30,000)*(30)*20% = $180,000
Semiconductor C: (40,000)*(30)*20% = $240,000

Only 20% of Semiconductor Index's scenario loss can be matched with 1 name (20%*$800,000 = $160,000). Taking the offsets into account, the impact of the scenario on the Semiconductor Index variance swap is:

Semiconductor Index: -$800,000 + 0.6*min($160,000,$250,000) + 0.6*min($160,000,$180,000) + 0.6*min($160,000,$240,000) = -$512,000

The margin without relief on the 4 positions would have been:

No offset requirement = $725,000 + $405,000 + $536,250 + $800,000 = $2,466,250

After including the offsets, the revised requirement will be:

New requirement recognizing offset = $602,000 + $282,000 + $413,250 + $512,000 = $1,809,250

B5. G7 Sovereign Debt Margin Rules

The following margin requirements apply to G7 Sovereign bond positions. The margin requirements shown are the percentage of the gross market value (GMV) of the position.

Bond Universe	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
G7 sovereign debt <2y to maturity	1%	2%	2%	3%	4%	5%
G7 sovereign debt >2y and <10y to maturity	2%	3%	3%	4%	5%	6%
G7 sovereign debt > 10y to maturity	4%	5%	5%	6%	7%	8%

B6. Corporate Debt Margin Rules

Corporate debt is defined as the debt issued by corporations. Any bond funds or derivatives on bonds are not considered corporate debt for these purposes.

Eligibility for the margin relief requires that the debt meet the following criteria:

a) The issuer must be incorporated in the following countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, or the United States

b) The debt must have an active, readily available price quote from an external pricing source.

For these purposes, high yield and distressed debt are classified into the following categories:

1. BB: debt rated between BBB- and BB
2. B: debt rated between BB- and B
3. CCC: debt rated below (including) B-
4. Distressed: debt traded at a spread above 15%.

The margin requirements shown are as a percentage of the gross market value (GMV) of the position. The total margin requirement is the sum of the separate requirements due to market risk and due to liquidity risk, plus any additional issuer or industry concentration risk (if applicable).

Bond Universe	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
AA+ or better (duration < 5 years)	2%	3%	4%	5%	7%	20%
AA+ or better (duration>5 years)	4%	5%	6%	7%	9%	30%
AA-A (duration < 5 years)	4%	4%	6%	7%	9%	35%
AA-A (duration >5 years)	5%	6%	8%	9%	12%	35%
BBB (duration < 5 years)	7%	8%	10%	15%	25%	45%
BBB (duration > 5 years)	9%	11%	13%	17%	35%	50%
BB	13%	14%	16%	23%	40%	60%
B	15%	18%	21%	29%	45%	60%
CCC	19%	19%	27%	35%	50%	60%
Distressed	22%	27%	32%	40%	60%	95%
Other	50% of Par Amount	50% of Par Amount	50% of Par Amount	100% of Par Amount	80% of Par Amount	100% of Par Amount

For outsized positions in corporate bonds, additional margin shown below applies as percentage of that positions market value. When the GMV in debt from a single issuer exceeds 10% of the portfolio GMV, there is an additional requirement on those positions.

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Issuer Concentration as % of portfolio GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10%-25%	4%	4%	5%	5%	5%	10%
25-50%	6%	7%	7%	10%	15%	20%
50-100%	15%	18%	18%	20%	30%	30%

For corporate bond portfolios with high industry concentrations there will be an additional requirement. When the GMV in a single industry exceeds 25% of the portfolio GMV, there is an additional requirement on those positions. Securities in those industries which have been identified as outsized trades (as defined above), and have already been additionally margined as such, receive no additional industry penalty

Position as % of GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	5%	7%	7%	5%	5%	10%
50-100%	15%	18%	18%	20%	25%	25%

For corporate bond positions where the notional is large relative to the issuance these add-ons apply

Position as % of Issue	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10-25%	5%	7%	7%	10%	15%	25%
25-50%	10%	15%	20%	25%	30%	50%
50-100%	30%	40%	40%	50%	100%	100%

Sub-Investment grade corporate bond positions are subject to the following liquidity risk add-on

Position as % of outstanding Amount	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10-30%	1%	2%	2%	2%	2%	15%
30-100%	2%	4%	4%	10%	20%	30%

B7. Convertible Debt Margin Rules

Margining for convertible bonds and convertible preferred securities, including asset strips and credit default swaps.

Use of the rules for convertible securities:

- The convertible security and its hedge must be freely tradable.
- We distinguish between investment grade (>=BBB-) and junk securities
- Deutsche Bank calculates fair values and derivative sensitivities for all complex securities based upon proprietary models. These valuations are dependent upon the choice of model parameters (e.g., underlying price, volatility, issuer spreads, etc…) used to price the instrument. The sensitivity analysis for margining of convertible bonds and convertible preferred securities are from single-factor models and the results used for the fair values and deltas (the sensitivity of the convertible to moves in the underlying) are theoretical values (as opposed to regression or empirical analyses). The derived delta-equivalent positions for the securities are used to set the degree of hedging prior to application of the rules. Deutsche Bank recognizes that these valuations are ***subject to our choice of pricing parameters*** and that others may differ. However, the process used when valuing these securities is a rigorous one and best efforts are made to price instruments to market correctly.
- Differences in hedging quantities of less than +/-5% (5 delta points) as determined by Deutsche Bank are considered to be hedged positions
- Deutsche Bank recognizes that some convertible securities are not immediately convertible, i.e., they are only contingently convertible. These bonds, if more than a small portion of the market value of the convertible portfolio, will receive slightly higher requirements.

Margin Requirements

The margin requirements shown below apply as a percentage of the market value of *hedged* portion of the convertible. Unhedged convertible positions are margined at the same hedged rates PLUS the applicable requirement on the unhedged delta equivalent underlying shares, as defined in the Equity Securities section.

CB Characteristics	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Contingent and not-immediately convertible bonds, when total GMV of such convertibles is >20% of total convert GMV	6%	9%	12%	20%	30%	50%
Short convert positions	6%	9%	12%	20%	30%	50%
Convertibles with delta <=30% (low delta)	Greater of (6%, applicable corporate debt rate)	Greater of (9%, applicable corporate debt rate)	Greater of (12%, applicable corporate debt rate)	Greater of (20%, applicable corporate debt rate)	Greater of (30%, applicable corporate debt rate)	Greater of (50%, applicable corporate debt rate)
Convertibles with delta >30% and <85%	4%	6%	8%	15%	20%	35%
Convertibles with delta >=85% (high delta)	Lesser of (4% of absolute MV, Conversion premium)	Lesser of (6% of absolute MV, Conversion premium) and a minimum of 0.5% of absolute MV	Lesser of (8% of absolute MV, Conversion premium) and a minimum of 0.5% of absolute MV	Lesser of (15% of absolute MV, Conversion premium) and a minimum of 0.5% of absolute MV	Lesser of (20% of absolute MV, Conversion premium) and a minimum of 0.5% of absolute MV	Lesser of (35% of absolute MV, Conversion premium) and a minimum of 0.5% of absolute MV

Note: If the total GMV of junk convertibles (credit quality<BBB-) which have low deltas is greater than 10% of the GMV of all convertible securities, then those low delta junk bonds are margined as not-immediately convertible bonds.

Note: Convertible bonds with issuers in emerging markets and deltas greater than 30% and less than 85% will be financed at the above rate plus 7.5% of the conversion premium for Tier B and 10% of the conversion premium for Tier C countries. TIER 1

Convertible bonds with issuers in emerging markets and deltas greater than 30% and less than 85% will be financed at the above rate plus 10% of the conversion premiumfor Tier B and 15% of the conversion premiumfor Tier C countries. SUPER 2

Convertible bonds with issuers in emerging markets and deltas greater than 30% and less than 85% will be financed at the above rate plus 10% of the conversion premium for Tier B and 15% of the conversion premium for Tier C countries. TIER 2

Convertible bonds with issuers in emerging markets and deltas greater than 30% and less than 85% will be financed at the above rate plus 15% of the conversion premium for Tier B and 20% of the conversion premium for Tier C countries. TIER 3

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Convertible bonds with issuers in emerging markets and deltas less than 30% will not be financed without explicit rate approval from Deutsche Bank on the particular bond

For convertible pairs from different tranches of the same issuance (with maturities within 2 years of each other), where one security is long against the other security short, the requirement will be the following percentage of the LMV with no requirement on the SMV for the amount of market value in common.

Position as % of LMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
Long Convertible Security	2%	3%	4%	7%	10%	18%

For outsized trades where the LMV (or SMV) of the trade meets the following criteria as a fraction of the portfolio LMV (or SMV), additional margin shown below applies as percentage of that trade's conversion premiumfor immediately convertible positions and to the market value for not immediately convertible positions.

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Position as % of LMV (or SMV)	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10%-25% and Notional<10% of Issuance	2%	3%	3%	5%	5%	5%
10%-50%	5%	7%	7%	10%	15%	20%
50%-100%	15%	18%	18%	20%	25%	30%

Convertible strategies with high industry concentrations will be subject to an additional requirement. When the LMV (or SMV) in a single industry exceeds 25% of the portfolio LMV (or SMV), there is an additional requirement on all those positions in that industry. Securities in those industries which have been identified as outsized trades (as defined above), and have already been additionally margined as such, receive no additional industry penalty. The addition margin below is charged on the individual conversion premia of all positions in that industry for immediately convertible positions and to the market value for not immediately convertible positions.

Industry position as % of LMV (or SMV)	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
25-50%	5%	7%	7%	10%	10%	15%
50-100%	15%	18%	18%	20%	25%	30%

For convertible bond positi ons where the notional is large relative to the issuance these add-ons apply to the conversion premium of the position for immediately convertible positions and to the market value otherwise:

Position as % of Issue	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
10-25%	5%	7%	7%	10%	15%	25%
25-50%	10%	15%	20%	25%	30%	50%
50-100%	30%	40%	40%	50%	100%	100%

Convertible Asset Strips

For positions that are effectively call options on convertible securities, where Deutsche Bank is the counterpart, these rules apply. Asset strips with another counterpart are not permissible.

CB Characteristics	Margin Rules					
Unhedged strips	100% of the option market value but at least:					
	Tier1	**Super2**	**Tier2**	**Tier3**	**TierMax**	**NoTier**
	0% of C B face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount
Hedged strips with delta < 85%	The lesser of: (1) 80% of the market value of the hedged portion of the asset strip (2) 80% of the requirement on the equivalent hedged portion of the underlying convertible security as defined in the convertible security margining rules (3) The naked equity margin appropriate to the delta equivalent shares of the hedged portion of the asset strip but at least:					
	Tier1	**Super2**	**Tier2**	**Tier3**	**TierMax**	**NoTier**
	0% of CB face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount
Hedged strips with delta >85%	80% of the lesser of the market value of the asset strip or the requirement on the equivalent hedged portion of the underlying convertible security as defined in the convertible security margining rules and at least:					
	Tier1	**Super2**	**Tier2**	**Tier3**	**TierMax**	**NoTier**
	0	0	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount	0.5% of CB face amount

B8. Emerging Market Sovereign Debt Margin Rules

The following rates will apply to sovereign debt from emerging market countries. Deutsche Bank recognizes that different emerging market countries show varying degrees of development and, as such, implements a two tiered margin structure for securities issued by or primarily exposed to the country. The countries in the tiers are grouped according to the table in the appendix. The tier may be changed at Deutsche Bank's discretion.

TierB Sovereign Debt	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
AA or better (duration < 5 years)	3%	6%	6%	10%	12%	30%
AA or better (duration >= 5 years)	4%	7%	7%	11%	13%	35%
A- to A+ (duration < 5 years)	4%	7%	7%	11%	13%	35%
A- to A+ (duration >= 5 years)	5%	8%	8%	13%	15%	35%
BBB- to BBB+ (duration < 5 years)	6%	11%	11%	16%	25%	40%
BBB- to BBB+ (duration >= 5 years)	7%	12%	12%	18%	30%	45%
BB- to BB+	10%	20%	20%	28%	32%	50%
B- to B+	20%	25%	25%	38%	40%	55%
CCC- to CCC+	25%	30%	30%	43%	50%	60%
Below CCC-	30%	40%	40%	50%	60%	85%

TierC Sovereign Debt	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
AA or better (duration < 5 years)	5%	8%	8%	13%	15%	35%
AA or better (duration >= 5 years)	6%	11%	11%	16%	25%	40%
A- to A+ (duration < 5 years)	7%	12%	12%	18%	30%	45%
A- to A+ (duration >= 5 years)	10%	20%	20%	28%	32%	50%
BBB- to BBB+ (duration < 5 years)	20%	25%	25%	38%	40%	55%
BBB- to BBB+ (duration >= 5 years)	25%	30%	30%	43%	50%	60%
BB- to BB+	30%	40%	40%	50%	60%	85%
B- to B+	35%	45%	45%	55%	65%	90%
CCC- to CCC+	40%	50%	50%	60%	70%	100%
Below CCC-	50%	60%	60%	75%	100%	100%

If the NMV of any unhedged local currency denominated EM country sovereign debt exceeds 10% of GMV of the portfolio we can apply the following FX add-ons to sovereign bond positions only.

Emerging Market Tier	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
TierB	5%	7%	7%	10%	20%	30%
TierC	15%	20%	20%	25%	36%	50%

There should be a margin add-on for outsized positions.

Position as % of portfolio GMV	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
10% - 25%	5%	7%	7%	10%	15%	20%
25% - 50%	10%	12%	12%	15%	20%	30%
50% - 100%	20%	25%	25%	30%	40%	50%

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There is liquidity add-on based on the position as percentage of outstanding amount

Position as % of outstanding amount	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
10% - 30%	1%	2%	2%	5%	10%	15%
30% - 100%	2%	4%	4%	10%	20%	35%

There is an additional requirement for credit portfolios with unhedged emerging market country concentrations. This additional requirement is determined from the percentage of the unhedged GMV in the portfolio of TierB and TierC countries as a fraction of the overall portfolio GMV. Please note, the unhedged GMV incorporates relevant Sovereign CDS exposure.

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% of unhedged GMV in TierB and TierC countries	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
10% - 25%	5%	7%	7%	10%	15%	20%
25% - 50%	10%	12%	12%	15%	20%	30%
50% - 100%	20%	25%	25%	30%	40%	50%

If the unhedged TierC exposure is more than 5% of the portfolio GMV then the following further add-on applies to those unhedged positions.

% of unhedged GMV in TierC countries	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
5% - 10%	5%	7%	7%	10%	15%	20%
10% - 25%	7%	10%	10%	15%	17.5%	25%
25% - 50%	10%	13%	13%	15%	20%	30%
50% - 100%	10%	15%	15%	20%	25%	40%

B9. Credit Default Swap Margin Rules

The following margin rules apply to CDS between the DB and hedge fund counter party. CDS "done away" are not financed under this document. For margin purposes, Deutsche Bank will distinguish between bought/sold positions in CDS. Margin requirements vary depending upon the credit spread, the type (bought or sold) and maturity of the swap according to the following table.

CDS Spread	CDS Type	Maturity	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
0-100 bps	Bought	<5 years	0	0	0	0	0	0
		>5 years	0	0	0	0	0	0
	Sold	<5 years	2%	2%	3%	5%	7%	10%
		>5 years	2.5%	3%	4%	7%	10%	14%
100-250 bps	Bought	<5 years	0	0	0	0	2%	4%
		>5 years	0	0	0	0	3%	5%
	Sold	<5 years	4%	5%	6%	8%	9%	15%
		>5 years	6%	7%	9%	11%	12%	20%
250 -500 bps	Bought	<5 years	0	0	0	1%	3%	5%
		>5 years	0	0	0	1.5%	4%	7%
	Sold	<5 years	6%	7%	9%	11%	20%	25%
		>5 years	9%	10%	12%	15%	25%	35%
500-800bps	Bought	<5 years	1%	1%	2%	2%	4%	8%
		>5 years	2%	3%	4%	5%	8%	15%
	Sold	<5 years	10%	11%	12%	15%	25%	30%
		>5 years	14%	15%	16%	20%	35%	40%
800-1000bps	Bought	<5 years	2%	3%	4%	5%	10%	15%
		>5 years	3%	5%	6%	8%	15%	20%
	Sold	<5 years	15%	15%	20%	20%	30%	35%
		>5 years	20%	25%	25%	30%	40%	45%
>1000bps	Bought	<5 years	3%	5%	6%	8%	12%	20%
		>5 years	4%	8%	9%	11%	20%	25%
	Sold	<5 years	20%	22%	25%	25%	35%	40%
		>5 years	25%	30%	35%	35%	45%	50%

When a CDS is from an issuer which does not belong to the major CDS indices:

1) Trac X family
2) Iboxx family

there will be additional charge for sold CDS trades:

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¶
These rules apply to margining of bank loans. Deutsche Bank identifies bank loans as either liquid or illiquid. Deutsche Bank will finance bank loans subject to these criteria ***(UNLESS explicitly agreed otherwise with Deutsche Bank)***:¶
¶
<#>Loans issued by a firm which derives the majority of its revenues from an Emerging Market country as given in the appendix will NOT be financed.¶
<#>Revolving loans will have the same requirement on the drawn and undrawn portions (if applicable).¶
<#>Loans where there is a sole pricing source (unless Deutsche Bank is the source) will NOT be financed.¶
<#>Any loan notional financed must represent less than 50% of the issued notional.¶
<#>No PIKs or subordinated loans (second liens are acceptable) will be financed as liquid loans. No trade claims will be financed.¶
¶
A liquid loan is defined to be a loan where the:¶
¶
<#>issue size > 500MM (USD or EUR) with public traded company ¶
<#>loan with size up to 1B (US or EUR) with private company, but with credit rating¶
<#>Loans where issue size > 250MM USD and issuer outstanding amount >750MM USD and Deutsche Bank is a market maker in the issue ¶
¶
Loans that meet the definition of a "liquid" receive the following liquidity add-on.¶
¶
Loan Spread [1]

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Tier1	Super2	Tier2	Tier3	TierMax	NoTier
1%	2%	3%	3%	5%	10%

For the outsized trades, where GMV of the sum of trades of the same issuer meets the following criteria as a fraction of the percentage of the portfolio GMV, the additional margin shown below applies as percentage of that trade's GMV.

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Position as % of portfolio GMV	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
5%-10%	2%	3%	3%	5%	5%	8%
10%-25%	5%	7%	7%	9%	10%	11%
25-50%	8%	10%	10%	12%	14%	18%
50-100%	15%	18%	18%	21%	22%	24%

For outright CDS portfolios with high industry concentrations there will be an additional requirement. When the GMV in a single industry exceeds 25% of the portfolio LMV, there is an additional requirement on those positions.

Position as % of GMV	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
25-50%	5%	7%	7%	9%	10%	15%
50-100%	15%	18%	18%	20%	25%	30%

Margin Relief for Credit Hedging with non-convertible securities

Margin relief will be recognized on an issuer basis when a long credit position is hedged by a short credit positions. Examples of pertinent transactions are:

- long corporate debt positions with a short position in a non-convertible corporate bond
- long corporate debt positions hedged with long CDS
- long bank loan hedged with long CDS
- bought CDS hedged with sold CDS

Offsets differ between developed and emerging market issuers as per the following tables:

Developed Markets

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Spread (bps) [2]

Tenor Match	Relief
Long Credit Tenor <= Short Credit Tenor <= Long Credit Tenor + 2 years	75%
Long Credit Tenor + 2 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor + 5 years	50%
Long Credit Tenor -1 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor	50%
Long Credit Tenor + 5 < Short Credit Tenor	25%
Short Credit Tenor < Long Credit Tenor - 1 AND Long Credit Tenor < 10 years	15%
otherwise	0%

Emerging Markets

Tenor Match	Relief
Long Credit Tenor <= Short Credit Tenor <= Long Credit Tenor + 2 years	50%
Long Credit Tenor + 2 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor + 5 years	30%
Long Credit Tenor -1 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor	30%
Long Credit Tenor + 5 < Short Credit Tenor	20%
Short Credit Tenor < Long Credit Tenor - 1 AND Long Credit Tenor < 10 years	10%
otherwise	0%

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Convertibles hedged with Corporate Debt or Credit Default Swaps (CDS)

Margin rates for Convertible securities (L/S) that are hedged with either corporate bonds (S/L) or a credit default swap (CDS) (L only) where Deutsche Bank is the counterparty to the CDS, are eligible for margin relief on the security (CDS with any other counterpart are not).

The degree of relief varies according to the equity risk in the convertible bond, as measured by DB's estimate of the theoretical delta (single factor model). The table below indicates the amount of relief as a function of the theoretical delta. The relief represents the percentage of the market value of the convertible security which can be offset by the market value of the corporate bond or the face value of the CDS. This amount is referred to as the delta-adjusted CB market value.

CB characteristics	% of adjusted CB Market Value eligible for Hedge
Delta < 30%	100%
30% < Delta < 60%	75%
60% < Delta < 80%	55%
80% < Delta < 95%	30%
Delta > 95%	0%

The hedged amount is the amount of delta-adjusted CB market value equal to the amount of corporate bond market value or CDS face value; the excess is what remains. There may be excess delta-adjusted CB market value or excess corporate bond market value or CDS face value. Margin relief will be given as shown in the following table to the portion of the delta-adjusted market value hedged by the corporate bond or CDS. This relief is given to the margin required of the CB without a hedge, prorated by the amount of credit hedge.

Developed Markets

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Spread (bps) [3]

Tenor Match	Relief
Long Credit Tenor <= Short Credit Tenor <= Long Credit Tenor + 2 years	75%
Long Credit Tenor + 2 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor + 5 years	50%
Long Credit Tenor -1 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor	50%
Long Credit Tenor + 5 < Short Credit Tenor	25%
Short Credit Tenor < Long Credit Tenor - 1 AND Long Credit Tenor < 10 years	15%
otherwise	0%

Emerging Markets

Tenor Match	Relief
Long Credit Tenor <= Short Credit Tenor <= Long Credit Tenor + 2 years	50%
Long Credit Tenor + 2 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor + 5 years	30%
Long Credit Tenor -1 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor	30%
Long Credit Tenor + 5 < Short Credit Tenor	20%
Short Credit Tenor < Long Credit Tenor - 1 AND Long Credit Tenor < 10 years	10%
otherwise	0%

Margin levels for Emerging Market Sovereign CDS:

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The following rules apply to CDS between DB and the hedge fund counterpart. Any CDS done away from DB are not currently covered by these rules.

CDS Spread	CDS Type	Maturity	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
0-100 bps	Bought	<5 years	0	0	0	0	0	0
		>5 years	0	0	0	0	0	0
	Sold	<5 years	5%	7.5%	10%	15%	20%	25%
		>5 years	7.5%	12.5%	15%	20%	30%	35%
100-250 bps	Bought	<5 years	0	0	0	0	2%	4%
		>5 years	0	0	0	0	3%	5%
	Sold	<5 years	7%	10%	12.5%	20%	25%	35%
		>5 years	12.5%	15%	20%	30%	35%	50%
250 -500 bps	Bought	<5 years	0	0	0	1%	3%	5%
		>5 years	0	0	0	2%	4%	7%
	Sold	<5 years	9%	15%	15%	25%	35%	45%
		>5 years	14%	25%	25%	35%	50%	60%
500-800bps	Bought	<5 years	1%	1%	2%	2%	4%	10%
		>5 years	2%	2%	3%	3%	6%	15%
	Sold	<5 years	15%	20%	20%	35%	45%	55%
		>5 years	25%	30%	30%	50%	60%	75%
800-1000bps	Bought	<5 years	2%	3%	4%	5%	10%	15%
		>5 years	3%	5%	6%	8%	15%	25%
	Sold	<5 years	20%	25%	25%	45%	55%	65%
		>5 years	30%	35%	40%	60%	75%	80%
>1000bps	Bought	<5 years	5%	8%	10%	15%	20%	25%
		>5 years	7.5%	12%	15%	25%	30%	40%
	Sold	<5 years	35%	40%	40%	55%	65%	75%
		>5 years	50%	60%	60%	75%	80%	100%

For outsized trades, where the sum of the notional of CDS from the same emerging market sovereign meets the following criteria as a percentage of the portfolio GMV, the additional margin shown below applies as a percentage of the notional amount.

Position as % of portfolio GMV	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
5% - 10%	2%	3%	3%	5%	8%	10%
10% - 25%	5%	7%	7%	10%	15%	20%
25% - 50%	10%	12%	12%	15%	20%	30%
50% - 100%	20%	25%	25%	30%	40%	50%

If the NMV of any unhedged local currency denominated EM country sovereign debt exceeds 10% of GMV of the portfolio we can apply the following FX add-ons to sovereign bond positions only.

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Emerging Market Tier	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
TierB	5%	7%	7%	10%	20%	30%
TierC	15%	20%	20%	25%	36%	50%

There is an additional requirement for portfolios with CDS where unhedged emerging market country concentrations exist when DB is the buyer of the swap. This additional requirement is determined from the percentage of the unhedged GMV in the portfolio of TierB and TierC countries as a fraction of the overall portfolio GMV.

% of unhedged GMV in TierB and TierC countries	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
10% - 25%	5%	7%	7%	10%	15%	20%
25% - 50%	10%	12%	12%	15%	20%	30%
50% - 100%	20%	25%	25%	30%	40%	50%

If the unhedged TierC exposure is more than 5% of the portfolio GMV then the following further add-on applies to those unhedged positions.

% of unhedged GMV in TierC countries	Tier1	Super 2	Tier2	Tier3	TierMax	NoTier
5% - 10%	5%	7%	7%	10%	15%	20%
10% - 25%	7%	10%	10%	12.5%	17.5%	20%
25% - 50%	10%	13%	13%	15%	20%	25%
50% - 100%	10%	15%	15%	20%	25%	30%

Emerging Market Sovereign Debt hedged with Sovereign Debt or CDS:

Margin relief may be offered for credit pairs only on a country basis for emerging market debt. Margin rates for emerging market sovereign debt (L/S) that are hedged with CDS (where the client buys protection from DB only) are eligible for margin relief on the debt. Relief is given as per the following table.

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Emerging Markets

Tenor Match	Relief
Long Credit Tenor <= Short Credit Tenor <= Long Credit Tenor + 2 years	50%
Long Credit Tenor + 2 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor + 5 years	30%
Long Credit Tenor -1 <= Short Credit Tenor AND Short Credit Tenor <= Long Credit Tenor	30%
Long Credit Tenor + 5 < Short Credit Tenor	20%
Short Credit Tenor < Long Credit Tenor - 1 AND Long Credit Tenor < 10 years	10%
otherwise	0%

B10. Foreign Exchange: Cash, Futures, and Forwards

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Deutsche Bank recognizes that security portfolios may incur foreign exchange (FX) exposure from positions in differing currencies. Such exposures might be hedging portfolio positions in securities of the same currency while others may not. Deutsche Bank will recognize the risk reducing nature of hedging transactions and will grant margin relief for such currency positions, but will continue to require margin on outright or residual currency positions. This approach will apply to such positions taken in cash, future, or forward form. The overall requirement consists of the aggregate risk assessment in the foreign exchange and interest rate components of the positions.

Foreign Exchange Risk

Regardless of security type, the exposure to a specifi c currency (CCY) in a portfolio will be defined as:

FX_portfolio = MV(long positions in securities denominated in CCY) – MV(short positions in securities denominated in CCY)

FX_financed_portfolio = DB financed portion of the FX_portfolio

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FX_currency = MV(long positions in CCY) – MV(short positions in CCY) (these include cash positions)

FX_net = FX_financed_portfolio + FX_currency

Except in the case where abs(FX_currency) >= abs(FX_financed_portfolio) where abs(FX_net) = Min (abs(FX_portfolio + FX_hedges), abs(FX_financed_portfolio + FX_currency))

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The hedged and unhedged exposures of the portfolio in currency CCY are defined as:

FX_hedged = the lesser of magnitude of FX_portfolio and magnitude of FX_currency provided FX_portfolio and FX_currency are of opposite sign

FX_unhedged = magnitude of FX_net

There will be NO requirement on any FX_hedged amount. The margin rates applicable for any FX_unhedged amount will depend upon the tier of the currency as defined in the appendix The margin rates for the currencies are outlined in the table below.

Currency Tier	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
TierA	2.5%	4%	4%	5%	10%	10%
TierB	5%	7%	7%	10%	20%	20%
TierC	8%	12%	12%	15%	25%	25%
TierD	15%	20%	20%	25%	35%	50%

Interest Rate Risk

An additional margin will be required against the interest rate risk in the positions. Based upon currency Tier and maturity, a margin rate will be assigned to each leg of an FX transaction. The table below showsthe margin for three maturities buckets of 6 months up to and including 2 years, 2 years up to and including 5 years, and beyond 5 Years. Trades with maturities less than or equal to 6 months will not get any interest rate risk margin.

Once the margin amounts are calculated for each leg of an FX transaction, they are aggregated for all trades by currency and maturity bucket. For each currency, the maturity buckets with long and short exposure will be combined separately. The total margin for each currency will then be calculated by the following logic:

Interest Rate Margin = 0.5 * min (long side requirement, short side requirement))
+ abs (long side requirement - short side requirement)

The total requirement to cover interest rate risk will be the sum of Interest Rate Margin for all currencies.

Currency Tier	Maturity	Tier1	Super2	Tier2	Tier3	TierMax	NoTier
TierA	0.5-2 Year	0.5%	0.5%	0.5%	1.0%	2.0%	2.0%
	2-5 Year	1.0%	1.5%	1.5%	2.0%	3.0%	4.0%
	>5 Year	1.5%	2.0%	2.0%	3.0%	5.0%	6.0%
TierB	0.5 -2 Year	1.0%	1.5%	1.5%	2.0%	3.0%	4.0%
	2-5 Year	1.5%	2.0%	2.0%	3.0%	5.0%	6.0%
	>5 Year	2.5%	4.0%	4.0%	5.0%	8.0%	10.0%
TierC	0.5 -2 Year	2.0%	3.0%	3.0%	4.0%	6.0%	8.0%
	2-5 Year	3.0%	4.5%	4.5%	6.0%	9.0%	12.0%
	>5 Year	4.0%	6.0%	6.0%	8.0%	12.0%	16.0%
TierD	0.5 -2 Year	4.0%	6.0%	6.0%	8.0%	12.0%	16.0%
	2-5 Year	5.0%	8.0%	8.0%	10.0%	15.0%	20.0%
	>5 Year	6.0%	9.0%	9.0%	12.0%	18.0%	24.0%

C. Appendix

C1. Definition of Terms

The following are definitions used throughout this document:

Hedged – that portion of the market value of related securities which offset risk in one another as prescribed in the margining procedures specified in this document

Unhedged – that portion of the market value of securities which has no offsetting risk exposure from other securities as prescribed in the margining procedures specified in this document

Long Market Value (LMV) – Market value of all securities covered by this schedule and held long and in particular,

INCLUDING

Underlying market value of securities in equity swaps held long
the market value of the underlying equity equivalent of call options held long
the market value of the underlying equity equivalent of put options held short
the notional value of credit default swaps held short

EXCLUDING

the notional value of credit default swaps held long
the market value of the underlying equity equivalent of put options held long

Short Market Value (SMV) – Absolute Market value of all securities covered by this schedule and held short and in particular,

INCLUDING

Underlying market value of securities in equity swaps held short
the market value of the underlying equity equivalent of call options held short
the market value of the underlying equity equivalent of put options held long
the notional value of credit default swaps held long

EXCLUDING

the market value of the underlying equity equivalent of put options held short
the notional value of credit default swaps held short

Net Market Value (NMV) – by the preceding definitions, Absolute value of (LMV-SMV)

Gross Market Value (GMV) – by the preceding definitions, LMV+SMV

C2. APT (Advanced Portfolio Technologies)

Deutsche Bank relies on the work of a third party vendor to determine certain parameters relevant to margining. APT has developed a comprehensive global factor model which produces some relevant risk figures. The following figures use the valuations from APT in the rules following:

- Sector/Industry definitions are provided by this vendor
- Market Capitalization is determined by this vendor
- Volatility – a measure of the historical variation in the price movement of an equity underlying
- Trading volume – a measure of how readily tradable an equity underlying is
- Pairs Score – a measure of the systematic correlation of a pair of equity underlyings

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C3. List of Major Indices

Deutsche Bank differentiates, for margining purposes, between issuer names which are constituents in Major Equity Indices and those that are not, as befits the liquidity inherent in index membership. Major Equity Index treatment requires issuer membership in one of these indices.

Symbol	Index	Symbol	Index
AEX	Amsterdam Stock Exchange	NDX	NASDAQ 100 Index
ASX200	Australian Stock Exchange Top 200 Index	NK225	Tokyo Stock Exchange Nikkei 225 Index
CAC	French CAC40 Index	OMX	Stockholm Stock Exchange Index
DAX	Deutsche Bourse German Stock Index	PSI120	Portuguese Derivatives Exchange Index
EuroStoxx 50	Dow Jones Euro Stoxx 50 Index	Russell 1000	US Russell 1000 Index
FTSE	British FTSE 100 Index	S&P500	US Standard & Poor's 500 Index
HSI	Hong Kong Hang Seng Index	SMI	Swiss Market Index
IBEX	Spanish IBEX 35 Index	STI	Singapore Straits Index
KFX	Copenhagen Stock Exchange Index	STOXX50, STOXX600	Dow Jones Stoxx 50 Index, DJ Stoxx 600 Index
MIB30	Milan Stock Exchange Index	Topix	Tokyo Stock Exchange Index

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C4. Sector/Industry Definitions

The sector/industry definitions used as defined for Deutsche Bank by APT.

Sector	Industry	Sector	Industry
Basic Industries	Chemicals Construction & Building Materials Forestry & Paper Steel & Other Metals	Information Technology	Information Technology Hardware Software & Computer Services
Cyclic Consumer Goods	Automobiles & Parts Household Goods & Textiles	Non Cyclic Consumer Goods	Beverages Food Producers & Processors Health Personal Care & Household Products Pharmaceuticals & Biotechnology Tobacco
Cyclical Service	Distributors Leisure, Entertainment & Hotels Media & Photography Restaurants, Pubs, Breweries Retailers, General Support Services Transport	Non Cyclic Services	Food & Drug Retailers Other Investment Companies Telecom Services
Financials	Banks Insurance Investment Companies Investment Entities Life Assurance Real Estate Speciality & Other Finance	Resources	Mining Oil & Gas
General Industrials	Aerospace & Defense Diversified Industrials Electronic & Electrical Equipment Engineering & Machinery	Utilities	Electricity Utilities, Other

C5. Emerging Market Countries

Country Ratings

Deutsche Bank differentiates, for margining purposes, between equity issuers where a firm derives the largest fraction of their revenues from Emerging Market (EM) countries and those that do not, as befits the liquidity issues surrounding Emerging Markets.

Further, Deutsche Bank recognizes that within the emerging market sector there are different levels of market sophistication and so creates two distinct classes of emerging market countries. Also, debt and equity markets may exhibit different regulatory and trading risks and so a single country may have distinct debt and equity tiers.

Countries may be added to the lists and/or ratings changed at the discretion of Deutsche Bank. (Countries with "A" ratings in the below are NOT EM countries but are included for completeness).

The current rating list is shown and will be reviewed quarterly.

Rated Country	Equity	Debt	Currency
Anguilla	C	C	D
Antigua	C	C	D
Argentina	C	C	D
Australia	A	A	A
Bahamas	C	C	D
Bahrain	C	C	D
Barbados	C	C	D
Belize	C	C	D
Bermuda	C	C	D
Botswana	C	C	D
Brazil	B	B	C
Bulgaria	B	B	D
Canada	A	A	A
Cayman Islands	C	C	D
Chile	B	B	B
China	B	B	B
Colombia	C	C	C
Cook Islands	C	C	D
Costa Rica	C	C	D
Croatia	C	C	D
Cyprus	C	C	D
Czech Republic	C	C	B
Denmark	A	A	A
Dominican Republic	C	C	D
Dubai	C	C	D
Ecuador	C	C	D
Egypt	C	C	D
Estonia	B	B	D
EUR (currency only)	-	-	A
Ghana	C	C	D
Gibraltar	C	C	D
Great Britian	A	A	A
Greece	B	B	D
Guam	C	C	D
Guernsey	C	C	D
Guyana	C	C	D
Hong Kong	A	B	B
Hungary	B	B	B
Iceland	B	B	D
India	B	B	B
Indonesia	C	C	C

Isle of Man	C	C	D
Israel	B	B	C
Ivory Coast	C	C	D
Jamaica	C	C	D
Japan	A	A	A
Jersey	C	C	D
Jordan	C	C	D
Kazakhstan	C	C	D
Kenya	C	C	D
Kuwait	C	C	D
Latvia	C	C	D
Lebanon	C	C	D
Liberia	C	C	D
Liechtenstein	B	B	D
Lithuania	B	B	D
Luxembourg	B	B	D
Macau	C	C	D
Macedonia	C	C	D
Malawi	C	C	D
Malaysia	B	B	B
Malta	C	C	D
Mauritius	C	C	D
Mexico	B	B	B
Moldovia	C	C	D
Morocco	C	C	D
Namibia	C	C	D
Netherlands Antilles	C	C	D
New Zealand	A	A	A
Nigeria	C	C	D
Northern Mariana Islands	C	C	D
Norway	A	A	A
Oman	C	C	D
Pakistan	C	C	D
Panama	C	C	D
New Guinea	C	C	D
Peru	C	C	D
Philippines	C	C	C
Poland	B	B	B
PuertoRico	C	C	D
Qatar	C	C	D
Romania	B	B	B
Russia	B	B	D
San Marino	C	C	D
Saudi Arabia	C	C	D
Senegal	C	C	D
Sierra Leone	C	C	D
Singapore	A	B	B
Slovakia	C	C	D
Slovenia	B	B	B
South Korea	B	B	B
South Africa	B	B	C
Sri Lanka	C	C	D
Sweden	A	A	A
Swaziland	C	C	D
Switzerland	A	A	A
Taiwan	B	B	B
Tanzania	C	C	D
Thailand	B	B	B
Trinidad And Tobago	C	C	D
Tunisia	C	C	D
Turkey	C	B	C
Turks & Caicos Islands	C	C	D
UK Virgin Islands	C	C	D

Ukraine	C	C	D
United Arab Emirates	C	C	D
United States	A	A	A
Venezuela	C	C	D
Zambia	C	C	D
Zimbabwe	C	C	D

C6. Leverage Countries

Leverage is available for securities in the following countries as specified in the following table in PB or swap. For avoidance of doubt, if a country is not listed below, leverage will not be provided. If there are questions regarding a country, please contact your Deutsche Bank marketer or risk contact.

Short Code	Country	Leverage PB [1, 2]	Leverage Swap [2]
AF	Afghanistan	No	No
AB	Alberta	No	Yes
AS	American Samoa	No	No
AI	Anguilla	No	No
AG	Antigua and Barbuda	No	No
AR	Argentina	No	Yes
AU	Australia	Yes	Yes
AT	Austria	Yes	Yes
AZ	Azerbaijan	No	No
BS	Bahamas	No	No
BH	Bahrain	No	Yes
BD	Bangladesh	No	No
BB	Barbados	No	No
BE	Belgium	Yes	Yes
BZ	Belize	No	No
BM	Bermuda	No	No
BO	Bosnia and Herzegovina	No	No
BW	Botswana	No	No
BR	Brazil	No	Yes
VG	British Virgin Islands	No	No
BG	Bulgaria	No	No
CA	Canada	Yes	Yes
KY	Cayman Islands	No	No
CL	Chile	No	Yes
CN	China	No	Yes (A, B shares)
CC	Cocos Islands	No	No
CO	Colombia	No	Yes
CK	Cook Islands	No	No
CR	Costa Rica	No	No
HR	Croatia (Hrvatka)	No	No
CU	Cuba	No	No
CY	Cyprus	No	No
CZ	Czech Republic	No	Yes
CS	Czecholovakia (former)	No	Yes
DK	Denmark	Yes	Yes

DO	Dominican Republic	No	No
EC	Ecuador	No	No
EG	Egypt	No	Yes
EE	Estonia	No	No
EU	Euro Zone	No	No
FI	Finland	Yes	Yes
FR	France	Yes	Yes
GE	Georgia	No	No
DE	Germany	Yes	Yes
GH	Ghana	No	No
GI	Gibraltar	No	No
GR	Greece	No	Yes
GD	Grenada	No	No
GT	Guatemala	No	No
GG	Guernsey	No	No
HK	Hong Kong	Yes	Yes (incl. China H shares)
HU	Hungary	No	Yes
IS	Iceland	No	No
IN	India	No	Yes
ID	Indonesia	No	Yes
IR	Iran	No	No
IQ	Iraq	No	No
IE	Ireland	Yes	Yes
IL	Israel	No	Yes
IT	Italy	Yes	Yes
CI	Ivory Coast	No	No
JM	Jamaica	No	No
JN	Jan Mayen	No	No
JP	Japan	Yes	Yes
JE	Jersey	No	No
JO	Jordan	No	No
KZ	Kazakhstan	No	No
KE	Kenya	No	No
KR	Korea (South)	Yes	Yes
KW	Kuwait	No	No
LV	Latvia	No	No
LB	Lebanon	No	Yes
LR	Liberia	No	No
LY	Libya	No	No
LI	Liechtenstein	No	No
LT	Lithuania	No	No
LU	Luxembourg	Yes	Yes
MW	Malawi	No	No
MY	Malaysia	No	Yes
MT	Malta	No	No
MH	Marshall Islands	No	No
MU	Mauritius	No	No
MX	Mexico	No	Yes
MA	Morocco	No	Yes
MM	Myanmar (Burma)	No	No
NA	Namibia	No	No

NR	Nauru	No	No
AN	Netherlands Antilles	No	No
NL	Netherlands	Yes	Yes
NZ	New Zealand	Yes	Yes
NE	Niger	No	No
NG	Nigeria	No	No
NU	Niue	No	No
KP	North Korea	No	No
NO	Norway	Yes	Yes
OM	Oman	No	No
PK	Pakistan	No	Yes
PA	Panama	No	No
PG	Papua New Guinea	No	No
PE	Peru	No	Yes
PH	Philippines	No	Yes
PN	Pitcairn Island	No	No
PL	Poland	No	Yes
PT	Portugal	Yes	Yes
PR	Puerto Rico	No	No
QA	Qatar	No	Yes
FJ	Republic of Fiji	No	No
RO	Romania	No	Yes
RU	Russian Federation	No	Yes
SA	Saudi Arabia	No	No
SN	Senegal	No	No
SB	Serbia	No	No
SL	Sierra Leone	No	No
SG	Singapore	Yes	Yes
SK	Slovak Republic	No	No
SI	Slovenia	No	No
SO	Somalia	No	No
ZA	South Africa	Yes	Yes
ES	Spain	Yes	Yes
LK	Sri Lanka	No	No
VC	St-Vincent & Grenadines	No	No
SD	Sudan	No	No
SZ	Swaziland	No	No
SE	Sweden	Yes	Yes
CH	Switzerland	Yes	Yes
TW	Taiwan	No	Yes
TH	Thailand	No	Yes
TT	Trindad & Tobago	No	No
TN	Tunisia	No	No
TR	Turkey	No	Yes
TC	Turks and Caicos Islands	No	No
UG	Uganda	No	No
UA	Ukraine	No	No
AE	United Arab Emirates	No	Yes
GB	United Kingdom	Yes	Yes
US	United States	Yes	Yes
UY	Uruguay	No	No

VI	US Virgin Islands	No	No
VU	Vanuatu	No	No
VE	Venezuela	No	No
VN	Vietnam	No	Yes
EH	Western Sahara	No	No
YU	Yugoslavia	No	No
ZM	Zambia	No	No
ZW	Zimbabwe	No	No

[1] The leverage analysis for Prime Brokerage is on condition that the securities are held in an omnibus account in Deutsche Bank's name or otherwise explicitly pledged to Deutsche Bank and held in its name or for its benefit.

[2] Note that certain markets in Prime Brokerage or Swap require local market documentation, side letters, local pledge agreements, etc. Leverage is extended on condition that these requirements have been satisfied.

B9. Bank Loan Margin Rules

These rules apply to margining of bank loans. Deutsche Bank identifies bank loans as either liquid or illiquid. Deutsche Bank will finance bank loans subject to these criteria **(*UNLESS explicitly agreed otherwise with Deutsche Bank*):**

Loans issued by a firm which derives the majority of its revenues from an Emerging Market country as given in the appendix will NOT be financed.
Revolving loans will have the same requirement on the drawn and undrawn portions (if applicable).
Loans where there is a sole pricing source (unless Deutsche Bank is the source) will NOT be financed.
Any loan notional financed must represent less than 50% of the issued notional.
No PIKs or subordinated loans (second liens are acceptable) will be financed as liquid loans. No trade claims will be financed.

A liquid loan is defined to be a loan where the:

issue size > 500MM (USD or EUR) with public traded company
loan with size up to 1B (US or EUR) with private company, but with credit rating
Loans where issue size > 250MM USD and issuer outstanding amount >750MM USD and Deutsche Bank is a market maker in the issue

Loans that meet the definition of a “liquid” receive the following liquidity add-on.

Loan Spread	Tier 1	Super 2	Tier 2	Tier3	TierMax	NoTier
0-100 bps	3%	5%	6%	7%	9%	30%
100-250 bps	8%	9%	11%	15%	30%	45%
250 -500 bps	10%	11%	13%	20%	35%	50%
500-800bps	12%	13%	15%	25%	40%	50%
800-1000bps	14%	17%	20%	28%	45%	70%
>1000bps	15%	20%	25%	30%	50%	85%

If the loan does not meet the definition of a “liquid loan”, then the following liquidity add-on will apply

Loan Spread	Tier 1	Super 2	Tier 2	Tier3	TierMax	NoTier

0-100 bps	5%	6%	7%	10%	20%	40%
100-250 bps	7%	8%	10%	15%	20%	40%
250 -500 bps	9%	10%	12%	20%	30%	40%
500-800bps	10%	12%	14%	25%	30%	40%
800-1000bps	13%	15%	16%	30%	35%	45%
>1000bps	20%	25%	30%	35%	40%	50%

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For outsized positions in corporate bond/loan strategies, additional margin shown below applies as percentage of that positions market value:

Issuer position as % of LMV	Tier 1	Super 2	Tier 2	Tier 3	TierMax	NoTier
10%-25%	4%	5%	6%	6%	15%	25%
25%-50%	6%	7%	10%	10%	20%	35%
50%-100%	15%	18%	20%	20%	30%	45%

For corporate bond/loan portfolios with high industry concentrations there will be an additional requirement. When the GMV in a single industry exceeds 25% of the portfolio LMV, there is an additional requirement on those positions.

Position as % of GMV	Tier 1	Super 2	Tier 2	Tier 3	TierMax	NoTier
25-50%	5%	7%	9%	9%	10%	15%
50-100%	15%	18%	20%	20%	25%	30%

The loan positions are also subject to additional margin as % of outstanding loan amount

Position as % of outstanding Amount	Tier 1	Super 2	Tier 2	Tier 3	TierMax	NoTier
10-30%	1%	4%	5%	5%	10%	15%
30-60%	4%	10%	15%	15%	20%	25%
60-100%	10%	20%	25%	25%	30%	35%

When the loan positions are concentrated with PIK and unsecured (e.g., mezzanine) loans then additional requirements will accrue. Should the GMV in PIK and unsecured loans become significant relative to the GMV of the portfolio the following additional amounts will be required as margin.

All PIK/unsecured GMV as % of portoflio GMV	Tier 1	Super 2	Tier 2	Tier 3	TierMax	NoTier
10-25%	5%	6%	7%	15%	25%	50%
25-50%	15%	17.5%	20%	30%	40%	75%
50-100%	30%	35%	40%	50%	50%	100%

When the GMV of a single PIK or unsecured loan is large relative to the GMV of all PIK and unsecured loans the following additional amounts will be required.

PIK/unsecured GMV as % all PIK/unsecured GMV	Tier 1	Super 2	Tier 2	Tier 3	TierMax	NoTier
10-25%	1%	2%	3%	10%	15%	25%
25-50%	5%	7.5%	10%	15%	20%	35%
50-100%	10%	15%	25%	35%	50%	75%

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Spread (bps)	Tenor Match	Relief
Developed Markets	Long Credit Tenor – 1 <= Short Credit Tenor <= Long Credit Tenor + 2 years	75%
Developed Markets	Short Credit Tenor < Long Credit Tenor - 1 OR Short Credit Tenor > Long Credit Tenor + 2 years	50%
Emerging Markets	Long Credit Tenor – 1 <= Short Credit Tenor <= Long Credit Tenor + 2 years	50%
Emerging Markets	Short Credit Tenor < Long Credit Tenor - 1 OR Short Credit Tenor > Long Credit Tenor + 2 years	30%

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Spread (bps)	Tenor Match	Relief
Developed Markets	Long Credit Tenor – 1 <= Short Credit Tenor <= Long Credit Tenor + 2 years	75%
Developed Markets	Short Credit Tenor < Long Credit Tenor - 1 OR Short Credit Tenor > Long Credit Tenor + 2 years	50%

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Spread (bps)	Tenor Match	Relief

Emerging Markets	Long Credit Tenor – 1 <= Short Credit Tenor <= Long Credit Tenor + 2 years	50%
Emerging Markets	Short Credit Tenor < Long Credit Tenor - 1 OR Short Credit Tenor > Long Credit Tenor + 2 years	30%