

**INDUSTRY SURVEY ON METHODS USED TO DETERMINE NOTIONAL
AND DURATION INPUTS TO COMPUTE GRID INITIAL MARGIN**

Table of Contents

1	BACKGROUND	4
2	INTRODUCTION	4
3	INTEREST RATES	5
3.1	Swap	5
3.2	Cross-currency swap	6
3.3	Swaption	7
3.4	Swaption straddle	7
3.5	Swap with Callable/Bermudan right-to-enter/exit swaps	7
3.6	Exotic swap with an exotic coupon against a floating leg	7
3.7	Forward Rate Agreement (FRA)	8
3.8	Option (e. g. Interest rate swap with Cap, Floor)	8
4	CREDIT	8
4.1	Single name CDS	9
4.2	Index CDS	9
4.3	Index tranche	9
4.4	Swaption	10
4.5	N th to Default.....	10
4.6	Total return swap (TRS) on a bond	10
5	FOREIGN EXCHANGE	11
5.1	Deliverable Swap.....	11
5.2	Non-Deliverable Cross-Currency Swap	12
5.3	Deliverable Forward.....	12
5.4	Non-Deliverable Forward.....	13
5.5	Deliverable Option	13
5.6	Non-Deliverable Option	14
5.7	FX Variance Swap.....	14
5.8	FX Volatility Swap.....	14
5.9	Correlation Swap.....	15
6	EQUITY	15
6.1	Option	15
6.2	Forward.....	16
6.3	Dividend Swap.....	16

6.4	Equity Variance Swap.....	16
6.5	Equity Volatility Swap	16
6.6	Contract for Difference (CFD)	17
6.7	Swaps and Portfolio Swaps	17
7	COMMODITY.....	17
7.1	Forward.....	18
7.2	Option	18
7.3	Fixed / Float Swap.....	18
7.4	Basis Swap.....	18
7.5	Swaption	19
7.6	Contract for Difference (CFD)	19
8	SUMMARY.....	19
9	REFERENCES.....	19

1 BACKGROUND

Since September 1, 2016, based on the notional amount of derivatives transacted, firms have been phased into complying with regulations requiring the posting and collection of initial margin. Starting in September 2021 and September 2022, a significant number of smaller (principally buy-side) firms will be subject to these regulations. As these phase 5 and 6 market participants started preparing for their AANA and GRID calculations, they sought advice from larger firms (principally dealer banks) that had already gone through these exercises over the past five years during phases one (2016) through four (2019).

In response to requests from the phase 5 and 6 firms, ISDA has compiled guidance from its members that have been subject to these regulations regarding the calculation of average aggregate notional amount (AANA) and initial margin (IM) amount from the regulatory schedule, which is also referred to as GRID. These queries are primarily on the inputs to the calculation, specifically, the notional amount for GRID or AANA calculation and the duration for the GRID calculation. Though some products are straightforward with respect to these values, others are not. For instance, some products do not have a currency notional and therefore it is necessary to determine an equivalent.

ISDA members preparing for IM Phases five and six are looking for guidance as to how other firms have determined these values in order to help inform the way they build these calculations. They believe that a consistent approach, as possible, may help to limit discrepancies in IM calculations based on GRID. There is broad support for ISDA to provide some guidance with respect to the notional and duration which firms may optionally consider for their GRID and/or AANA calculations.

2 INTRODUCTION

The purpose of this document is to provide a summary analysis of the approach(es) used by firms to determine notional and duration for GRID calculations that might, if desired, be emulated by Phase five and six firms. Optionally, firms could also use the notional guidance for their AANA calculations.

To arrive at the different approaches, ISDA, being cognizant that phase one to four firms have already built the ability to calculate GRID, sought input from the ISDA SIMM Governance Forum (“Forum”) members as to the approach they are taking to determine the notional and duration values for in-scope products since this existing precedent ought to form the basis of any guidance. In total, eighteen firms participated in the exercise by providing responses to the survey questions on GRID notional and duration. The distillation of the survey responses forms the essence of this document. Please note the following in relation to this document:

- This document is intended as an information resource only; it does not contain legal advice and should not be considered a guide to or explanation of all relevant issues or considerations in connection with the impact of margin rules on derivative transactions. You should consult your legal advisors and any other advisor you deem appropriate in considering the issues discussed herein. ISDA assumes no responsibility for any use to which any of these materials may be put.

- This document does not contain requirements or recommendations. It is neither mandatory nor required to follow or implement these suggestions and all firms are free to make their own individual decisions in this area.

In the subsequent sections, the options that broadly reflect the methods adopted across the industry to determine Notional (and/or Notional equivalent) and Duration for a range of different products under the different asset classes (namely Interest rate, Credit, Foreign Exchange, Equity and Commodity) are presented. For each section, we provide the description of each product surveyed and then present the main methods used across the industry in tables. Approaches that do not qualify as a main method because they are only reported by an individual firm are presented as bullet points. In most cases the alternative main methods give broadly similar values. The cases which have non-trivial differences are Swaption Duration (Interest Rate Swaptions, Interest Rate Swaption Straddles, and Credit Swaptions), and the Duration of Credit Total Return Swaps.

3 INTEREST RATES

The products considered under the interest rate asset class are described in the table below.

Product	Description
Swap	This is usually Fixed versus Floating Interest Rate Swap
Cross-currency swap	This is usually a Floating versus Floating Interest Rate Swap in which Interest Rates denominated in different currencies are exchanged during the life of the trade. It could also be a Fixed/Floating Swap. Notional Amounts are exchanged at the start and at the end of the trade.
Swaption	Option to enter an IRS, either cash or physically settled (i.e. entering an actual IRS)
Swaption straddle	Option strategy involving two swaptions
Swap with Callable/Bermudan right-to-enter/exit swaps	Swap with periodic right-to-exit option, or periodic right-to-enter a swap
Exotic swap with an exotic coupon against a floating leg	Swap with non-vanilla coupon
Option (e.g. Interest rate swap with Cap, Floor)	A Swap transaction transactions to which a Cap/Floor is applied to the floating rate rate vs. a fixed rate, or vs. another capped/floored floating rate (collar)
Forward Rate Agreement (FRA)	Agreement to exchange the net difference between the interest rate specified in the contract and the market rate on the settlement date

Table 1 - Description of the Interest Rate products considered for the survey

3.1 Swap

For interest rate swaps, Table 2 summarises the main methods used to determine the Grid notional and duration input.

GRID Input	Main methods used to determine GRID input
Notional	Current notional of the swap transaction
Duration	Tenor of the swap transaction

Table 2 – Main methods use to determine GRID input for Interest Rate Swaps

For the determination of GRID Notional input, we found that firms mainly use the Notional of the swap transaction as the notional input to GRID. Where the swap contract has an accreting or amortising feature firms mainly use the current notional of the swap transaction. In addition, a few firms report also using the following methods:

- Notional for the most recent cash flow
- Initial notional of the swap transaction.

For the determination of GRID Duration input, we found that firms mainly use the tenor of the swap transaction.

3.2 Cross-currency swap

For interest rate cross-currency swaps, Table 3 summarises the main methods used to determine the GRID notional and duration input.

GRID Input	Main methods used to determine GRID input
Notional	(1) Notional amount and currency of the receive leg of the cross-currency swap transaction (2) Notional amount and currency of the primary (first-booked) leg of the cross-currency swap transaction (3) Maximum of the notionals across the two legs when the notionals are expressed in the same currency, and the currency of the maximum notional of the cross-currency swap transaction
Duration	Tenor of the swap transaction

Table 3 - Main methods used to determine GRID inputs for Interest Rate Cross-currency Swaps

For the determination of GRID Notional input, the main methods used across the industry are summarised in Table 3. In addition to these, firms also report using the following methods:

- Notional amount and currency of the USD leg of the cross-currency swap transaction. Otherwise use the notional amount and currency of the receive leg of the cross-currency swap transaction
- Notional amount and currency of the JPY leg of the cross-currency swap transaction. Otherwise use the current notional amount and currency of the receive leg of the cross-currency swap
- If one leg has resettable notionals, then use the currency of the notional that does not reset otherwise use the maximum of the two notionals across the legs of the cross-currency swap
- If one leg has resettable notionals, then use the currency of the notional that does not reset. If both legs have a fixed notional amount, then express the notional amount in the currency which is listed earlier from the following: USD, EUR, JPY, GBP, CHF, followed by all other currency ISO codes in alphabetical order.

For the determination of GRID Duration input, we found that firms mainly use the tenor of the swap transaction.

3.3 Swaption

For interest rate swaptions, Table 4 summarises the main methods used to determine the GRID notional and duration input.

GRID Input	Main methods used to determine GRID input
Notional	Notional amount of the underlying swap
Duration	(1) Time to option expiry plus tenor of the underlying swap (2) Time to option expiry (3) Tenor of the underlying swap

Table 4 - Main methods used to determine GRID inputs for Interest Rate swaptions

Please note that from prior discussions that took place on the 8th April 2020 with the Forum on the method to determine the GRID input for Duration, the overwhelmingly voiced opinion was that the tenor of the underlying swap should be used as the GRID input for duration.

3.4 Swaption straddle

For interest rate swaption straddles, Table 5 summarises the main methods used to determine the GRID notional and duration input.

GRID Input	Main methods used to determine GRID input
Notional	Notional amount of the underlying swap
Duration	(1) Time to option expiry plus tenor of the underlying swap (2) Time to option expiry (3) Tenor of the underlying swap

Table 5 - Main methods used to determine GRID inputs for Interest Rate Swaption Straddles

3.5 Swap with Callable/Bermudan right-to-enter/exit swaps

For an interest rate swap with a callable or Bermudan option to enter or exit the swap transaction, Table 6 summarises the main methods used to determine the GRID notional and duration input.

GRID Input	Main methods used to determine GRID input
Notional	Notional amount of the underlying swap
Duration	Tenor of the transaction

Table 6 - Main methods used to determine GRID inputs for Interest Rate Swaps with a Callable or Bermudan option to enter or exit the swap transaction

3.6 Exotic swap with an exotic coupon against a floating leg

For an interest rate swap with an exotic coupon against a floating leg, Table 7 summarises the main methods used to determine the GRID notional and duration input.

GRID input	Main methods used to determine GRID input
Notional	(1) Notional amount of the transaction, as recorded in internal systems (2) Notional amount of the floating leg (3) Notional amount of the receive leg of the transaction
Duration	Tenor of the transaction

Table 7 - Main methods used to determine GRID inputs for Interest Rate Swaps with an exotic coupon against a floating leg

In addition to these methods, firms also report using the following methods for the determination of the GRID notional input:

- Notional amount of the primary (first-booked) leg of the transaction
- Maximum notional of the two legs of the transaction, when the notionals are converted to the same currency

3.7 Forward Rate Agreement (FRA)

For an interest rate FRA, Table 8 summarises the main methods used to determine the GRID inputs.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the FRA transaction
Duration	Tenor of the FRA transaction

Table 8 - Main methods used to determine GRID inputs for Interest Rate Forward Rate Agreements

3.8 Option (e. g. Interest rate swap with Cap, Floor)

For an interest rate swap with a cap and/or floor, Table 9 summarises the main methods used to determine the GRID notional and duration input.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the swap transaction
Duration	Tenor of the swap transaction

Table 9 - Main methods used to determine GRID inputs for Interest Rate Swaps with Caps and Floors

4 CREDIT

The products considered under the interest rate asset class are described in the table below.

Product	Description
Single name Credit Default Swap (CDS)	Contract that provides protection against credit loss on an underlying reference entity as a result of a specific credit event. Buyer pays a premium and receives payment if the credit event occurs

Index CDS	CDS on a portfolio of underlying reference entities
Index tranche	Synthetic collateralised debt obligation based on a CDS index tranche
Swaptions	Option to enter a CDS (as payer/receiver)
Nth to Default	Credit default swap where protection is written against the default of the n th entity in a set of reference entities
Total return swap on a bond	Swap where the structured leg is the total return of a reference bond (coupons, redemptions) with credit linkage

Table 10 - Description of the Interest Rate products considered for the survey

4.1 Single name CDS

Table 11 summarises the main methods used to determine the GRID inputs for this product.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the credit default swap transaction
Duration	Tenor of the credit default swap transaction

Table 11 - Main methods used to determine GRID inputs for Single name CDS

A few firms also report using other methods to determine notional that include:

- Notional amount of the fixed rate payer of the credit default swap transaction
- Notional amount of the primary (first-booked) leg of the credit default swap transaction

4.2 Index CDS

Table 12 summarises the main methods used to determine GRID notional and duration input for Index CDS.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the credit default swap transaction
Duration	Tenor of the credit default swap transaction

Table 12 - Main method used to determine GRID inputs for Index CDS

A few firms also report using other methods to determine notional that include:

- Notional amount of the fixed rate payer of the credit default swap transaction
- Notional amount of the primary (first-booked) leg of the credit default swap transaction

4.3 Index tranche

Table 13 summarises the main methods used to determine GRID notional and duration input for an Index tranche

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the credit default swap transaction
Duration	Tenor of the credit default swap transaction

Table 13 - Main method used to determine GRID inputs for Index tranche

4.4 Swaption

Table 14 summarises the main methods used to determine GRID notional and duration input for an Credit swaption.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the underlying CDS
Duration	(1) Time to option expiry plus Tenor of the credit default swap transaction (2) Time to option expiry (3) Tenor of the underlying credit default swap transaction

Table 14 - Main method used to determine GRID inputs for Credit Swaption

4.5 Nth to Default

Here is the summary of the main methods used to determine GRID notional and duration input for an Credit swaption as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the swap transaction
Duration	Tenor of the credit default swap transaction

Table 15 - Main method used to determine GRID inputs for Nth to Default

A firm also reports using the following method to determine GRID notional:

- Notional amount of the fixed rate payer of the transaction

4.6 Total return swap (TRS) on a bond

Here is the summary of the main methods used to determine GRID notional and duration input for an TRS as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Transaction Face Amount multiplied by Initial Price of bond (x 0.01) (2) Transaction Face Amount (3) Transaction Face Amount multiplied by Current Price of bond (x 0.01)
Duration	(1) Tenor of the total return swap's termination date (2) Tenor of the underlying bond

Table 16 - Main method used to determine GRID inputs for TRS on a bond

Please note that the Forum-agreed approach (FAQ K.4) on the method to determine the GRID input for Duration is that the tenor of the underlying bond should be used as the GRID input for duration.

5 FOREIGN EXCHANGE

The products considered under the Foreign Exchange asset class are described in the table below. For this asset class, GRID does not require a tenor input to calculate initial margin; so only the methods used to determine notional will be considered for this asset class.

Product	Description
Deliverable Swap	Physical exchange of two amounts, one at "spot" and second one is a reverse exchange at "forward rate" agreed on trade date
Non-Deliverable Cross-Currency Swap	Same as the Cross-Currency Swap with the difference that the amounts in the Reference Currency are converted into the Settlement Currency on the Valuation Date
Deliverable Forward	Purchase of one currency amount against the delivery of another currency amount at a rate set on the trade date, for settlement via physical exchange of the two currencies on a specified future date that is beyond T+2 Business Days
Non-Deliverable Forward	Same as Deliverable Forward with the difference that the amounts in the Reference Currency are converted into the Settlement Currency on the Valuation Date
Deliverable Option	FX option for which the notional amount of the two currencies involved are exchanged and settled between two parties on the same value date
Non-Deliverable Option	FX option for which parties settle the difference between strike and spot prices, and the notional amount is not exchanged
Variance Swap	Parties exchange payments based on realised variance of FX pair against a vanilla leg
Volatility swap	Parties exchange payments based on realised volatility of FX pair against a vanilla leg
Correlation Swap	Parties exchange payments based on realised correlation of two FX pairs against a vanilla leg

Table 17 - Description of the Foreign Exchange products considered for the survey

5.1 Deliverable Swap

Table 18 summarises the main methods used to determine GRID notional and duration input for Deliverable swaps as reported by firms.

GRID input	Main methods used to determine input
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Notional	The Amount and Currency Payable in the "Forward" Leg of the transaction, expressed in the currency which is listed earlier from the following: USD, EUR, JPY, GBP, CHF, followed by all other currency ISO codes in alphabetical order.
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Table 18 - Main methods used to determine GRID inputs for Deliverable Swaps

In addition to these methods, firms also report using the following methods for the determination of the GRID notional input:

- The Maximum amount across the two legs of the transaction
- The Amount and Currency Payable in the "USD" Leg of the transaction. If both legs are non-USD, use the Receiver notional amount and currency

5.2 Non-Deliverable Cross-Currency Swap

Table 19 summarises the main methods used to determine GRID notional and duration input for Non-Deliverable cross-currency swaps as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Receive side notional and currency (2) Maximum notional across the two legs of the transaction

Table 19 - Main methods used to determine GRID inputs for Non-Deliverable Cross-Currency Swaps

In addition to these methods, firms also report using the following methods for the determination of the GRID notional input:

- The Amount and Currency Payable in the "USD" Leg of the transaction. If both legs are non-USD, use the Receiver notional amount and currency
- If one leg has resettable notionals, then use the currency of the fixed-notional leg converted into the settlement currency, if required, based on current exchange rate. If both legs are fixed, use the settlement currency.
- Current notional amount of the swap transaction

5.3 Deliverable Forward

Table 20 summarises the main methods used to determine GRID notional and duration input for Deliverable swaps as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	Notional of the primary (first-booked) leg of the transaction

Table 20 - Main method used to determine GRID inputs for Deliverable Forwards

In addition, firms also report using the following methods to determine the GRID notional input:

- Notional of the "USD" Leg of the transaction. If both legs are non-USD, use the Receiver notional amount
- Maximum notional across the two legs of the transaction
- Amount and currency payable expressed in the currency of the denominator of the exchange rate expressed in the currency which is listed earlier from the following: USD, EUR, JPY, GBP, CHF, followed by all other currency ISO codes in alphabetical order.

5.4 Non-Deliverable Forward

Table 21 summarises the main methods used to determine GRID notional and duration input for Deliverable options based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Notional Amount, which is the amount of currency payable at maturity, where the currency used is the settlement currency (2) Maximum notional across the two legs of the transaction (3) Receive side notional

Table 21 - Main methods used to determine GRID inputs for Non-Deliverable Forwards

In addition to these methods, firms also report using the following methods for the determination of the GRID notional input:

- Notional of the "USD" Leg of the transaction. If both legs are non-USD, use the Receiver notional amount and currency
- Notional Amount in the currency of the primary (first-booked) Leg
- Notional amount expressed in non-deliverable currency

5.5 Deliverable Option

Table 22 summarises the main methods used to determine GRID notional and duration input for Deliverable options based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Notional Amount of the primary (first-booked) leg of the transaction (2) The Amount and Currency Payable in the "USD" Leg of the transaction. If both legs are non-USD, use the Receiver notional amount and currency (3) Receive side (current) notional

Table 22 - Main methods used to determine GRID inputs for Deliverable Options

In addition to these methods, firms also report using the following methods for the determination of the GRID notional input:

- Notional of the pay leg of the transaction

- Call Currency Amount or Put Currency Amount, whichever is expressed in the currency of the denominator of the Strike Price (exchange rate) expressed in the currency which is listed earlier from the following: USD, EUR, JPY, GBP, CHF, followed by all other currency ISO codes in alphabetical order

5.6 Non-Deliverable Option

Table 23 summarises the main methods used to determine GRID notional and duration input for Deliverable options based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Maximum notional across the two legs of the transaction (2) The Notional Amount expressed in the Settlement Currency

Table 23 - Main methods used to determine GRID inputs for Non-Deliverable Options

In addition, firms also report using the following methods to determine the GRID notional input:

- Receive side current notional
- Notional in the "USD" Leg of the transaction. If both legs are non-USD, use the Receiver notional amount and currency

5.7 FX Variance Swap

Table 24 summarises the main method used to determine GRID notional and duration input for FX Variance swaps as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	The "Vega Notional Amount" divided by $(0.02 * \text{"Fixed Rate"})$, where "Vega Notional Amount" and "Fixed Rate" are defined in the contract laid out in the ISDA Swap Supplement [1]. Note that a Fixed Rate of 20% is quoted as 0.20, not 20.

Table 24 - Main method used to determine GRID inputs for FX Variance Swaps

5.8 FX Volatility Swap

Table 25 summarises the main method used to determine GRID notional and duration input for FX Volatility swaps as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	The "Vega Notional Amount" multiplied by 100, where "Vega Notional Amount" is defined in the contract laid out in the ISDA Swap Supplement [1].

Table 25 - Main method used to determine GRID inputs for FX Volatility Swaps

5.9 Correlation Swap

Table 26 summarises the main method used to determine GRID notional and duration input for FX Correlation swaps as reported by firms.

GRID input	Main methods used to determine GRID input
Notional	The “Notional Amount” as defined in the contract laid out in the ISDA Swap Supplement [1].

Table 26 - Main method used to determine GRID inputs for FX Correlation Swaps

6 EQUITY

The products considered under the Equity asset class are described in the table below. For this asset class, GRID does not require a tenor input to calculate initial margin; so only the methods used to determine notional are considered here.

Product	Description
Option	Contract giving buyer the right (but not the obligation) to buy/sell underlying asset
Forward	Contract to buy/sell a specific number of assets at a strike price at a given date
Dividend Swap	Buyer receives the qualifying dividends during the period of the trade in exchange for a vanilla leg
Deliverable Option	FX option for which the notional amount of the two currencies involved are exchanged and settled between two parties on the same value date
Variance Swap	Parties exchange payments based on realised variance of FX pair against a vanilla leg
Volatility swap	Parties exchange payments based on realised volatility of FX pair against a vanilla leg
Contract for Difference (CFD)	Exchange the difference in underlying asset value between the time the contract opens and closes

Table 27 - Description of the Equity products considered for the survey

6.1 Option

Table 28 summarises the main method used to determine GRID notional input for Equity option based on the survey results from firms.

GRID input	Main method used to determine GRID input
Notional	Number of shares multiplied by Strike price

Table 28 - Main methods used to determine GRID inputs for Equity Options

Only a couple of other firms report that they use the Number of shares multiplied by Current price of the underlying stock.

6.2 Forward

Table 29 summarises the main method used to determine GRID notional input for Equity Forwards based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Number of shares multiplied by Strike price (2) Number of shares multiplied by Current price

Table 29 - Main methods used to determine GRID inputs for Equity Forwards

6.3 Dividend Swap

Table 30 summarises the main method used to determine GRID notional input for Equity Forwards based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	Number of shares multiplied by Strike price

Table 30 - Main methods used to determine GRID inputs for Equity Dividend Swaps

One firm reports using the following method for determining Grid notional:

- Number of shares multiplied by Current price

6.4 Equity Variance Swap

Table 31 summarises the main method used to determine GRID notional input for Equity Variance Swaps based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) The product of 200 * "Variance Amount" * "Volatility Strike Price", where "Variance Amount" and "Volatility Strike Price" are given in the contract as laid out in master confirmation [3]. Note that a Volatility Strike Price of 20% is quoted as 20, not 0.20. (2) The product of 10,000 and the "Variance Amount"

Table 31 - Main methods used to determine GRID inputs for Equity Variance Swaps

6.5 Equity Volatility Swap

Table 32 summarises the main methods used to determine GRID notional input for Equity Volatility Swaps based on the survey results from firms.

GRID input	Main methods used to determine GRID input
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Notional	The “Volatility Amount” multiplied by 100, where “Volatility Amount” is defined in the contract laid out in the ISDA Swap Supplement [2].
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Table 32 - Main methods used to determine GRID inputs for Equity Volatility Swaps

6.6 Contract for Difference (CFD)

Table 33 summarises the main method used to determine GRID notional input for Equity Forwards based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Number of shares multiplied by Initial price (2) Number of shares multiplied by Current price

Table 33 - Main methods used to determine GRID inputs for Equity Forwards

6.7 Swaps and Portfolio Swaps

Table 34 summarises the main methods used to determine GRID notional input for Equity Swaps and Portfolio Swaps based on the survey results from firms.

GRID input	Main methods used to determine GRID input
Notional	(1) Number of shares multiplied by Current price (2) Number of shares multiplied by Initial price

Table 34 - Main methods used to determine GRID inputs for Equity Swaps and Portfolio Swaps

7 COMMODITY

The products considered under the Commodity asset class are described in the table below. For this asset class, GRID does not require a tenor input to calculate initial margin; so only the methods used to determine notional are considered here.

Product	Description
Forward	Forward contract to buy/sell a specified quantity of a commodity at a specified price
Option	Option to buy/sell underlying commodity at specified price
Fixed/Float swap	Floating payment based on an underlying commodity price against a fixed payment over a specified period
Basis swap	Cash settled swap based on price differential between two predefined commodities
Swaption	Option to enter a commodity swap
Contract for Difference (CFD)	Exchange the difference in underlying asset value between the time the contract opens and closes

Table 35 - Description of the Commodity products considered for the survey

7.1 Forward

Table 36 summarises the main method used to determine GRID notional input for Equity Forwards.

GRID input	Main methods used to determine GRID input
Notional	Number of units multiplied by Forward price

Table 36 - Main method used to determine GRID inputs for Commodity Forwards

In addition, firms also report using the following method to determine the GRID notional input:

- Number of units multiplied by Strike price

7.2 Option

Table 37 summarises the main method used to determine GRID notional input for Equity Options based on the survey results from firms.

GRID Input	Main methods used to determine GRID input
Notional	Number of units multiplied by Strike price

Table 37 - Main method used to determine GRID inputs for Commodity Options

One firm reports using the following method to determine GRID notional:

- Number of contracts multiplied by Spot price

7.3 Fixed / Float Swap

Table 38 summarises the method used to determine GRID notional input for Commodity Forwards.

GRID input	Main methods used to determine GRID input
Notional	Number of units multiplied by Strike price

Table 38 - Main method used to determine GRID inputs for Commodity Fixed / Float Swaps

One firm reports using the following to determine GRID notional:

- Number of units multiplied by the Maximum of the Strike price and Spot price i.e. Number of units × Maximum (Strike price, Spot price)

7.4 Basis Swap

Table 39 summarises the main method used to determine GRID notional input for Commodity Basis Swaps as reported by the firms participating in the survey.

GRID input	Main methods used to determine GRID input
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Notional	<p>(1) Maximum of the receive/pay notionals determined as maximum of (Number of units x Spot price)</p> <p>(2) Maximum of the receive/pay notionals determined as maximum of (Number of units x (Spot price + Spread))</p> <p>(3) The notional of the leg with no spread, if that is unique, otherwise the average of the notionals of the two legs, where leg notional is defined as (Number of units x Spot price)</p>
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Table 39 - Main methods used to determine GRID inputs for Commodity Basis Swaps

7.5 Swaption

Table 40 summarises the main method used to determine GRID notional input for Equity Basis Swaps as reported by the firms participating in the survey.

GRID input	Main methods used to determine GRID input
Notional	Notional amount of the underlying swap contract

Table 40 - Main method used to determine GRID inputs for Commodity Swaptions

7.6 Contract for Difference (CFD)

Table 41 summarises the main method used to determine GRID notional input for Equity Forwards.

GRID input	Main methods used to determine GRID input
Notional	Number of units multiplied by the Initial price

Table 41 - Main method used to determine GRID inputs for Commodity CFDs

8 SUMMARY

This document has provided a summary analysis of the approach(es) used by firms to determine notional and duration for GRID calculations. At the heart of the document are the distillates from the industry survey conducted to seek input from the “Forum” members on the approaches they adopt to determine the notional and duration values for in-scope products.

9 REFERENCES

[1] “November 2018 Volatility Swap, Variance Swap and Correlation Swap Supplement to the 1998 ISDA FX and Currency Option Definitions”, ISDA, published 12-Nov-2018. URL: <https://www.isda.org/a/Vz6TE/Publication-Draft-Vol-Var-Corr-Swap-Supplement-pub-final.pdf>

[2] “Definitions and Terms Supplement, Equity Matrix: Index Vol Swap 1”, ISDA, published 15-Sep-2015. URL: https://www.isda.org/a/j5MDE/IVS1_DTS_2015-09-14.pdf

[3] “Revised 2007 European Variance Swap Master Confirmation Agreement”, ISDA, published 25-Jun-2007. URL: <https://www.isda.org/a/XwMDE/ISDA-European-Variance-Swaps-Project-Form-of-Master-Confirmation.doc>