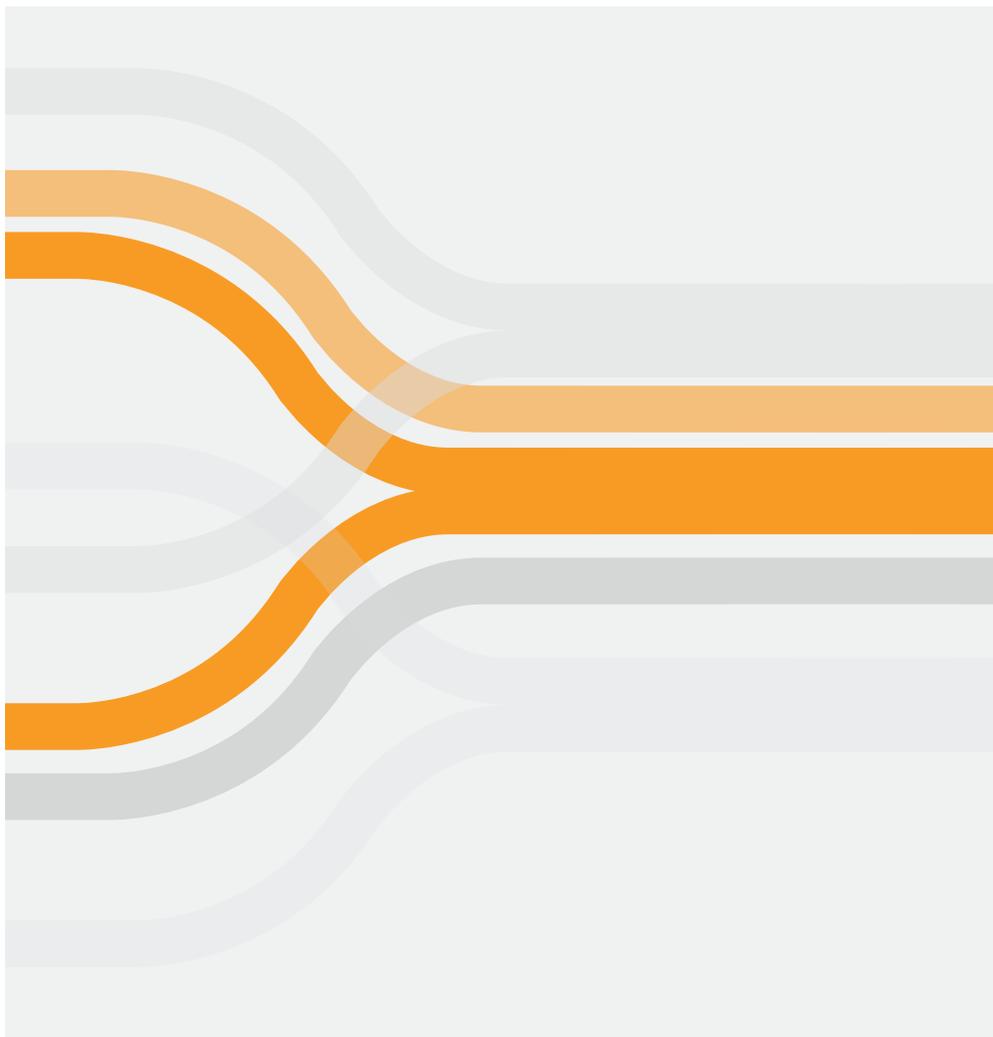


Solo Compression with Blended Rate

Delivering Real Efficiencies Today

LCH The Markets'
Partner

SwapClear



SwapClear delivers
unmatched efficiencies
while protecting the
integrity of the marketplace.

Trade compression
is one way we do this.

Compress, Terminate, Net, Tear Up

There are a number of words used in association with trade compression. All mean essentially the same thing. Members and buy-side clients can “terminate,” “net” or “tear up” trades to reduce the overall notional and number of line items in a portfolio.

Compression Responds to Calls for Greater Operational and Capital Efficiency

Regulations in the US and Europe require clearing of most interest rate swap positions through a central counterparty. With the sheer number and scale of positions in the \$552 trillion* interest rate derivatives market, this presents a major operational and capital challenge.

Since inception, SwapClear has continually refined its service to empower participants. In 2017 our compression offering delivered record levels of efficiency, contributing to a reduction of more than \$608 trillion of interest rate swaps.

We expect this number to climb as Solo compression — designed specifically for buy-side firms — now offers the choice of blended rate compression for FRAs. Our enhancements to Solo are ongoing, enabling institutions to choose what, when and how they compress their trades. It’s the level of service you should rightly expect from the clear industry leader.

*As of January 2018

About Solo Compression

Solo enables buy- and sell-side institutions to reduce the number of individual positions and overall notional value of a portfolio by combining or offsetting trades with compatible features.

With the addition of future cash-flow netting into the core offering and the availability of blended rate compression, the options for increased efficiency are even greater.

THE BENEFITS

By reducing the total gross notional outstanding and total number of trades, firms can benefit from significant efficiencies, including:

01. Reduction of operational risks
02. Speed to auction in the event of a default
03. Fewer reconciliations
04. Simplified portfolio management
05. More efficient portfolio transfers
06. Capital savings in light of Basel III leverage ratios, as well as capital surcharges applied to G-SIBs

FUTURE CASH-FLOW NETTING

Future cash-flow netting enables trades with different start dates and the future cash-flow dates to compress. This allows more trades to be compressed than ever before.

01.

Trades are agreed by a number of counterparties, then submitted for clearing.



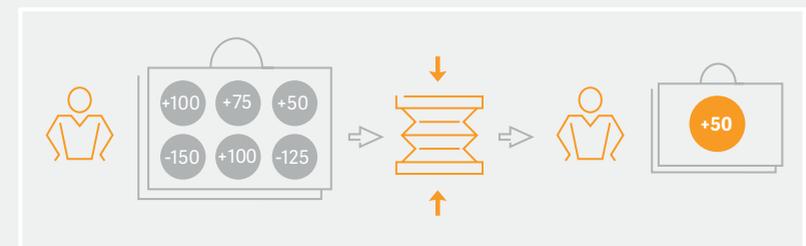
02.

Each side of the trade is registered and cleared as separate trades by SwapClear.



03.

This position then becomes part of your cleared swap portfolio.



04.

To create optimal efficiency, you may then compress these trades. This reduces your outstanding line items and gross notional.

Solo with Blended Rate Compression

While Solo provides significant operational and capital benefits to participants, the option of blended rate compression enhances these benefits, enabling institutions to compress any trade with different interest rates but the same remaining cash-flow dates. This significantly expands the universe of eligible trades and the opportunity for portfolio efficiency. It also demonstrates how SwapClear works harder to make sure that you don't have to.

The key attributes of Solo with blended rate compression are:

01. Trades will be terminated and/or replaced at a weighted average replacement rate
02. Replacement trades can be calculated to 6 decimal places
03. Reducing the number of open trades and corresponding notional helps meet investor preferences
04. Daily compression runs

SMART FOR COMPRESSION

SwapClear has harnessed its award-winning margin simulation technology, SMART, to provide similar capabilities for compression. This enables firms to more accurately and quickly determine their compression options.

BLENDED RATE — HOW IT WORKS

Blended rate enables the compression of any number of positions with varying fixed rates but the same remaining cash-flow dates. This creates operational efficiency by reducing line items and can reduce capital requirements.

| Line Items | | | | |
|------------|-----------------|--------------|------------|----------------------|
| Trade | PAY/REC (Fixed) | Notional | Fixed Rate | Annualised Cash-Flow |
| 1 | REC | 100,000,000 | 2.340000% | 2,340,000.00 |
| 2 | REC | 75,000,000 | 2.360000% | 1,770,000.00 |
| 3 | REC | 50,000,000 | 2.380000% | 1,190,000.00 |
| 4 | PAY | -150,000,000 | 2.350000% | -3,525,000.00 |
| 5 | REC | 100,000,000 | 2.280000% | 2,280,000.00 |
| 6 | PAY | -125,000,000 | 2.300000% | -2,875,000.00 |
| TOTAL | | 50,000,000 | | 1,180,000.00 |

Blended rate compression reduces six line items to one in this example

| Blended Rate | |
|--------------------------------|-----------|
| Annual (Coupon / Net Notional) | 2.360000% |

Positions reduced to one blended rate

| Risk Replacement Trade | | | | |
|------------------------|-----------------|------------|------------|----------------------|
| Trade | PAY/REC (Fixed) | Notional | Fixed Rate | Annualised Cash-Flow |
| 7 | REC | 50,000,000 | 2.360000% | 1,180,000.00 |

SwapClear creates a single risk replacement trade to complete the process

BLENDING RATE COMPRESSION KEY FEATURES

| Feature | Solo with Blended Rate Compression |
|---------------------------|--|
| Eligible Trades | Any trade with identical remaining cash-flow dates |
| Eligible Products | IRS, OIS & FRAs |
| Compression Run Frequency | Daily runs |
| Reporting | Comprehensive reporting available |
| SMART for Compression | Available to all buy- and sell-side |

Solo with Blended Rate for FRAs

Blended rate for FRAs is a match made in compression heaven, thanks to its potential to reduce FRA trades by 70% or more at LCH.

FRAs are typically used to hedge interest rate risk around certain rate reset dates. As a result, they are well suited to blended rate compression, which enables trades with different interest rates but the same payment dates to be compressed.

Like our other compression offerings, blended rate for FRAs optimizes the use of capital by driving down notional outstanding, the key metric for managing their size of total exposure for Globally Systemically Important Banks (G-SIB).

COMING SOON

Blended Rate Compression for Inflation and Blended Spread Compression for Basis



Duo Compression

SwapClear's Duo compression offering enables members to compress their portfolio by partnering with other members who have offsetting positions.

Through partnering with other counterparties who have similar offsetting positions, members may increase the universe of eligible trades and their overall compression opportunity.

Once an opportunity is identified over the SwapClear Portal, the two members may build a compression event where they agree to flatten their offsetting positions as well as using standardised trades to replicate their risk.

The key attributes of Duo compression are:

01. Members can view a daily, anonymised update of compression opportunities with other members
02. Initiating, building and agreeing a compression event is performed over the SwapClear Portal
03. An on-demand service where members initiate and progress compression runs on a daily basis
04. All approved trade events, terminations and replacements are created directly within SwapClear
05. Risk replacement trade templates are based on standardised trades so members may replace their risk with a smaller number of risk replacement trades



COMING SOON

OIS & FRAs for Duo Compression

Compression Drives Down Notional

The advantages of compression are far-reaching, creating operational efficiencies that benefit all participants. But the introduction of compression has broader significance, heralding a new industry benchmark to replace notional outstanding as an indicator of performance.

BLENDED RATE COMPRESSION KEY FEATURES

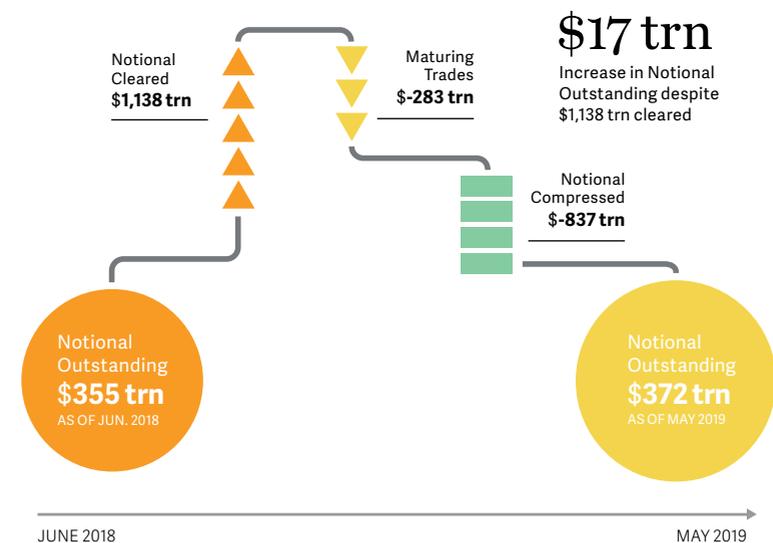
| Feature | Duo Compression |
|---------------------------|---|
| Eligible Trades | Any Solo with blended rate compression eligible trades except compounding trades |
| Eligible Products | IRS & FRAs |
| Compression Run Frequency | Multiple daily runs across all eligible currencies |
| Reporting | Comprehensive reporting via Intraday and EOD reports Supported by Clearlink and ATSS Synch messaging |

In 2015, thanks to blended rate and a concerted effort by our members and clients, SwapClear achieved the first annual net reduction in notional outstanding in OTC interest rate derivatives. Against a backdrop of record annual notional cleared, the service's book reduced from \$362 trillion, where it started the year, to under \$251 trillion notional outstanding.

We are also proud that thanks to compression, our buy-side notional outstanding was down by over \$78 trillion in 2015 alone!

Our customers have made it clear that they put a premium on efficiency. So do we.

COMPRESSION ACTIVITY (to May 2019, in Trillions)



ABOUT LCH AND SWAPCLEAR

LCH has always endeavoured to build strong relationships with partners across the global markets to deliver best-in-class risk management. With our accumulated experience and expertise, we are uniquely positioned to help participants increase capital and operational efficiency, while adhering to an expanding and complex set of cross-border regulations. Working together with our stakeholders, we have helped the market transition to central clearing by introducing an array of innovative enhancements. These include solo compression with blended rate, an expanded set of customer protection options, and the launch of LCH Spider, our portfolio margining tool. When combined with an uncompromising commitment to service delivery, it's no surprise that LCH is the natural choice of the world's leading market participants.

SwapClear, the world's leading OTC interest rates derivatives clearing service, provides access to the deepest pool of dealer liquidity, with more than 225 market makers clearing in 21 currencies across 9 major products. Since the introduction of buy-side clearing, nearly \$840* trillion notional has been cleared using SwapClear, more than four times that of the nearest competitor.

LCH works across a range of execution venues and is majority-owned by London Stock Exchange Group (LSEG), a diversified international exchange group that sits at the heart of the world's financial community.

FOR MORE INFORMATION

For more information on SwapClear, please contact your sales team representative, email lchsales@lch.com, or visit lch.com.

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*As of October 31, 2018

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