NORTHERN TRUST

Securities Lending Market Intelligence Newsletter

Fourth Quarter 2016

FOURTH QUARTER 2016

A message from Sunil Daswani, International Head of Securities Lending

Welcome to the fourth quarter edition of Northern Trust's Securities Lending Market Intelligence newsletter. This issue focuses on market commentary from our global trading and short duration fixed income experts, the latest updates on regulations impacting the securities lending market as well as information on the key industry conferences and events.

During 2016, Northern Trust expanded our global presence by creating a new trading desk in Sydney, Australia, added a new lending market (Turkey), and enhanced our technology by integrating Equilend's Next Generation Trading (NGT) into our global lending platform. These initiatives aim to provide clients with increased lending opportunities and diversification.

As we look back on 2016, these key themes and developments were significant to our industry:

- Revenue reaching its strongest level since 2012
- Borrower demand remained strong for the commodities/materials, healthcare, and consumer staples sectors
- The European economy remained steady. The result of the UK referendum vote however led to greater revenues in the UK equity market due to heightened volatility over that period
- Asian markets continued to be profitable, with Japan leading the way
- In North America, US equities generated the strongest revenues globally, with the oil sector driving much of the specials activity
- Fixed income markets saw significant increases in revenues for non-investment grade corporate bonds
- There was a marginal increase in revenues for US government bonds, but a larger increase for eurozone government bonds, as supply remained scarce due to the continued regional programme of quantitative easing

As we move forward into 2017, Northern Trust's securities lending team remains dedicated to monitoring market conditions while focusing on capitalising on the demand of our clients' securities. We will continue to keep you informed of market developments and securities lending programme changes in the coming year in our conversations with you and through this quarterly newsletter.

We look forward to working with you in the future.

TRENDS IN BORROWER DEMAND

January 2017

UNITED STATES

EQUITY

In the days and weeks following the 2016 presidential election, equity markets in the US staged a sustained rally as the tax cuts and reduced regulatory burden (among other themes) that President-elect Donald Trump campaigned on were viewed by the markets as being overall positive for the strength of the economy. Major equity indices all posted gains for the quarter (year); S&P 500 +3% (+10%), Dow Jones +8% (+13%) and NASDAQ +1% (+8%).

Against a back drop of a strengthening U.S. economy, the Federal Open Markets Committee (Committee) increased the level of interest rates by 25 bps at its December meeting, moving the target range for the Federal Funds rate from 25-50 bps to 50-75 bps. Whilst the markets broadly anticipated this move, the post meeting comments from the Federal Reserve (Fed) were more hawkish than many expected, with the Committee indicating it expected to increase rates as many as three times in the coming year. Given expectations for economic growth under a Trump presidency, this stance took some by surprise, raising some concerns over unanticipated increases in the levels of inflation.

The U.S. employment situation continued to exhibit positive momentum, with strong growth during the quarter. Inflation, Whilst still subdued, is expected to rise as the economy continues to exhibit signs of growth. Both the Bank of Japan (BoJ) and the European Central Bank (ECB) maintained their easy money policies at their meetings in December, with the ECB announcing the extension and expansion of its asset purchase program. These announcements also contributed to the positive sentiment in the equity markets.

Whilst increasing by 6% during the quarter, the CBOE Volatility Index (VIX), a measure of future stock price volatility, remained at multi year lows and finished the year down 23%. Lower levels of volatility and the sustained rally in equity prices kept many hedge funds on the sidelines during the quarter and contributed to ongoing short covering. Short interest on the New York Stock Exchange (NYSE) fell 4% for the quarter.

Borrower demand remained largely focused on directional trading strategies with the highest degree of interest in those sectors most likely to be impacted by ongoing economic weakness in Emerging and European economies. Sectors drawing the greatest amount of borrower interest included healthcare, pharmaceuticals, bio-pharma, transportation & shipping and consumer discretionary. Tesla Motors, a longtime favorite of shorts, was a notable name during the quarter. Borrower demand ahead of the vote to approve the proposed merger of Tesla Motors and solar panel manufacturer, Solar City, drove average lending spreads as high as 1,800 bps and short interest (the percentage of outstanding shares sold short) approached 40% during the quarter. After the merger was approved, spreads on Tesla Motors fell and settled in around 150-200 bps.

FIXED INCOME

The Federal Reserve raised their target range for overnight interest rates on December 14th from .25%-.50% to .50%-.75%. Ahead of the December hike, yields in the Treasury market moved sharply higher after the presidential election. Expectations for a stronger US economy and higher inflation contributed to the rally. Yields continued higher after the December rate hike as investors priced in more interest rate hikes in 2017 than previously expected. The changes in actual and expected interest rates contributed to Treasuries, both longer and shorter duration, to trade at wider spreads

in the securities lending market. The securities most recently auctioned traded at the largest spreads, but spreads on all Treasuries were higher in the fourth quarter than levels observed most of the year. Demand for Treasuries at year-end typically fall as borrowers manage their financial ratios. Lower demand results in sharp decreases in spreads on the days leading up to year end. This quarter end, the spike in the number of Treasuries trading special contributed to only a modest drop in spreads. Regulatory reform continues to incent borrowers to pledge noncash collateral. Spreads widened on loans versus noncash as demand to pledge cash collateral continues to decrease.

Demand for corporate bond securities in the energy sector remained the most in demand. Despite recent rallies in the price of energy, demand for bonds in this sector remained steady over the third quarter. Demand for Consumer Cyclical, especially retail, increased. Stagnant wages and consumers shift to online sales have pressured traditional retailers' financial performance.

CANADA

EQUITY

The S&P/TSX Composite Index, Canada's largest equity exchange, ended the fourth quarter with an increase of 3.9% as the index's heavily weighted energy, materials and financial sectors traded near 52 week highs.

Mergers & Acquisitions (M&A) activity remained extremely quiet through the final quarter of the year with much of the activity having been transacted throughout the first half of 2016. The Canadian IPO (Initial Public Offering) market was also dismal for the quarter. 2016 was the worst year for Canadian IPO's in nearly 20 years as a result of market uncertainty caused by the Brexit vote in the U.K and the U.S. presidential election campaign.

Specials demand remained stable through continued shorting activity this year, spread across several sectors, including the application software, energy, healthcare and housing sectors. This translated into higher lending spreads and utilisation rates over the fourth quarter with hedge funds maintaining their positions in these sectors. In addition to directional strategies, a larger portion of the revenue generated from Canadian equities was driven by dividend yield enhancement trades, coupled with the dividend reinvestment plan (DRIP) trade.

FIXED INCOME

The Bank of Canada (BoC) held the overnight rate at 0.5% at their October and December meetings. With inflation trending below its target inflation rate of 2%, coupled with an expansionary fiscal policy for 2017, the BoC felt that the overall balance of risks justified its current stance on monetary policy.

The Canadian dollar averaged US$0.75 through the fourth quarter reaching a high of US$0.763 in early October. Contrary to the third quarter, oil rebounded with the Organisation of Petroleum Exporting Countries (OPEC) announcing that it would scale back production to stabilise markets.

The composition of fixed income loan balances for the quarter remained centered in Government of Canada (GoC) debt issuances as borrowers maintain the need to hold High Quality Liquid Assets (HQLA) with the advancement of Basel III regulations. Large purchases of GoC debt by foreign central banks, which are reluctant to sell or participate in repo transactions, continue to drain liquidity and distort yields resulting in wider spreads for benchmark issuances.

Demand for short dated Canadian Treasury Bills was relatively flat as yields tapered off through the quarter. The overall increase in supply has also contributed to lower demand, in turn negatively impacting loan balances for Canadian Treasury Bills.

The volume of corporate debt trading continues to hold firm as borrowers maintained their positions in the financial, real estate holdings and energy sectors. Directional demand for these sectors continues to be driven by financing, weakening balance sheets and general creditworthiness concerns.

Financing costs and competing priorities for balance sheet optimisation continued to drive the need to borrow longer-term, highly liquid issues to facilitate termed collateral upgrade trades and address liquidity constraints.

EUROPE/MIDDLE EAST

EQUITY

The European equity markets closed the year strongly, with both the EURO STOXX 50 and the MSCI Europe indices ending the quarter up over 6%, reaching new highs for 2016. An improvement in European consumer confidence and US President-elect Trump's emphasis on infrastructure, corporate tax reform and deregulation helped ease concerns related to the economic uncertainties created by the repercussions of the Brexit vote in the UK.

In contrast to the positive growth seen in European equity indices, hedge funds continued to adopt a relatively conservative investment strategy when deploying capital in the region. Broader uncertainties relating to the long term economic outlook for Europe continues to see hedge funds maintain a lower risk profile. Whilst lending volumes remained relatively stable, hedge funds continue to maintain slightly heavier weightings towards both North America and Asia-Pacific.

Within European securities lending markets the strong demand seen in the third quarter for oil exploration and drilling companies continued into year end. Likewise, demand in the energy sector has been consistent throughout the fourth quarter as many producers continue to face headwinds with sustained low oil prices. However, should OPEC's decision to cut its production toward the end of the quarter be the catalyst for a sustain increase in oil prices, short interest in this sector is expected to soften in the year ahead. Aside from these macro-economic factors, hedge fund's long term directional demand in the biometric technology sector remained strong.

As is typical in the fourth quarter, European yield enhancement activity was mainly focused in France due to the prevalence of dividend distributions in this market. Borrower demand remained largely consistent with that seen during previous quarters however borrowers on-going sensitivities towards balance sheet usage and collateral costs continue to soften overall demand in this space.

In the UK market, opportunities created by optional stock dividends continued to be a strong source of demand, however fees were slightly subdued due to the weaker GBP: USD exchange rate. Uncertainty surrounding Brexit has been a catalyst for an increase in specials demand in the UK lending market. Short interest in UK equities has increased to a two year high following the Brexit vote in June, with the retail and construction sectors being the key focus of hedge fund's short interest.

FIXED INCOME

Pressure mounted in EMEA sovereign markets during the fourth quarter as the European Central Bank (ECB) maintained its presence as a substantial buyer of government debt through its quantitative easing program. At the same time, regulatory needs meant banks were compelled to hold large inventories of HQLA, particularly evident during the latter part of the year. As such, specific German bonds were in strong demand throughout the period, leading to a widening of spreads amid ongoing concerns related to bond scarcity.

Encouragingly, the ECB were focused on bond liquidity in securities lending and repo markets, leading President Mario Draghi to announce the removal of the negative 0.40% deposit rate floor for asset purchases, Whilst the minimum maturity of eligible bonds was lowered to one year. Additionally, from April 2017 the monthly pace of asset purchases will slow to €60 billion, from the current €80 billion. As such, pressures eased in the lending rates of German sovereign bonds following the December meeting, with the ECB no longer forced to target specific maturities. With a few weeks respite before year-end, the assets most in demand recovered to trade at 35-50 bps spreads, strongly contracting from the 100bps+ witnessed previously. However, as widely anticipated, general collateral government

bond rates once again traded deeply into negative territory over the year-end period as a combination of the aforementioned central bank asset purchase programs, alongside contracting balance sheets and general regulatory requirements widened the spreads that borrowers were willing to pay in order to source core European sovereign bonds. This extreme and unprecedented market dislocation highlights the challenges of sourcing the most liquid and highly-rated assets over sensitive regulatory reporting periods.

The market responded immediately to the result of the U.S. presidential election with a growing number of short positions in yield-providing Emerging Market (EM) bonds, as economists began to price the very strong probability of a Fed rate hike by the end of 2016. The Fed delivered its highly anticipated rate hike in December, resulting in further negative sentiment for EM bonds, and in particular, Latin American issuances perceived to be sensitive to President-elect Trump's policy agenda. Given the increased activity in EM assets in recent years resulting at least in part from the Fed's interest rate policy, the current negative sentiment is not favorable, particularly as it impacts local currencies. Additionally, the resulting rise in EM sovereign bond yields has made it more challenging for EM nations to re-issue government debt and finance current account deficits. In lending markets, the prevailing environment of benign geo-political risks and recent stability in oil prices helped to limit short demand. Aside from the appetite for South American bonds, there were no strong trends by sector or geography, with demand driven by micro-economics, focusing on factors specific to particular companies or industries.

ASIA

EQUITY

Investors remained cautious and relatively risk-off in the fourth quarter against a backdrop of lackluster global economic growth coupled with market uncertainty further to major geopolitical events including the US presidential election and the Italian referendum. Additionally, a strengthening US dollar supported by a Fed rate hike in December, coupled with rising oil prices post OPEC trade agreements, helped drive most equity markets in the region higher for the quarter, generally dampening securities lending demand for Asia-Pacific as short positions were covered.

Borrower demand in Hong Kong was softer for the quarter, exacerbated by overall market volatility as long/short equity funds maintained a risk-off stance. However, securities lending demand for Hong Kong luxury retailers remained robust as Chinese tourism and spending continued to slump due to the weakening Yuan, negatively impacting sales revenue. Additionally, Chinese real estate price growth slowed in the quarter as government policies tightened in an effort to curb inflated prices, driving securities lending demand for real estate developers and construction names.

In Japan, the Nikkei rallied sharply and the Yen depreciated on expectation the Trump administration would ease financial regulations, implement substantial fiscal stimulus and help to drive US interest rates higher more quickly than expected. In addition to greater long bias positioning, hedge funds reacted by covering shorts particularly for financials and consumer discretionary securities that have a positive exposure to a weaker Yen, thereby reducing securities lending activity. However, yield enhancement trading activity towards the end of December coupled with convertible bond arbitrage opportunities helped sustain overall securities lending demand for the quarter.

In Australia, securities lending themes remained largely unchanged relative to the previous quarter, being largely focused on securities within the financial, healthcare and consumer staples sectors. However, overall securities lending demand weakened for the period as the result of the US presidential election spurred a market rally that prompted short covering by hedge funds for the above mentioned sectors, particularly for financials, and consumer staples.

Whilst securities lending demand has remained robust in South Korea for much of the year, overall flow weakened during the fourth quarter as long/short hedge funds continued to cover short positions as share prices bottomed for directional names within healthcare and consumer discretionary. Within the industrials sector, particularly shipbuilders, there was significant short covering as investors were hopeful of rebounding performance amid restructuring plans in addition to strengthening oil prices, which saw a number of firms winning large overseas orders.

From an emerging opportunity perspective, the Hong Kong-Shenzhen connect was successfully launched on December 5, 2016. Whilst securities lending is currently not a viable product within the structure, this is an important milestone to complement the existing Hong Kong-Shanghai connect scheme, giving offshore investors access to trade shares on China's major bourses. The industry continues to lobby for structural changes that will facilitate significant securities lending opportunities.

SHORT DURATION MARKET UPDATE

January 2017

On October 14, U.S. Money Market Fund (MMF) Reform was implemented without any major market dislocation or funding constraints as issuers and market participants were well prepared for the changing market dynamics. Since the start of 2016, prime MMF assets have decreased by US$889 billion while government funds have increased by US$876 billion. The expected outflow of funds from prime MMF has left less demand or cash available for commercial paper and certificate of deposits, which banks depend on for funding. As a result, banks unsecured lending rates, such as the dollar London interbank offered rate (LIBOR), have soared. Three month LIBOR increased from 65 basis points (July 1) to 99 basis points (December 30). Banks will continue to pay higher rates due to less demand or cash available for their products.

Based on President Donald Trump's campaign pledges, market participants are expecting a fiscal stimulus package (including infrastructure spending), tax cuts/reform, and pro-business policies that will support stronger growth and inflation in 2017. Market participants continue to digest the implications of these policies on the US economy, but as of now, these policies are pointing toward higher interest rates in the US. The Treasury market sold off after the presidential election as a reflection of the market expectations that President Trump will introduce pro-business policies that will support stronger growth and inflation. The 10-year Treasury yield moved from 1.85% (November 8) to 2.44% (December 30).

The Federal Open Market Committee (Committee) raised the target range for the federal funds rate to .50%-.75% from .25%-.50% at its December meeting. The labor market continued to strengthen, and economic activity expanded at a moderate pace since mid-year. Job gains have been solid in recent months and the unemployment rate has declined. Inflation has increased since earlier in 2016 but still below the Committee's 2% longer-run objective, partly reflecting earlier declines in energy prices and in prices of non-energy imports. Inflation is expected to rise to 2% over the medium term as the transitory effects of past declines in energy and import prices dissipate and the labor market strengthens further. In the Quarterly Summary of Economic Projects, the Committee forecasted that federal funds rate for the end of 2017 will move to 1.1% - 1.6%. Also, the forecasted unemployment rate remained unchanged, 4.7% - 4.8% for 2016. Additionally, the Committee increased its gross domestic product forecast to 1.8% - 1.9% from 1.7% - 1.9% for 2016 and increased its inflation forecast to 1.7% -1.8% from 1.6% to 1.8% for 2016. The 10-year Treasury yield increased from 2.47% to 2.57% the day of the Committee announcement. After the Committee statement, the Fed Funds Futures market priced in a 77% probability that the Federal Reserve will raise interest rates in June 2017.

The Federal Reserve instructed its Open Market Trading Desk (the Desk) to execute US$2 trillion in overnight Reverse Repurchase Agreements (RRP). The overnight RRP operations were open to all eligible counterparties and US Treasuries were used as collateral to ensure liquidity in the short term money market. Money market participants welcomed the additional collateral due to limited supply of investment opportunities during year-ends. On December 30, there was US$468.4 billion in interest of overnight RRP at 50 basis points notably lower than the amount the Desk made available. Shorter dated US Treasury bills (one to three month bills) traded between forty and fifty basis points in December as investors attempted to bring down their overnight liquidity balances before year-end. Overnight repurchase agreements with broker/dealers traded between 45-50 basis points. Comparatively, overnight time deposits

traded between 50-60 basis points. The additional repo collateral and overnight time deposits helped money market participants invest all of their cash for year-end.

GERMAN WITHHOLDING TAX TREATY RECLAIM CHANGE

Please note, you do not need to take any action related to your participation in our securities lending program as a result of this information; however, we are writing to inform you of the actions Northern Trust has taken on your behalf.

BACKGROUND:

On 16th December 2016, the German Parliament passed new legislation that introduced a minimum holding period to determine if an investor is entitled to a full or partial refund for Withholding Tax (WHT) under any applicable Double Tax Treaty (DTT). This legislation only impacts clients who have a Manufactured Dividend Rate (MDR), which is their WHT plus any reclaimable amounts based on their respective DTT greater than 85% for securities lending transactions.

DETAILS OF THE NEW LEGISLATION:

In order for an investor to receive a full or partial refund of WHT deducted from German dividend income under a DTT, the legislation requires that the recipient of the income:

a) has held beneficial ownership in the relevant German equity continuously 45 days before and 45 days after a dividend payment date (FIFO-method being applicable);
b) has continuously borne at least 70% of the equity price risk during the minimum holding period (taking into account direct or indirect hedging transactions entered into by related parties); and
c) is not obliged to pass on, or manufacture, the dividends (in full or in part, directly or indirectly) to another person.

However, the above limitations only apply to:

- investors with applicable DTT rates below 15% (or in other words where the reclaim amount exceeds 11.375%); and
- portfolio dividends where the investor holds less than 10% of the nominal capital in the German issuing company.

A DTT refund is available, irrespective of the restrictions described above at (b) and (c), if the taxpayer is the beneficial owner of the German equity continuously for at least one year upon receipt of the relevant dividend income (FIFO-method being applicable).

IMPACT TO SECURITIES LENDING:

If a security is on loan and returned during the 90 day period (45 days before and 45 days after), this breaks the 45-day holding period and the beneficial owner will not receive their full WHT entitlement under a tax reclaim. This will result in a reduced WHT benefit pro-rated based on the holding period of less than 45 days. The exact details of this pro-rated amount have not yet been clarified.

NORTHERN TRUST'S ACTIONS:

With effect from 1 January 2017, where a client has a MDR greater than 85% (e.g. typically 90% or 100%), Northern Trust has restricted those clients from lending their German assets in order to protect their entitlement to a WHT refund under the applicable DTT. We are exploring alternatives to make it possible to lend for these clients in the future; however, unless directed otherwise by the client, Northern Trust will only do so if the client remains the beneficiary of its WHT entitlement. We will also explore alternative lending strategies in the German market. This may include approaching clients with opportunities to lend their securities outside the known record date period for those securities in a high intrinsic value environment. Further details on these potential trades will be provided when opportunities arise.

MOVING FORWARD:

Northern Trust is working with other market participants (including borrowers and industry groups) to determine the full impact of this legislation and will continue to monitor the situation. We will advise accordingly as further information becomes available. Clients participating in Northern Trust's Global Securities Lending Program should note that MDRs are final and cannot be adjusted retrospectively. Clients therefore, should independently consider the impact of this legislation as lending activity could impact DTT eligibility.

If you require further information please contact your Securities Lending Relationship Manager.

SECURITIES LENDING CONFERENCE SUMMARY

Risk Management Association's 33rd Annual Conference on Securities Lending

Tamela Merriweather, Sr. Managing Legal Counsel, participated on a panel focused on legal, tax and regulatory challenges facing the industry

The 33rd Annual Risk Management Association (RMA) conference on Securities Lending was held in Boca Raton, Florida during October 2016. Over 450 securities lending professionals including borrowers, benecifical owners, agent lenders, broker-dealers, and service providers attended the forum. Northern Trust participated at the sponsor level and provided expertise on several panels.

The conference began with an overview of legal, tax and regulatory challenges facing the industry with experts providing updates on various capital and liquidity regulatory issues. Panelists, including Tamela Merriweather, Senior Managing Legal Counsel, addressed the topics from both the broker dealer and agent lender perspectives, covering issues such as possible divergence in the US and Europe approach to Basel III implementation, and impacts of the industry from standardised vs. advanced approaches to risk and exposure measurement under Basel III. As we draw closer to finalisation and implementation of these and other key prudential regulations, opportunities to delve into these topics continue to attract a great deal of attention across various panels and discussions.

Along similar lines, Kristin Missil, Head of Financial Analysis and Reporting, participated as a moderator in the panel: 'What is the impact of data?" which addressed data requirements under new global regulations, including the European Union's Securities Financing Transaction Regulation (SFTR). Panelists agreed that SFTR is not just a EU concern, but will most likely impact requirements in the US as well. The expectation is that that SFTR rules will be finalised in early 2017, with implementation for 2018. The panelists generally agreed that firms should plan on investing in technology and infrastructure to support transparency and disclosure initiatives that will be underway globally in 2017 and beyond.

Kristin Missil, Head of Financial Analysis and Reporting, participated as a moderator on the panel: "What is the impact of data?"

Other topics of interest at the RMA conference included discussions of the future impact of Blockchain and the benefits of collateral flexibility. Attendees benefited from a panel discussion on the future impact of Blockchain, a technology that offers new solutions to inefficiencies in the industry. Although Blockchain is not yet mainstream, research suggests that usage among banks and tech firms will increase significantly in the coming years.

Participants learned that there is a potential for more favorable lending fees, enhanced margin levels and more trading flow for those lenders with the most flexible collateral schedules. The ability of lenders to accept a broad array of non-cash collateral types continues to be viewed as critical by many borrowers because it allows those borrowers to reduce their overall balance sheet by pledging those assets as collateral against securities lending transactions.

The RMA conference ended with experts summarising conference discussions around Brexit and industry trends. This conference continues to be a strong forum for market participants to gain sight into the securities lending market place.

SECURITIES LENDING CONFERENCE SUMMARY

Euroclear Asia Collateral Conference

Dane Fannin, Head of Capital Markets Asia-Pacific, participated in a securities lending panel discussing how and why the industry has continued to evolve and what the future path might look like for the product in Asia

Northern Trust participated in the Euroclear Asia Collateral Conference in Hong Kong during November 2016. This conference provided market participants an excellent opportunity to hear experts debate evolving trends and challenges for the collateral management industry both in Asia-Pacific and globally. Dane Fannin, Head of Capital Markets Asia-Pacific, participated in a securities lending panel discussing how and why the industry has continued to evolve and what the future path might look like for the product in Asia. Panelists discussed the issues summarised below.

The Current State of Securities Lending in Asia: The region continues to offer the most compelling growth profile for the industry relative to Europe and the US largely due to its untapped potential in frontier emerging markets and growing hedge fund appetite. Generally, asset owners have increasingly shown more interest for securities lending in an environment of low/negative interest rates and rising cost pressure, particularly in its capacity to offer an attractive avenue for alpha generation with a relatively low risk profile. These factors indicate that the supply of inventory is expected to continue to rise. Additionally, lending of Chinese securities remains the most significant longer term opportunity for the region. Recent stock connect initiatives are seen as positive steps forward in potentially supporting a viable securities lending product if and when approved by regulators.

Impacts of Regulatory Reforms: Impacts of Regulatory Reforms: Asia is not immune to global regulatory reform, but it is additionally exposed to a fragmented regional regulatory framework that does not benefit from the consistency across jurisdictions available in other major trading hubs. While this adds a layer of complexity to the business, it also presents attractive opportunities for those providers able to navigate regulation successfully and provide clients with a "first mover" advantage. Central counterparty structures were discussed as a means to address the rising cost of doing business for providers in these new regulatory regimes.

The Future of Collateral: Panelists debated the extent to which global regulation has served as a catalyst for the rise in collateral transformation across the region, highlighting this as a key growth area for clients in the fixed income space, particularly owners of High Quality Liquid Assets (HQLA). Additionally, there were deliberations on whether a rising interest rate environment in the US would ultimately spur an increase in the use of cash collateral, but it was concluded that in the short term this would not be likely.

The panel closed with a brief discussion on expectations for the growth of securities lending across Asia in 2017. There was optimism that 2017 will be a better year from a demand perspective as hedge funds are expected to be less risk averse relative to 2016, assuming unexpected geopolitical events do not spur prolonged uncertainty and volatility. The growth of quantitative type hedge funds in the region is expected to continue, which will drive an increased focus for providers to become more efficient in facilitating execution for such strategies, resulting in a continued investment in trading technology for both lenders and borrowers.

GLOBAL SECURITIES LENDING REGULATORY UPDATE

Regulatory Development	Anticipated Impacts	Status
Dodd-Frank		
Counterparty Concentration Limits – 165(e)	• Limits a bank's combined credit exposure to a single counterparty to no more than 25% of the bank's capital • Credit exposure calculations include indemnified securities lending transactions	• Second proposal published in March 2016; awaiting final rules
Securities Lending Transparency - 984	• Requires SEC to increase transparency in securities lending • Expectation is that SEC will develop regulations that align with proposals from the Financial Stability Board's Work stream on Securities Lending and Repo	• Awaiting proposed rules (overdue since mid-2012); no clear timeframe for rules to be issued
Money Market Reform	• SEC adopted rules for "prime" money market funds (including registered 2a-7 funds) that involve requirements such as variable NAV. Additional restrictions, such as redemption gates and liquidity fees will be at the discretion of the fund board. Funds having over 99.5% invested in government securities are exempt from these new requirements	• Final rules adopted July 23, 2014, October 2016 compliance
Financial Transaction Tax Directive (FTT): Proposed EU Directive	• Sets out the framework for a harmonized FTT across 11 participating EU member states • Client purchases, sales and exchanges of financial instruments, the conclusion of derivative contracts, repos, and securities lending transactions are all in scope of the draft document, which is far from final	• Implementation now aimed at 2016 / 2017 but significant technical challenges remain • Recent press reports hint at progress towards an agreement soon but nothing has yet been confirmed
Financial Stability Board (FSB):		
Work stream on Securities Lending and Repos under the FSB Shadow Banking Task Force	• Examines securities lending and repurchase agreements • Published policy recommendations on transparency, disclosure, minimum standards on cash reinvestment and collateral valuation, and requirements on collateral rehypothecation • FSB Data Experts Group proposed standardized data reporting elements for securities lending and repo transactions • Published standards for evaluating margin sufficiency on transactions that are not centrally cleared, which may result in higher requirements. Recommended haircut floors for certain transactions; excluding agency securities lending transactions assuming cash is invested consistently with earlier FSB standards and non cash collateral is not re-used	• Guidelines for minimum margins and haircuts published October 2014 • Awaiting adoption of FSB framework by local regulators. • OFR published pilot study findings August 2016
Total Loss Absorbing Capacity (TLAC)	• GSIBs to be subject to even higher capital requirements; defines instruments eligible to satisfy TLAC requirements	• US rules finalized in December of 2016
Basel III		
Capital	• Increased capital requirements will make it more costly for agent lenders to provide indemnification	• Final US rules released in July 2013; effective January 2015
Large Exposures	• Similar in concept to Counterparty Concentration Limits; restricts a bank's combined credit exposure to a single counterparty to a portion of the bank's capital	• Final Basel III standard released April 15, 2014, securities lending exposures remains open; awaiting final rules
Leverage Ratio	• Indemnified securities lending activity to be captured in Basel III leverage ratio. • Exposure for securities lending to be measured generally by current exposure, which should be negligible given securities lending positions are over-collateralized • Additional leverage ratio impact for any guarantees or exposures beyond replacement securities	• US Agencies published final rules September 2014. Disclosure requirements starting January 2015, with compliance to ratio by January 2018
Net Stable Fund Ratio	• Affects securities lending activity for borrower counterparties (and therefore potentially the demand for securities) • Intended to ensure that banks have sufficient stable funding based on their asset profile. Available stable funding (ASF) divided by required stable funding (RSF) must be at least 100%; available stable funding measure is based on liabilities and required stable funding on assets, both weighted by prescribed factors • The borrower's transaction with the agent lender and beneficial owner of the security is typically one "leg" of a broader transaction and may contribute to the RSF measure. The other leg(s) of the borrower's transaction may not receive the equivalent ASF amount, resulting in a mismatch.	• Final standards published October 2014; US rules proposed May 2016; awaiting adoption of the framework by US regulators
Liquidity Coverage Ratio	• Affects securities lending activity for borrower counterparties (and therefore potentially the demand for securities) • Requires banks to hold enough eligible High Quality Liquid Assets ("HQLA") to cover "Total Net Cash Outflows". May shape borrower demand for certain transactions, including greater use of non cash collateral	• Final US rules published September 2014
Capital - Revisions to the Standardized Approach for Credit Risk	• Second proposal by Basel Committee on changes to the standardized approach • A new methodology for measuring securities lending exposure is proposed. The exposure calculation still relies on prescribed haircuts, but allows for some offsets based on diversification and correlation • The exposure and resulting capital is expected to go down if the formula is adopted as proposed, despite higher haircuts for certain asset classes • The basis for measuring exposure for capital purposes, when finalized, is likely to affect large exposure calculations as well	• Published in December 2015; awaiting final standards
Haircut Floors	• Proposes minimum haircuts on non-centrally cleared securities lending transactions. • Agency lending transactions would be exempt when cash collateral is invested in accordance with certain standards and non cash collateral is not re-used	• Published in November 2015; awaiting final standards

GLOBAL SECURITIES LENDING REGULATORY UPDATE

Regulatory Development	Anticipated Impacts	Status
Resolution Stays		
ISDA Resolution Stay Protocol for Securities Finance Transactions	• The ISDA Stay Protocol was implemented for derivatives in 2014 and is being expanded to apply to securities lending and repo transactions • It is intended to address the issue that resolution regimes of one jurisdiction may not be enforceable in other jurisdictions in a cross-border resolution • Adherence to ISDA Stay Protocol is required for G-SIBs and is voluntary for other market participants, but failure to adhere may affect a lender's ability to lend to certain counterparties that are required to transact only with adhering counterparties • May effect termination and default rights of counterparties transacting with G-SIBs and other adhering counterparties for qualified transactions, including securities lending and repo	• German implementing regulations effective January 2016, UK implementing regulations effective June/December 2016, US rules proposed in May 2016, with comment period ending in August 2016, and additional global implementing regulations to be issued throughout 2016 • ISDA developed protocols specific to each relevant jurisdiction
UCITS V	• Harmonization of rules covering core safekeeping and depository oversight for UCITS funds across the EU. • Enhanced reporting required for depositories to monitor Securities Lending activity for UCITS funds • Segregation of assets for UCITS clients potentially impacting collateral processes, similar to AIFMD.	• Level 2 text expected late 2015 with deadline for transposition into National law in March 2016 • ESMA consultation on asset segregation may impact final outcome. ESMA response is now overdue
Transparency of Securities Financing Transactions (SFTR)	• Reporting of all Securities Financing Transactions required to specified Trade Repositories to give regulators a transparent view of the market. • ESMA implementation of FSB recommendations • Agents will likely provide product to to report on behalf of beneficial owners	• Political agreement reached on level 1 text • ESMA released further consultation in September 2016 which market participants are now responding • Implementation timeline currently stands at Q1 2018 for first wave however there may be some doubt over this given scale of latest consultation

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