ISLA
INTERNATIONAL
SECURITIES LENDING
ASSOCIATION

COVID-19 Special

Securities Lending Market Report

An ISLA Publication

13th Edition - August 2020

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Jonathan Lombardo, Chairman, ISLA Board

Foreword

Let me welcome all readers to ISLA's 13th edition of the Securities Lending Market Report.

When asked to provide the opening commentary for the 13th issue, a personal level of trepidation accompanied the request. Would superstitions that surround the number 13 prove to be as people believe? What forces would I encounter? Writers block? A corrupted and unsaved document?

Had working from home shifted perception of the "normality" of the task? What was once considered BAU, seemed to have transformed overnight.

From global economies and markets, to local businesses and communities; every aspect of our daily lives has experienced unforeseen and unimaginable change in the last six months.

Financial markets have not encountered such volatility since the crisis of 2008/09, with business continuity planning taking on a whole new meaning, and the routine of the corporate office shifting to a workforce now entirely operating from home.

Technically and operationally, markets have continued to function in an orderly and designed way, despite the extreme trading conditions triggered by the COVID crisis.

ISLA is no exception, as the Association had to create assessment, activation and execution plans for this new and immediate reality, to provide stability and continuity to its membership.

> *The new "norm" is in play, and will continue for the foreseeable but unpredictable future*

Hours of Zoom, WebEx, Microsoft Teams (and dare I say traditional phone conversations) have occurred with member firms, regulators and peer associations, to ensure ISLA's critically important messaging has remained at the forefront. The new "norm" is in play, and will continue for the foreseeable but unpredictable future. I am extremely proud of how my fellow Board members as well as the ISLA team have continued to provide strategic direction and guidance to the industry during these times.

Since the inception of this publication in 2014, ISLA has prided itself in the quality of the Securities Lending Market Report. Working with practitioners on each issue has guaranteed readers first-hand intelligence and critical market direction, with this edition being no exception. It features timely and topical pieces on ESG and short selling, Basel IV, as well as the digital agenda from State Street, Credit Benchmark and ISDA respectively. Our thanks as always to our data providers, BNY Mellon, Clearstream, DataLend, Euroclear, FIS, IHS Markit, and J.P. Morgan for their contributions. Issue 13 seems to indicate that the new normal often resembles the old normal, and for many, this could be a very lucky number.

Market Highlights as at June 2020

Global Trends

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Market Volatility (VIX)
Highest level since 2007/08

85 @ Mid-March

Sovereign Wealth Funds
Reported percentage of total lendable & on-loan balances respectively

15% & 29%

Securities On-Loan
Marginal decrease

€2.2Tn

Brexit
Divergence already being seen at a regulatory level in relation to CSDR & SRD II

€20Tn

Lendable Assets
Unchanged

COVID-19
Delays to implementation of SFTR.

Regulatory & policy responses being seen through the sustainable finance agenda.

$3.8Bn

Revenues
Reported revenues down 14% compared to the same period in 2019. Absence of seasonal balances in Europe as a result of cancellation of corporate dividends

Collateral

34%

Corporate Bonds Held in European Tri-party
Up from 10%

13%

Global Equities Held in European Tri-party
Down from 45%. Falling equity markets led to greater use of government bond collateral

Asian Government Bonds Held in European Tri-party
Down from 35%

25%

Bond Markets

35%

Utilisation
As clients sold positions in cash markets & demand increased in mid-March, proportion of government bonds on loan increased over the period

€1.1Bn

Securities On-Loan
Unchanged

Equity Markets

€987Bn

Securities On-Loan
Despite volatility driving the first 6 months of 2020, equity on-loan balances closed the half-year virtually unchanged

Lendable Assets
Equities in securities lending programmes fall by 5%

€14Tn

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Global Market Dynamics

Sometimes the universe has an almost perverse way of aligning events, such that it seems as if they were choreographed in some sort of predetermined manner. At 11pm on 31 January 2020, the United Kingdom formally withdrew from the European Union, thereby defining a new direction of travel for the country. At that moment, the way ahead seemed clear, although earlier that same day the UK reported its first two confirmed cases of Coronavirus. Whilst it was not appreciated at that time, it was the second of these two events that would go on to define not only 2020, but potentially how we live our lives for a generation, further pushing out to the margins what has been the most divisive political issue for decades.

What was to unfold over the coming weeks touched almost every single person on the planet, and drew in all facets of our societies; we grappled with a global health emergency, the scale of which had not been seen in living memory. Financial services, although not at the centre of this crisis, was not immune from feeling the full impacts of COVID-19, as markets reacted violently to the uncertainties they were facing.

As the health crisis quickly developed into an economic crisis, we saw periods of unprecedented market volatility that led directly to significant intervention from central banks and governments globally. On 16 March, the VIX, the globally recognized index of the markets expectation of future volatility, peeked at 85. To put this sentiment into context and at the time of writing, the VIX is circa 25 to 30, and typically traded in the range of between 15 and 20 during 2019. Set against this backdrop, we saw equity markets fall by some 12% in a single day, followed by eight consecutive days when equity markets moved by more than 5%.

Managing expected volatility has been one of the defining factors of this particular crisis. Money market funds lost up to 10% of their assets, as investors sought the refuge of cash and looked to potentially generate liquidity to cover increased levels of margin calls, particularly in respect of derivatives transactions. As markets struggled to deal with the uncertainties created by the pandemic, central bank intervention combined with government action to support economies became almost inevitable.

The US Federal Reserve (Fed) moved first amongst the central bank community, by announcing it was cutting interest rates by 0.5% on 3 March. The UK quickly followed suit on 11 March, when the Bank of England announced an emergency 0.5% base rate cut from 0.75 to 0.25%. These emergency measures however didn't stabilise stock markets, with government bond yields hitting new all-time lows and major equity indices falling into bear market territory (20% falls from 2020 peaks).

In mid-March, the Fed acted again, this time reducing rates still further and announcing a $700 billion asset purchase programme covering US Treasuries and mortgage-backed securities. Similar asset purchase programmes were also seen from the Bank of Japan, the European Central Bank, and the Bank of England (BoE). These specific short-term interventions provided much needed liquidity to allow markets to continue operating within normal, albeit extreme parameters.

Reports since have suggested that the £200 billion asset purchase scheme from the Bank of England, has resulted in it becoming the single largest holder of UK government debt. What we have seen here is in effect a new type of intervention; instead of acting as the lender of last resort and supporting specific institutions, central banks playing the role of market maker of last resort and pumping liquidity into the system.

Although the various monetary policy interventions were able to maintain liquidity within financial markets, it became clear that monetary policy alone was having no significant impact on financial markets themselves. Governments realised that more fiscal policy was necessary. This led to a range of fiscal stimulus measures from governments globally, with most notably the stimulus package from the UK government commanding headlines globally due to its scope and scale.

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As our infrastructure was tested to its extremes, with at times 40%+ additional trading volumes and thousands of attendant margin movements, the operational framework around the industry performed well

Time and history will tell us if the furlough schemes fundamentally put a floor under any post-COVID recession, or merely delayed the inevitable.

As we enter the summer period with overseas holidays being contemplated by the very few, markets appear to have stabilised regaining many of the losses seen during the depth of the crisis in March and April. Taking stock on the first six months of this year and how securities lending fared during this period, the overall feeling from across our industry is one of stability and resilience. Whilst our infrastructure was tested to its extremes, with at times 40%+ additional trading volumes and thousands of attendant margin movements, the operational framework around the industry performed well.

The current crisis also bought with it other challenges that could not have been anticipated. As governments imposed increasingly restrictive lockdowns, banks suddenly had to learn how to support their workforces working remotely, as business contingency plans that were developed to deal with a single 9/11 style of event, had to be adapted. This led in turn to pressure on key project management and IT resources that were taken away from deliverables such as SFTR, to maintain business continuity and support the new and diverse way in which major firms were operating.

After due consultation across the industry and with the regulatory community, we did see some level of forbearance with specific extensions given, particularly around SFTR which was due to go-live at the height of the crisis. The extension of the implementation date for the reporting obligations under Article 4 of the SFTR to mid-July, was used wisely by firms to focus on more rigorous end-to-end testing to put the industry in a better position as this important reporting regime began on the 13 July.

Another factor which we probably have to thank the regulatory community for, is that during this manifestation of market turbulence, we did not see any significant counterparty defaults. Since the 2007/08 crisis, banks have been required to steadily hold higher levels of tier one capital, as regulators demand higher levels of regulatory capital to support trading and risk businesses. This has meant that banks have been able to withstand both operationally and structurally the recent market shocks, and emerge relatively unscathed.

The idea that financial crises tend to revolve primarily around banks and other prudentially regulated entities, seems suddenly dated as systemic risk appears to have shifted from these traditional intermediaries to the markets themselves. This in turn raises some interesting questions about how regulators and other policy makers respond to these changing dynamics. As mentioned previously, the Fed in North America appears to have shifted its emphasis to support broader market liquidity rather than specific institutions. In the immediate aftermath of the 2007/08 crisis, Mark Carney, the incoming governor of the BoE talked about not wanting to see taxpayer money ever being used again to bail out the banks. Arguably that objective has been achieved.

As Europe pushes ahead with its own Capital Markets Union (CMU), it too will have to consider how it thinks about supporting markets more broadly.

The recent short selling bans seen in some parts of Europe would appear to be inconsistent with the wider ambitions of the CMU, as Europe strives to emulate the economic benefits of market-led capitalism.

Not unexpectantly as events unfolded in late February and into March and April, these macro themes played out in our markets and influenced many of the metrics that we routinely follow.

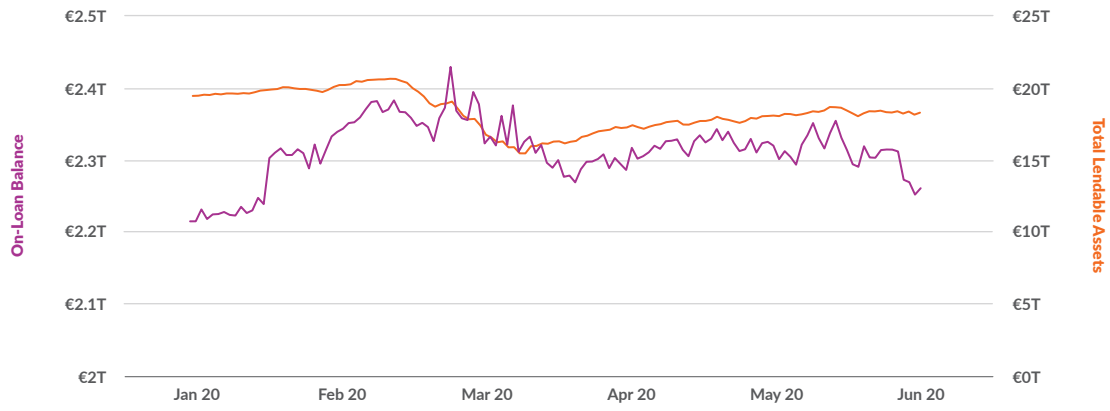
We have discussed before how much of the data we collect from our data partners is value rather than volume based, which means that during periods of extreme market volatility, the volatility component of any analysis could mask actual changes within our markets. We have highlighted how the first six months of 2020 saw some unprecedented movements in equity markets, and as we look further at securities lending markets in particular, we have to take these factors into account.

As at 30 June, securities being made available for lending by institutional investors remained broadly unchanged from six months earlier, at circa €20 trillion. This simple comparison however, fails to highlight the considerable falls in equity markets that led to falls in the value of securities held in lending programmes.

The value of securities in lending programmes fell significantly at the end of February and into March, as equity markets reacted to COVID-19 concerns

As the following chart from DataLend illustrates, the value of securities in lending programmes fell significantly at the end of February and into March, as equity markets reacted to COVID-19 concerns.

Fig 1: Global Securities Lending Market *Source: DataLend*



* See Data Methodologies for full details on page 50

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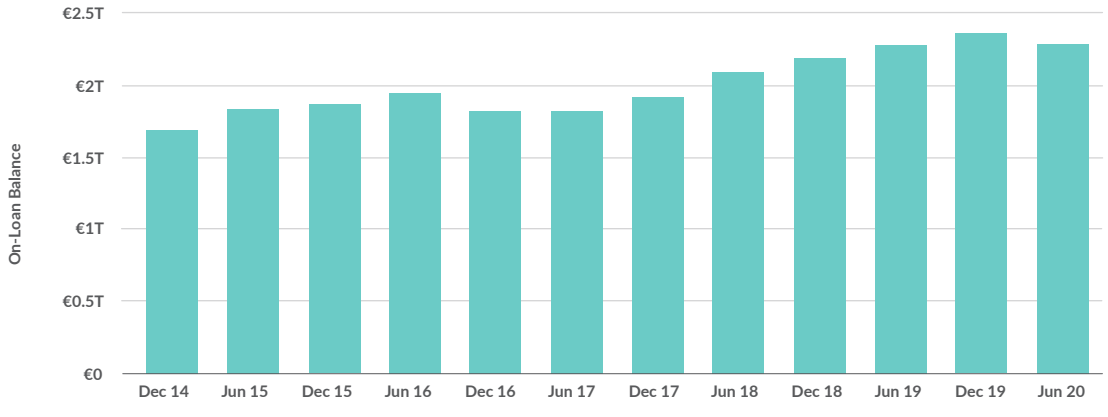
From a securities lending perspective, overall activity returned to more normal levels, with outstanding on-loan balances closing the six month period at €2.2 trillion

To put this in context, during the period between 19 February and 23 March, the S&P 500 fell by over 33%, highlighting the intrinsic link between lending pools and market valuations. From an on-loan perspective, balances rose steadily out of the year-end restrictions during January and February. As the impact of COVID-19 began to feed through into financial markets in late February however, we saw considerable volatility in on-loan balances. As ever at times of market stress, there were a number of factors that played out during the period. Firstly, as trading conditions deteriorated and funding profiles changed, a number of market participants either looked to terminate or rerate term transactions (at least in the short term). This was combined with some evidence of lenders changing both collateral composition and haircut levels, as they sought to manage risk profiles particularly around less liquid asset classes such as non-investment grade issues. In addition, there was some evidence of a small number of institutional investors either withdrawing from the market or restricting their activity at this time. This is perhaps not that unexpected, although it is important to stress that we did not see the large number of institutional clients suspending programmes as was seen in 2007/08.

As markets returned to some sort of normality, the dovish sentiments and stance from central banks helped ease liquidity concerns. The continued stimulus resulting in excess cash in the system, allowed banks to roll off excess funding taken on at the height of the crisis, thereby lowering their overall cost of funding. From a securities lending perspective, overall activity returned to normal levels, with outstanding on-loan balances closing the six month period at €2.2 trillion.

This was unchanged from the €2.3 trillion reported as at the end of December, although the ISLA Global Securities Lending Aggregate reveals on-loan balances still remain at historic levels.

Fig 2: ISLA Global Securities Lending Aggregate *Source: ISLA*



Not unexpectedly, the past six months have also seen considerable earnings volatility across the industry. Information recently released by DataLend underlines the difficult trading conditions, with overall revenues in the lender-to-broker markets reported at $3.89 billion, some 14% down from the comparable period in 2019. Despite overall revenues being depressed across both equity and fixed income markets, the lending of government bond High Quality Liquid Assets (HQLA) held up well, as market participants sought to secure these assets for multiple trading, balance sheet and collateral purposes. The decision of many corporates to cancel dividend payments to shareholders, most likely had a knock on impact to securities lending markets as demand to borrow equities reduced.

Many companies suspended dividend payments, leading to what many describe as an essentially specials-based business. Quite simply if you held specific stocks in your lending portfolio, then there were significant opportunities. Many of these specific situations centred around those companies and sectors where the impacts of COVID-19 were being felt the most, such as airlines and hospitality. Wirecard was a notable exception. From an overall market perspective, we have tracked for some time the relationship between assets that are made available by institutional investors in lending programmes, and loan balances from the perspective of the types of funds participating across the industry. As the following charts demonstrate, we continue to see disparity between the two.

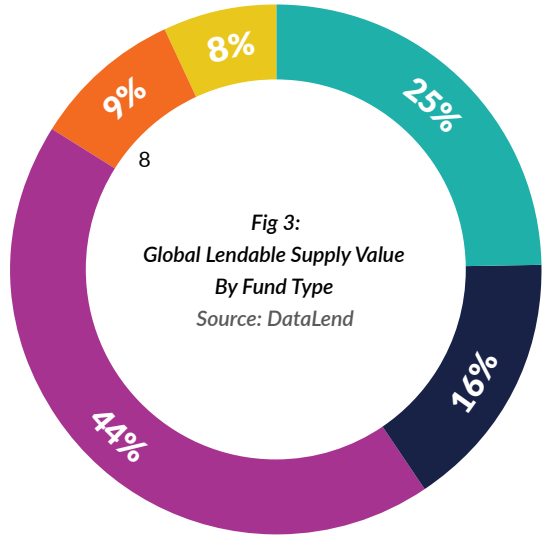


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Fig 3:
Global Lendable Supply Value
By Fund Type
Source: DataLend

Fig 4:
Global Securities On-Loan
By Fund Type (Lender to Broker)
Source: DataLend

* See Data Methodologies for full details on page 50

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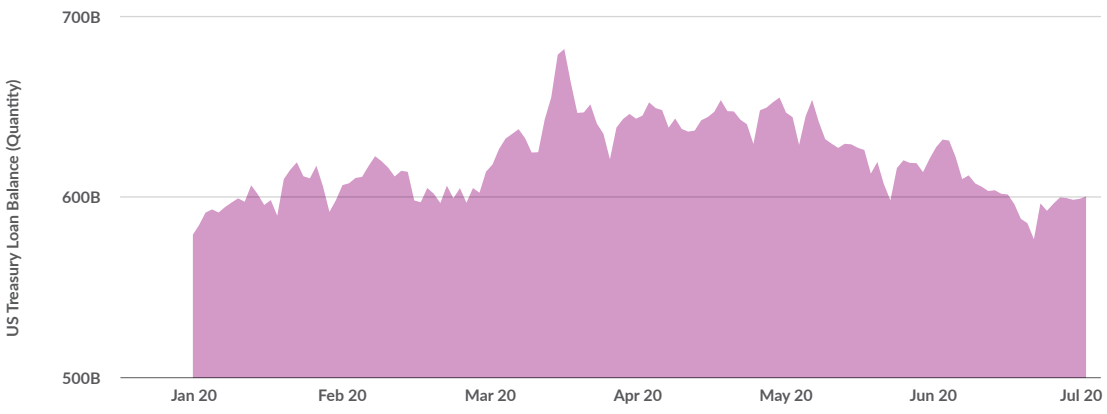
The scale of investments held by collective investment vehicles (including UCITS) and their actual participation in the lending markets (See Figs 3 & 4), continues to look unbalanced (with collective investment vehicles representing 44% of all lendable assets in lending programmes whilst the latter is only 22%). In our manifesto that was published in December 2019 (Securities Lending to Support More Autonomous EU Capital Markets: Priorities for the Next 5 Years), we argued the need for policy makers and regulators to look closely at the link between the provision of market liquidity and the long term success of the EU's CMU project. We again highlighted the need to think actively about how the EU 27 can effectively mobilise liquidity across Europe, in our response to the report from the CMU High Level Forum published in June. Much of that shortfall continues to be assumed by Sovereign Wealth Funds (SWFs), who today represent some 16% of available securities and circa 29% of all loans globally. Their participation in the global securities lending markets is a well understood feature of our markets, where liquidity provided (especially in fixed income markets) is an important source of trading and market liquidity.

Collateral has always played an integral part in our markets, primarily as a risk mitigant against counterpart default. Today, it may be argued that the proliferation of central clearing across many markets, combined with the progressive rollout of the Uncleared Margin Rules (UMR) regulation in the derivatives world, is pushing traditionally disparate markets ever closer. This manifests itself in a number of ways.

In a short paper published by the BoE on 10 June, they observed that 'Initial margin required by UK CCPs increased in March, with the overall increase peaking at 31% compared to the average requirement earlier in 2020'. They also noted that the provision of margin helped ensure that derivatives markets remained resilient throughout the recent market shocks. However, they did caution that these large movements of liquidity around the financial system contributed to a 'dash for cash', as some market participants had insufficient cash-like assets to meet actual or anticipated margin calls. This 'dash for cash' and 'cash like assets' was seen in securities lending markets, as the demand to borrow HQLA spiked significantly in March. The following volumes-based graph looks at the US Treasury markets, and highlights how integral securities lending markets were to the continued provision of collateral assets within the system.

Fig 5: US Treasury Bonds On-Loan *Source: DataLend*



* See Data Methodologies for full details on page 50

Another key by-product of this coalescence of several markets around the theme of collateral, is a greater willingness to collaborate on joint initiatives, particularly in the technology space. ISLA has already committed to work with other associations including ISDA on the development of a Common Domain Model (CDM), that will create cross-market standards for the description of trading assets and life cycle events. This will allow our collective members to develop products and solutions that are underpinned by the agreed standards and protocols, that in turn will drive efficiencies and cost savings across the industry.

As we turn towards the second half of this year and what 2021 might bring, it feels that many things we took to be the norm in January and February have changed out of all recognition. Working from home for instance, had mixed support and buy-in before the pandemic. Today, this has become the mainstay of how many firms and institutions function on a daily basis.

More broadly as regulators and policy makers begin to think about the longer term implications of the pandemic, we will see changes to policy and focus. In Europe, we can already see how the sustainable finance agenda is being increasingly seen as the vehicle that the European Commission will use to deliver COVID changes. From an ISLA perspective, our decision to create the ISLA Council for Sustainable Finance now seems increasingly timely, and will provide a strong platform for ISLA to engage in this debate.

The future of the CMU and Brexit are somewhat intertwined, as the biggest capital markets centre within Europe takes up a new offshore status in the coming months. We have already seen the UK is unlikely to adopt key elements of the settlement discipline regimes within CSDR, and is impementing the SRD II through changes to existing UK legislation rather than the wholesale adoption of the Directive.. This of course was not necessarily unexpected, but fragmented and inconsistent regulation whilst offering opportunities for some, also creates logistical and operational headaches for firms that have significant footprints in both jurisdictional regimes.

The future of the CMU and Brexit are somewhat intertwined, as the biggest capital markets centre within Europe takes up a new offshore status in the coming months. We have already seen the UK is unlikely to adopt key elements of the settlement discipline regimes within CSDR, and is implementing the SRD II through changes to existing UK legislation rather than the wholesale adoption of the Directive.

Split jurisdictional and differing regulatory regimes are of course nothing new, but it should be remembered that less harmonisation tends to lead to one thing, additional costs. Ultimately, these will filter down to all of us in the form of charges we pay for everything, from cross-border mobile phone roaming charges, to management fees on our investment and pension portfolios.

Beyond Mechanics: The Intersection of Securities Lending and ESG Investing

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Introduction

In early December 2019 one of the world's largest pension funds announced that it "decided to suspend stock lending until further notice[1]."

This is one example of a growing number of asset owners evaluating their securities lending practices due to environmental, social and, governance (ESG) concerns as long-term investors[2].

Concerns have been raised that short sellers (borrowers) could potentially undermine long-term stewardship efforts by mispricing or not considering ESG characteristics[3].

The immediate impact of these events on the world's lending supply was limited. For context, in June 2019, global on-loan balances were around $2.45 trillion USD, representing a small proportion of the $18.47 trillion available within lending programs[4]. However, as the number of asset owners with these ESG related concerns grows, the lending supply may further decline. And, between 2018 and 2019 the UN's Principles for Responsible Investment (UNPRI) reported a 16% increase in the number of asset owner signatories committed to ESG investing, bringing the total to over 2,300 signatories with more than $86.3 trillion in assets under management[5][6].

In this editorial, we attempt to form a perspective on the intersection of ESG investing and securities lending based on academic findings. After an extensive literature review, there are four main findings we cover:

- Empirical evidence supports foundational assumptions in financial theory, which suggests that short selling, facilitated by securities lending, improves market efficiency and allows for the proper allocation of capital.

- Increasing number of regulations and investor demands are driving the adoption of sustainable investment strategies.

- Lenders have attempted to integrate ESG but, with fewer examples of borrowers with ESG investment philosophies, some lenders are concerned about the potential negative impacts on their long-term ESG stewardship efforts due to borrowers mispricing these characteristics.

- While research indicates that short selling does not destroy a company's long-term value, the relationship between short selling and material ESG performance is unclear.

[1] Leo Lewis and Billy Nauman (2019). Short sellers under fire from investment boss of world's largest pension fund, Financial Times
[2] Leo Lewis and Billy Nauman (2019). Short sellers under fire from investment boss of world's largest pension fund, Financial Times
[3] Henderson, R., Serafeim, G., Lerner, J. and, Jinjo, N. Should a Pension Fund Try to Change the World? Inside GPIF's Embrace of ESG. (2019)
[4] International Securities Lending Association (ISLA) Annual Report. (2019)
[5] UNPRI.org. (accessed February 10, 2020).
[6] We define "ESG investing" as the practice of systematically integrating ESG and climate finance concerns into an investment process, which is in line with the UNPRI and the leading research cited in this paper.

What are the ESG concerns of long-term investors?

A growing number of asset owners and managers are voicing concerns that securities lending limits their ability to exercise proper stewardship on underlying investments, highlighting three key concerns:

i. The transfer of stock ownership rights. When stocks are on loan, the voting rights for those shares are also transferred. This is inconsistent with wishes of asset owners who mandate that their asset managers need to conscientiously exercise voting rights on all their shares.

ii. There is a transparency concern because owners do not have clarity on who borrows shares nor the reasoning behind those decisions[7].

iii. Underlying these points is the perception that short sellers (borrowers) destroy long-term value due to a misalignment in the longer-term investment time-horizon of lenders (beneficial owners). This raises issues of "short-termism," which can be defined as the "excessive focus on short-term results at the expense of long-term interests[8]."

Asset owners are not the first institutions to direct concerns at short sellers. Financial regulators have historically viewed short selling with a level of skepticism, especially during times of financial turmoil. For example, in the 2008 financial crisis the SEC pointed to short sellers as a reason behind the sharp decline in prices and banned short selling on 799 financial stocks[9]. The continued debate has attracted interest from academics, which we can turn to for a better understanding of the role of short sellers in capital markets.

What is short selling's role in capital markets?

Before tackling whether short selling harms long-term value, we need to understand its role in capital markets. Empirical studies that explore short selling's role in markets tend to fall into three main categories: (1) cross-country variation, (2) natural studies and, (3) time-series and cross-sectional analyses. Each research methodology provides a different perspective on the securities lending market.

Cross-county variation studies uses variations in regulations and market practices across countries to study the impact short selling has on market efficiency. Natural studies analyze the impact of short-selling constraints and regulations on various events (e.g., bans during the 2008 financial crisis). Lastly, time-series and cross-sectional analysis uses daily or intra-day stock-loan data to examine the impact of shorting flow at securities level.

The two primary considerations when examining short selling's impact on capital markets are liquidity and price discovery. Liquidity is the ease with which an asset can be sold or bought and is commonly proxied for by the bid-ask spread. In illiquid markets bid-ask spreads are wider resulting in costlier trades.

Price discovery is a critical process in financial markets in which the proper price of an asset is determined based on the incorporation of all available public information.

Liquidity: In theory, the impact of short-selling constraints on liquidity is ambiguous. Numerous studies have shown that short sellers are informed market participants – increases in borrowing rates or shorting demand are correlated with abnormal negative returns[10][11].

[7]Suspension of Stock Lending Activities. December 3, 2019. GPIF
[8]CFA Institute
[9]Baja, V. and Bowley, G. (2008). "S.E.C. Temporarily Blocks Short Sales of Financial Stocks". New York Times.
[10]Boehmer, E., Jones, C.M. and Zhang, X. (2008), Which Shorts Are Informed? The Journal of Finance
[11]Cohen, L., Diether, K. B., & Malloy, C. J. (2007). Supply and demand shifts in the shorting market. The Journal of Finance

STATE STREET.

Bridget Realmuto LaPerla

Bridget Realmuto LaPerla is a vice president and head of ESG research at State Street Associates. In this role, Bridget creates and promotes industry leading research on environmental, social and, governance themes (ESG). She applies quantitative methods to understand ESG signals in the market, leverages insights from State Street's academic partnerships and data and, drives increased engagement with clients on these topics.

As a sustainable finance specialist with over a decade of research experience, Bridget advises the Columbia University Trustees as a voting member of the Advisory Committee on Socially Responsible Investing. She also serves as a policy expert on the ESG Integration Group at the Emerging Markets Investors Alliance.

Prior to State Street, Bridget managed a global team of researchers at S&P Global Trucost, evaluating the environmental performance of equity and fixed income securities across industries and asset classes. While conducting buy-side ESG research at Domini Impact Investments, she frequently spoke at industry events as an expert and a NYC Chapter Leader for Women Investing for a Sustainable Economy (WISE). Earlier in her career, she quantified the social impact of government funded prevention programs at the NYC Department of Homeless Services. Bridget holds a M.B.A. from Columbia Business School and a B.A. from The George Washington University. She completed a Certificate in Sustainability Analytics from Columbia University, where she was awarded a Peter DeSimone Scholarship by the Forum for Sustainable and Responsible Investment (US SIF).

Concerns have been raised that short sellers could potentially undermine long-term stewardship efforts by mispricing or not considering ESG characteristics

Removing informed sellers reduces the asymmetry of information and narrows bid-ask spreads.

At the same time, the market mechanism is disrupted, and revelation of information is slower, which could widen spreads.

Empirical findings from all three types of academic studies tend to agree that short selling constraints reduce liquidity at the single-stock and broader market level:

i. Cross-county variation: A study of 111 countries found that in countries where short selling is more feasible, turnover, a proxy for liquidity, was 15% higher. That is, there is increased liquidity of market indices when short selling is possible[12].

ii. Natural studies: Financial stocks subject to shorting bans during the 2008 financial crisis resulted in spreads that were 2-3x wider while controlling for previous behavior[13 14 15].

iii. Time-series: Suggest that short sellers can be liquidity suppliers when spreads are especially wide, providing a stabilizing force in the stock market[16].

Price discovery: The theoretical impact of short selling on the speed of price discovery is clearer than it is for liquidity.

Short-selling constraints restrict traders with negative information from expressing their sentiment, slowing the speed with which bad news is incorporated into market prices.

Empirical evidence from the three categories tends to agree with this theory:

i. Cross-county variation: An analysis of forty-six equity markets reveals that countries that permit short selling, incorporate information into prices quicker. Additionally, short sales restrictions don't reduce negative skewness of returns at the stock level[17].

ii. Natural Studies: Price discovery was slower for stocks impacted by the short-selling bans during the 2008 financial crisis, especially where negative news was concerned[15].

iii. Time-series: Prices of stocks with short-selling constraints (such as low lending supply) are less informative. Evidence also suggests increased "shorting flow reduces post-earnings-announcement drift for negative earnings surprises[18 19 20]."

Is short selling detrimental to long-term value?

The studies cited above provide empirical evidence that short selling is important for efficient capital markets and when viewed holistically, suggest that short selling is not detrimental to long-term value.

Additionally, there are several specific studies that found no statistical difference in excess returns of stocks for which short sales were banned and those stocks in which short selling was permitted[21 22 15].

[12]Daouk and Charoenrook (2009). A Study of Market-Wide Short-Selling Restrictions. Working paper, Cornell University.
[13]Boehmer, E., Jones, C. M. and Zhang, X. (2013). Shackling Short Sellers: The 2008 Shorting Ban. The Review of Financial Studies.
[14]Marsh, I. and Payne, R. (2012). Banning Short Sales and Market Quality: The UK's Experience. Journal of Banking & Finance.
[15]Beber, A., Pagano, M. (2013). Short-Selling Bans Around the World: Evidence from the 2007–09 Crisis. Journal of Finance.
[16]Comerton-Forde, C., Jones, C. M. and Putniņš, T. J. (2016). Shorting at Close Range: A Tale of Two Types. Journal of Financial Economics.

[17]Bris, A., Goetzmann, W. N. and Zhu, N. (2007). Efficiency and the Bear: Short Sales and Markets Around the World. The Journal of Finance.
[18]Saffi, P. A. and Sigurdsson, K. (2010). Price Efficiency and Short Selling.
[19]The Review of Financial Studies.
[20]Reed, A. (2007). Costly Short-selling and Stock Price Adjustment to Earnings Announcements, Working paper, University of North Carolina.
[21]Battalio, R., Mehran, H., and Schultz, P. (2011). "Market Declines: Is Banning Short Selling the Solution?". Federal Reserve Bank of New York Staff Reports
[22]Beber, A., Fabbri, D., Pagano, M., Simonelli, S. (2018). "Short-selling bans and bank stability". Working paper: European Systemic Risk Board.

To summarize, a body of academic evidence indicates that short sellers are informed in that they anticipate price declines, however, they are not responsible for driving asset prices down.

What does this mean for investors?

While it is often claimed that the short-term horizon of borrowers is at odds with long-term objectives, existing literature suggests this is not the case and instead, reveals short selling to be an important market mechanism. Moreover, evidence indicates that short sellers' presence in a market increases liquidity. Increased liquidity means reduced transaction costs on average, while price discovery helps investors get more accurate prices and potentially prevents disruptive price bubbles. Basic financial theory suggests, and empirical evidence supports the idea that short selling, facilitated by securities lending, improves market efficiency and allows for the proper allocation of capital[23].

With that said, this view only looks at short selling from a purely economic perspective but does not necessarily speak to the interplay between short selling and ESG characteristics of securities.

The growing presence of ESG in investing

To understand the intersection of ESG and securities lending, we pull insights from empirical studies on investor behavior in climate finance and ESG investment management of listed equities.

In our 2019 paper, Decarbonization Factors, a collaboration with Harvard Business School professor, George Serafeim, we shed light on how active institutional flows move around environmental characteristics, specifically operational carbon intensity, and the long-term implications of such patterns of flow[24]. This seminal work on decarbonization factors and investor behavior revealed that active institutional investor flows contain information about anticipated climate related fundamentals and returns. To put it simply, for those seeking alpha opportunities, tilting towards low carbon strategies experiencing positive contemporaneous flows improves returns. In addition, we observed a low correlation between strategies in the US and Europe. This is was particularly salient after 2016, when almost all US decarbonization factors experienced outflows after the change in presidential administration, an effect not seen in Europe.

There is regional specificity seen in investor behavior as well as regulation. For environmental metrics, such as carbon emissions, companies are increasingly paying the price through the 58 sovereign and sub-sovereign pricing schemes globally[25].

Additionally, the EU Commission has set legislation around the Task Force for Climate Related Financial Disclosure (TCFD), Japan's stewardship code recommends company engagement to promote sustainable growth and, France's Energy Transition Law (Article 173) requires institutional investors to disclose information on their ESG integration and how strategies align with an energy and ecological transition[26].

Companies are disclosing more ESG metrics to be listed on any of the 94 sustainable stock exchanges requiring some level of ESG disclosure, a number that significantly increased over the last ten years[27].

[23]The CAPM theory underpins modern portfolio theory and provides a basis for allocating portfolios between risky and risk-free assets. Two CAPM assumptions are: that short positions are allowed and there are no transaction costs. The foundation of CAPM was published in the following papers: William Sharpe. (1964). Capital Asset Prices: A Theory of Market Equilibrium. Journal of Finance.

[24]Cheema-Fox, A., LaPerla, B.R., Serafeim, G., Turkington, D. and Wang, H. (2019). Decarbonization Factors. Working Paper on SSRN.
[25]World Bank Carbon Pricing Dashboard. (accessed February 10, 2020). UNPRI.org.
[26]Responsible Investment Regulation Map (as of September 9, 2019). UNPRI.org
[27]Sustainable Stock Exchanges Initiative website (February 10, 2020). SSEInitiative.org. SSEI partners with the UNPRI.

ESG characteristics are being considered throughout the investment landscape. For example, recently Goldman Sachs announced that they will not "take a company public unless there is at least one diverse board candidate[28]."

These efforts are extensions of empirical research revealing that investors are focusing on material "E," "S" and "G" metrics. Leading frameworks, most notably the Sustainability Accounting Standards Board identifies material ESG metrics as meaningful to the financial or operational performance of a company[29].

In Serafeim's foundational paper, 'Corporate Sustainability: First Evidence on Materiality', he and his co-authors, Mozaffar Khan and Aaron Yoon studied novel materiality sustainability characteristics to discover value implications of ESG investments[30]. To understand how public sentiment has changed over the years, in 2018 Serafeim found that the valuation premium of strong material ESG performance has increased over time, as a function of "positive public sentiment momentum[31]."

Alpha was recognized through the creation of a "low sentiment ESG factor," designed to identify firms improving ESG performance with low public sentiment. This research found that public sentiment on ESG has indeed changed and that this perception influences investor views on the value of ESG performance. This ESG investing literature and our climate finance research suggest that investors are increasingly incorporating material ESG characteristics into their investment decisions and diving deeper into these characteristics with company fundamentals.

[28]"The CEO of Goldman Sachs Says the Bank Won't Take Companies Public Unless There is at Least One 'Diverse' Board Member." (January 23, 2020). Forbes.com
[29]erafeim, G. (2018). Public Sentiment and the Price of Corporate Sustainability. Harvard Business School. Working Paper.
[30]Serafeim, G. (2015). Corporate Sustainability: First Evidence on Materiality. The Accounting Review.
[31]Serafeim, G. (2018). Public Sentiment and the Price of Corporate Sustainability. Harvard Business School. Working Paper.

Can ESG Investing and Securities Lending Co-Exist?

To some extent, investors are already integrating ESG metrics into their lending (borrowing) strategies. We know this through Harvard case studies and public reporting to UNPRI. Asset owners currently exercise their shareholder rights by recalling securities on loan or by setting a threshold on how many shares can be on loan at a given time. For example: some Swedish asset owners have instituted a policy of recalling all securities on loan prior to annual general meetings, some Australian asset owners recall domestic securities on loan to vote prior to key votes, and some French asset owners limit the percentage of a holding on loan to 90% when a vote is considered to be "high impact[32]." Shareholders looking to communicate their views on a company's performance and governance regarding material metrics vote on key themes and engage with companies on those themes. The demand for transparency from some long-term investors (lenders) stems from thinking about "fiduciary duty across generations," which raises concerns that lenders are undermining their own long-term ESG stewardship efforts by loaning stocks to borrowers who potentially disagree with (or ignore) the value of those ESG characteristics[33]. These lenders hold companies responsible for key ESG characteristics in an effort to improve performance over time.

Currently, lender to borrower transparency is limited due to privacy agreements between brokers and borrowers. ESG investors lending stocks may appreciate information about the borrower or request ESG collateral of those borrowing their stocks. These requests and the solutions could take many forms and may change the pricing of the stock being lent. While limited literature exists on borrowers integrating ESG, a recent paper published by AQR, illustrates a borrower's perspective on ESG short-selling opportunities[34]. This borrower looked to improve performance by shorting poorly ESG ranked stocks (as a proxy for ESG performance), relative to an ESG-screened long-only strategy (or long/short ESG-screened strategy). Mirroring the ESG concerns and views on stewardship of long-term ESG beneficial owners (lenders), these short positions exert pressure on the corporate boards of companies with poor ESG rankings, as boards are aware of the percentage of their stock being shorted. While not a prevalent approach for borrowers, this sheds light on how long-term ESG investors can take part in the securities lending market.

[32]UNPRI Practical Guide to Active Ownership. (2018). UNPRI.org.
[33]Henderson, R., Serafeim, G., Lerner, J. and, Jinjo, N. Should a Pension Fund Try to Change the World? Inside GPIF's Embrace of ESG. (2019)

Conclusion

Empirical evidence indicates that short selling, facilitated by securities lending, improves market efficiency and market liquidity. A holistic view of academic studies suggests that constraints on short selling can lead to overpricing. This alleviates concerns of short-termism stemming from time horizon misalignment of short sellers with long-term ESG investors. Leveraging empirical ESG and climate finance research, we know that investors are using material ESG metrics in their investment decisions to improve their risk/return profiles. An increasing number of lenders, and some borrowers apply these characteristics when considering what they loan (borrow) and to whom.

We do not yet know the impact that short selling has on a company's material ESG performance in the long-term. New insights will come from studying the changing dynamics between lenders and borrowers and the potential impact on a company's material ESG performance. Through systematic empirical research, we may find ways and opportunities for the securities lending market to evolve and potentially grow. We look forward to approaching these questions and continuing to apply a rigorous data-driven approach to understanding this space.

[34]Palazzolo, C., Pomorski, L. and Fitzgibbons, S. (2018). Hit 'Em Where It Hurts: ESG Investing 2.0. Investments & Pensions Europe.
Click here for disclaimers and important risk information

Travis Whitmore

Travis Whitmore is a quantitative researcher in the Securities Finance Research team at State Street Associates (SSA), State Street's academic arm. Since joining SSA in early 2018, Travis has helped develop and apply numerous quantitative models and contributed to several thought leadership pieces within the securities lending market.

Prior to SSA, Travis worked in State Street Global Markets as part of their rotational leadership program, wwhere he developed collateral optimization models for the Funding and Collateral Transformation trading desks and also built out an award winning application to help mitigate fraudulent behavior.

Travis interned with Morgan Stanley and several technology startups before he graduated from the University of Vermont with a Bachelor of Science in Computer Science and Finance.

Global Government Bond Markets in Focus

The first six months of the year have provided an almost unique opportunity to observe how financial markets react to external forces, and how factors other than simple economic fundamentals can rapidly change sentiment.

During 2020, we have been able to see the COVID-19 pandemic develop through the lens of our debt and equity markets.

During January and February, we saw a steady rise in both availability as well as the on-loan balances of government bonds. Investors appeared to be stockpiling high quality low risk assets as a possible reaction to the growing concerns around the spread of the virus, particularly after the World Health Organization declared a global health emergency on 30 January. This led to a rise in reported government bonds being made available for lending by some 15%, from €3 to €3.4 trillion between 1 January and the end of the two month period. In that early part of the year, on-loan balances built steadily as banks sought to rebuild supplies of HQLA assets that had been constrained over the year-end.

As we moved into late February, and whilst markets had brushed off much of the concerns around COVID-19, the progressive implementation of mass lockdowns in Italy changed the mood; a realisation that this crisis was now at the heart of Europe, and not a contained event in Asia. This previous complacency quickly turned into the so-called 'dash for cash', as investors sought to secure access to cash and cash equivalent assets. Elsewhere, the impacts of the growing pandemic were being felt in the US Treasury markets, with unexpected yield volatility suggesting structural issues. The week of 9 March essentially defined much of what was going to happen during the rest of the month and into April. A sudden collapse in oil prices sparked by falling demand in China ann tensions between leading producers Russia and Saudie Arabia, raised important questions about the stability of many other emerging economies. This in turn led to central banks selling US Treasuries to raise dollars to defend their currencies in anticipation of a deepening crisis. Elements of this sell-off can be clearly seen in the following chart (Fig 6), with some €400 billion of government bonds flowing out of lending programmes between 9 March and mid-April.

Fig 6: Global Securities Lending Government Bond Market *Source: IHS Markit*

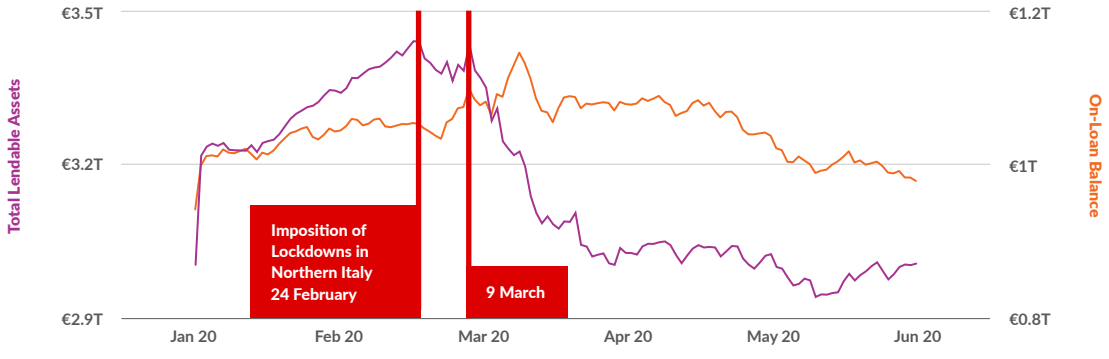
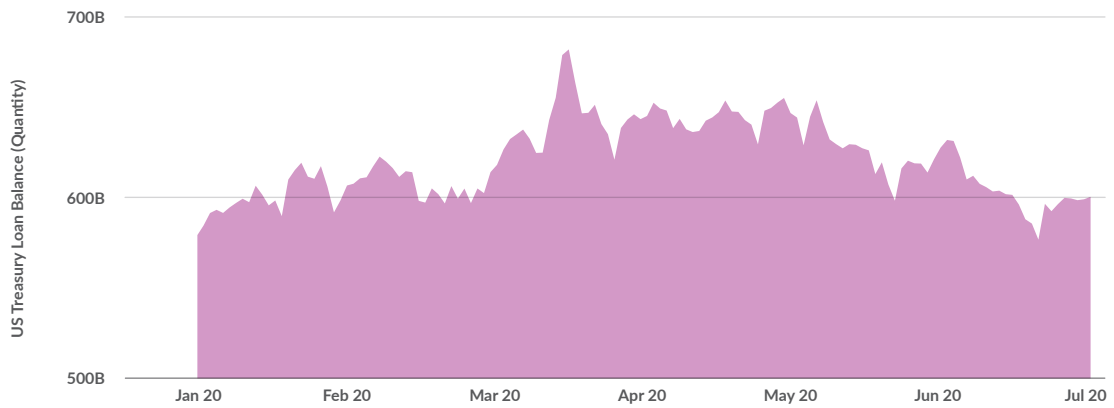


Fig 7: US Treasury Bonds On-Loan *Source: DataLend*



From an on-loan perspective, we did see a marked increase in the demand to borrow government bonds, with balances increasing significantly between the end of February and mid to late March. Further review of the data (Fig 7) confirms that this demand pull was almost exclusively associated with an increase in demand to borrow US Treasuries.

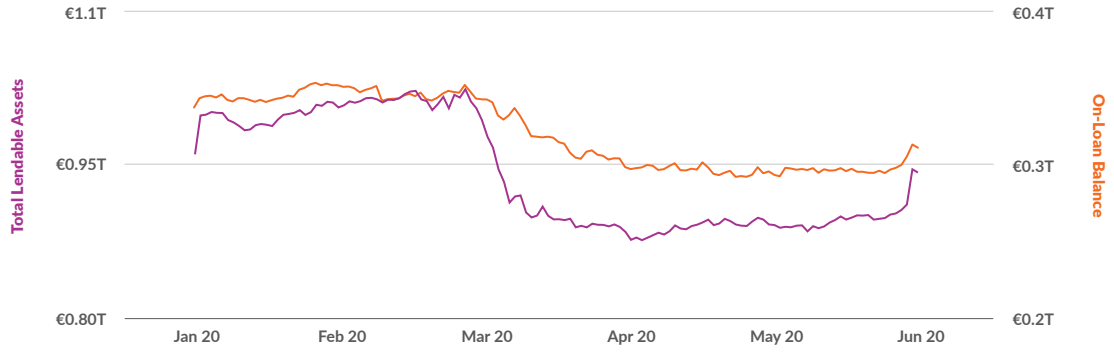
Although the exact reasons for this spike in demand will be varied and complex, they are likely to be closely associated with the reported structural liquidity issues being socialized at that time.

Traditionally, securities lending has been viewed as a source of secondary market liquidity, therefore this is likely to be an important element of this increase.

It is perhaps interesting to note that as the full impact of some of the US Fed's further liquidity interventions began to come into play, some of this incremental demand did fall away.

In Europe, the picture (as highlighted in Fig 8) was somewhat different.

Fig 8: European Securities Lending Government Bond Market *Source: IHS Markit*



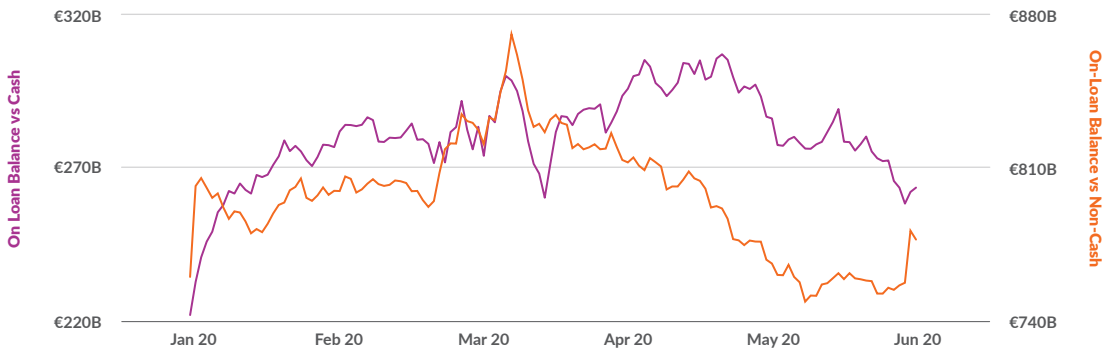
* See Data Methodologies for full details on page 50

In terms of institutional involvement in this important sector of the market, government bonds made available for lending were still dominated by government institutions such as Sovereign Wealth Funds (SWF), that represented some 27% of all available supply

Whist we saw a significant reported outflow of European government bonds from lending programmes, which is very much in line with what was happening in North America, we did not see a corresponding uptick in on-loan positions. The drivers behind this view are likely to be varied, but the absence of the sudden demand to borrow additional European government bonds suggests that markets across Europe did not see some of the market dislocation seen in North America, where lending markets were used to provide much needed liquidity.

Government bond lending has over time moved towards a non-cash collateral market, where borrowers collateralise loan positions with other securities. This has been especially true in Europe where regulation restricts the acceptance of cash collateral securities lending (UCITs) are constrained on investing beyond 7 days. Historically, non-cash trades have been predominantly regulatory driven, with borrowers looking to use high risk weighted assets (RWA) such as equities, to secure HQLA balance sheet friendly government bonds. When these trades are combined with a term element of three months or more, the HQLA assets may be used as part of the borrowers Liquidity Coverage Ratio (LCR) calculation. This has meant that borrowers and to an extent lenders, have prioritised these trades over key regulatory reporting dates (such as year or quarter ends). In general and notwithstanding the lower concentration of cash collateralised trades across this market, it has tended to be these trades that have therefore been reduced or returned first. When we examine the first half of 2020 however, we see the exact reversal of this trend, with cash collateralised loans remaining fairly constant over the period.

Fig 9: Global Securities Lending Government Bond Market - Cash Versus Non-Cash *Source: IHS Markit*



During a period of intense volatility and competing forces on investment portfolios (including underlying 'sell' decisions), it would appear some of the normal parameters around which these books would trade fell away in March and April, leading to these abnormal trading profiles. One of the contributory factors here in addition to underlying sell-offs, may well have been a desire from some institutional lenders to reduce or suspend some of their lending activities. Whilst we didn't witness the widespread withdrawal from lending programmes as seen in 2007/08, this may have been a factor in pushing on-loan balances down in the second quarter of the year.

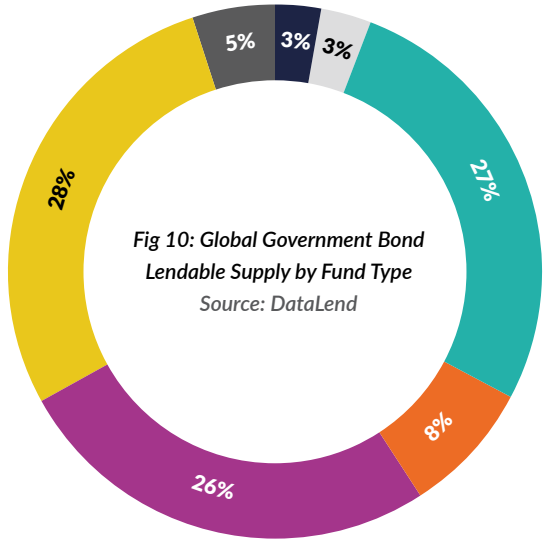


Fig 10: Global Government Bond Lendable Supply by Fund Type
Source: DataLend

In terms of institutional involvement in this important sector of the market, government bonds made available for lending were still dominated by government institutions such as Sovereign Wealth Funds (SWF), that represented some 27% of all available supply. That supply dominance was translated into an equally dominant share in on-loan balances, where government institutions and SWFs accounted for 30% of open loan balances at the end of June.

The role of SWFs in this sector has been noted in previous editions, where we have remarked on the growing dependancy on supply and therefore liquidity provided by this community (they provided important liquidity into the US Treasury market when it was needed). As regulators think more broadly about the lessons learnt from this crisis, the key themes of liquidity and volatility will be repeated over and over again. It is important to understand therefore how regulators and policy makers respond to these changing market dynamics.

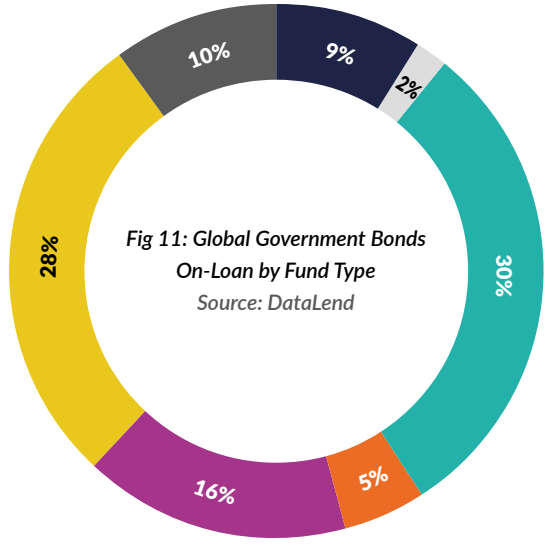


Fig 11: Global Government Bonds On-Loan by Fund Type
Source: DataLend

Credit Benchmark®

Credit Benchmark®

Basel IV Rules:
The Impact Upon Capital Markets and the Securities Finance Industry

Mark Faulkner
Co-Founder, Credit Benchmark

Executive Summary & Introduction

- The forthcoming Basel IV regulations will impact the global capital markets and have potentially serious consequences for the securities finance industry.

- Under Basel IV, banks' internal ratings models will be set aside and unrated counterparts will carry a 100% RWA.

- Tens of thousands of high-quality but unrated obligors will attract this 100% risk weight. It is estimated that applying data from an external credit assessment institution ("ECAI") could reduce the RWA dramatically, and produce a cost saving of 2 million USD per notional 1 billion USD of exposure.

- A potential solution to this dilemma is the regulatory-approved use of alternative sources of credit data to supplement the gaps in the "issuer paid" credit rating agency model.

- The impact of the Covid-19 crisis to the global financial network has accelerated the downward transition of creditworthiness at a rate comparable to the 2008 Global Financial Crisis.

In 1966 Robert F. Kennedy made a speech about the importance of individual action to drive necessary change. In the speech he said "Like it or not, we live in interesting times. They are times of danger and uncertainty; but they are also the most creative of any time in the history of mankind."

We are again living in interesting and uncertain times. The creativity invoked by Kennedy is not just relevant to the political and cultural spheres his speech referred to; it also serves to remind us today of the power of positive change in the face of any challenge.

In these turbulent times it is not surprising that the regulatory direction of travel has been towards encouraging stronger risk management within key financial networks and demanding more capital dedicated to support the key players and their counterparts. The Basel IV regulations were conceived prior to the Covid-19 crisis and are a further step along that regulatory journey.

The purpose of this paper is to help raise awareness of the forthcoming Basel IV regulations, to highlight their potential impact and to issue a call to action. For the sake of efficient markets, the provision of liquidity, and the security of investment returns, the creativity mentioned by Robert Kennedy is critical to the response of capital markets and the securities finance industry. In such "interesting times" as these, creativity is essential.

The Impact of the Covid-19 Pandemic on the Global Financial Network

The impact of the Covid-19 crisis to the global financial network has accelerated the downward transition of creditworthiness at a rate comparable to the 2008 Global Financial Crisis. In the intervening 12 years, the credit markets have been relatively benign as Central Banks, regulators and policy makers have followed policies designed to achieve that objective.

Today, the world faces an uncertain and increasingly malign credit environment despite the efforts of the Governments around the globe to stabilise their economies. The extent to which that transition is underway can been see in Figure x below[1]. This table shows the credit transitions in the banking sector across a fortnight – showing a significant rate of transition with a bias towards downgrades.

[1]Credit Benchmark 2020, Financial Institutions Credit Risk Monitor, Credit Benchmark, downloadable here

Fig 12: Extract from Credit Benchmark Bank and Non-Bank Financial Institutions Risk Monitor June 2020

	Credit Consensus Changes				Credit Consensus Distribution						
Banks	Total	Deteriorations	Improvements	IG To HY	aaa	aa	a	bbb	bb	b	c
Central Banks	112	9.8%	6.3%	1	17	13	17	17	26	17	5
Globally Systemically Important Banks	30	6.7%	6.7%	0		7	21	2			
Banks - Global	2026	10.3%	2.9%	16	2	63	624	691	455	151	40
Banks - North America	311	13.2%	0.3%	12	2	12	109	159	27	1	1
Banks - Latin America	146	37.7%	0.7%	0			8	54	67	6	11
Banks - Emea	1057	7.7%	3.5%	9		37	316	300	274	102	28
Banks - Apac	509	6.3%	3.7%	2		14	191	177	85	42	

This report summarizes the changes in credit Consensus of different groups of financial counterparts as well as their current credit distribution and any migration from investment grade to high yield.

Shortly after the Covid-19 pandemic hit, Credit Benchmark was asked to provide aggregated and anonymised data to HM Treasury and The Bank of England to help support the decision-making process behind the innovative Covid Commercial Financing Facility (CCFF). We are proud that the credit data is being used to help provide solvency, assist corporate survival and protect jobs in the real-world economy. This application of the data confirmed to us a long-held thesis that credit risk data can also be a legitimate proxy for liquidity and solvency related decisions.

Until relatively recently Credit Benchmark's primary purpose was as a data analytics company specialising in the creation of credit Consensus[2], with a focus upon the delivery of actionable information in the credit space. We also understood that there was another way of looking at the credit process and its outputs. We realised that "credit" can be a proxy for "liquidity" and that the process that is undertaken to determine creditworthiness of an entity was effectively one that determined the propensity or willingness to extend liquidity to that entity. The liquidity related questions underlying this thinking are all dependent upon the credit analysis and go something like this: Should I lend to this entity? Yes or no? If yes, how much? For what term? And at what price?

The Pending Regulatory Framework

At the end of March 2020, the Basel Committee announced a delay in the implementation of the new Basel Accord enabling banks to focus additional operational capacity on responding to the impact of Covid-19. Whilst this extra year of planning is to be welcomed, the scale of the challenge for the securities financing industry in preparing to meet this new regulatory framework should not be underestimated.

This regulation will not just impact the regulated banking community but also have sweeping ramifications for all asset owners as well as for the broader capital market. Now is the time to begin preparations and identify potential solutions to mitigate their dramatic impact.

One of the rules that most affects the securities financing industry is the introduction of the aggregate output floor, which will require a bank's risk weighted assets (RWA), using an internal rating approach, to be not lower than 72.5% of RWA as calculated by the Basel framework's standardised approach. Although the Basel accord has drawn up a transition process which kicks in at 50%, the increase in RWA allocated for securities financing as a result of these changes is expected to increase by as much as forty-fold. The new rules in effect limit the ability of banks to apply internal rating models for RWA purposes. Additionally, the standardised rules state that unrated obligors will attract a 100% risk weight allocation. This affects thousands of high-quality but unrated pension and mutual fund counterparties that most market practitioners think ought to attract a 20% risk weight instead.

Credit Benchmark estimates that the savings possible by the reduction of the cost of capital from a 100% risk weight to a 20% risk weight could be up to 2 million USD per notional 1 billion USD of exposure. The basis of this estimation and the underlying assumptions are outlined below in Figure x - making this issue too expensive to ignore.

[2]By bringing together the internal credit risk views of the world's leading financial institutions, Credit Benchmark provides an independent and unique measure of credit risk. The data contributed by our partners is subject to rigorous internal ratings systems and/or strict regulatory requirements. Credit Benchmark anonymizes and aggregates the data before releasing it in the form of Consensus ratings ("CBRs") and aggregate analytics. Entity-level credit risk information is available when a minimum of three observations are contributed on that particular entity. The rule of three applies to ensure the anonymity of those contributing credit views to the Credit Benchmark dataset. Basing a Consensus rating on a minimum of three separate observations prevents reverse engineering and enrichens the depth of the data.

> *[The new Basel Accord] regulation will not just impact the regulated banking community but also have sweeping ramifications for all asset owners as well as for the broader capital market*

Fig 13: A Cost Comparison of Three Scenarios - Current; Proposed Regulation; and ECAI

Current			
		$1Bn	$1Bn
Risk Weight	5%	50,000,000	2,500,000,000
EAD	25%	250,000,000	12,500,000,000
RWA (RW x EAD)	1.25%	12,500,000	625,000,000
Capital at 10%	0.125%	1,250,000	62,500,00
Cost of Capital at 10%	0.0125%	125,000	6,250,000

Basel III Using Unrated Risk Weights at 100%			
		$1Bn	$1Bn
Risk Weight	100%	1,000,000,000	50,000,000,000
EAD	25%	250,000,000	12,500,000,000
RWA (RW x EAD)	25%	250,000,000[1]	12,500,000,000
Capital at 10%	2.5%	25,000,000	1,250,000,000
Cost of Capital at 10%	0.25%	2,500,000[2]	125,000,000

Basel III Using ECAI Risk Weights at 20%			
		$1Bn	$1Bn
Risk Weight	20%	200,000,000	10,000,000,000
EAD	25%	250,000,000	12,500,000,000
RWA (RW x EAD)	5%	50,000,000[1]	2,500,000,000
Capital at 10%	0.5%	5,000,000	250,000,000
Cost of Capital at 10%	0.05%	500,000[2]	25,000,000

[1]Difference in standardised RWA of $200mm per billion notional

[2]Difference in Standardised Cost of Capital of 20bsp per billion notional

Such a dramatic increase in the cost of doing business for those impacted by the forthcoming regulations could result in a collapse in securities financing activity, with potentially severe consequences across the capital markets. Hence it is imperative that the industry finds solutions to the challenges that the Basel IV rules will pose.

The Implications for the Capital Markets

Any dramatic increase in the cost of conducting securities financing activities is likely to result in a significant curtailment in activity across the sector. A reduction in securities lending will result in the drying up of market liquidity for securities, which will reduce transparency and increase trading costs. As financing and repo costs escalate, higher trading costs will ultimately be paid for by pension and mutual funds, thereby reducing their returns. In addition, a fall in securities financing activity will further reduce the returns for funds given they derive an income stream directly from lending out securities. This, in effect, penalises saving which may result in other unintended and negative macroeconomic effects.

The array of funds that benefit from securities finance represent the vast majority of savings across the developed world. Without access to a functioning market which is liquid, and where price discovery can take place, the funds that act as agents for our collective savings will find their ability to function efficiently is severely hampered. And given the importance of savings for the real economy, these effects must be given due consideration.

The key challenge for the securities financing industry is therefore to come up with a solution that can assess the creditworthiness of the tens of thousands of counterparts involved in the securities financing industry that is acceptable to regulators.

As the vast majority of these counterparts are high quality in terms of creditworthiness, one can sensibly argue they should therefore attract the lowest standardised risk weight at 20%.

> *[It is estimated] that the savings possible by the reduction of the cost of capital from a 100% risk weight to a 20% risk weight could be up to 2 million USD per notional 1 billion USD of exposure*

Addressing the Challenge

The securities financing industry is certainly adaptive. There are two ways in which the industry is already adapting to address the oncoming challenge of Basel IV today; a revised legal approach to collateralisation; and the development of specialised Central Clearing Counterparts. Both have been under development for several years and are now becoming more widely accepted. They will not solve the issue in its entirety - but they are making a difference.

Pledge GMSLA

In November 2018 ISLA published the first market standard agreement to support the pledging of security, the Global Master Securities Lending Agreement (Security Interest over Collateral) (the "Pledge GSMLA"). This agreement provided for borrowers to transfer collateral to lenders by way of security interest rather than an absolute transfer of title. The principal motivation behind the Pledge GMSLA is to enable borrowers to benefit from the cost savings available from the better treatment for regulatory capital. Under the previous 2010 GMSLA agreement, if the borrower is a financial institution, its claim on the lender for the return of excess title-transfer collateral after a liquidation of collateral is a risk-weighted asset (RWA) for regulatory capital purposes, which requires an allocation of capital and therefore has an impact on the borrower's balance sheet.

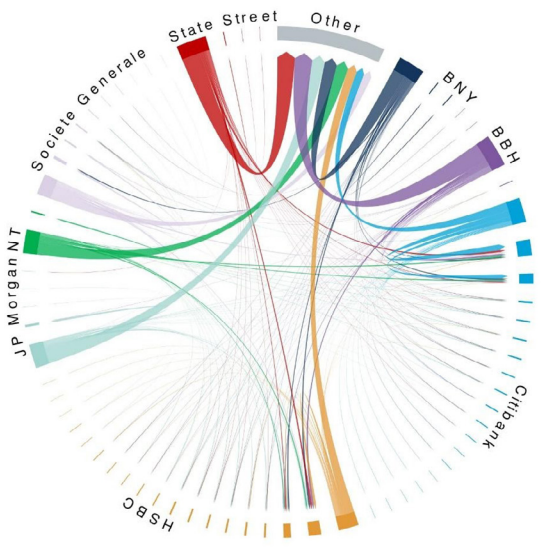
Under the Pledge GMSLA, collateral is transferred to a segregated account with a third-party custodian, such as a tri-party provider, in the name of the borrower (the "Secured Account"). This makes it the subject of the security interest in favour of the lender but segregates it from the lender's assets and protects it from the risk of non-return on insolvency of the lender. As either the value of the collateral, or the value of the loaned securities fluctuates, transfers are made in and out of the Secured Account. However, if the collateral is given by way of security, the borrower retains a property interest in the collateral assets and is not exposed to the same risk of non-return of excess collateral by the lender. Therefore its return does not carry such a risk weighting. The security collateral arrangement is an attractive prospect for borrowers in particular.

Custodians and Sub-Custodians

In order to successfully understand and mitigate the impact of anything it makes logical sense to first measure and manage it. The world of credit risk and capital management are no exceptions and the involvement of custodians and sub-custodians in the pledge solution does not remove the risk completely – it moves it and can also potentially reduce the capital at risk.

Prudent credit risk and capital managers will have an understanding and knowledge of all of their counterparts and of the complex financial network of interconnectedness and interdependencies that they are part of.

In a recent whitepaper[3] we discuss the credit and real-world risk within the highly concentrated global custody market which is dominated by eight major custodial banks. Figure x below shows the extent to which these eight banks utilise the sub-custodial services provided by one another as well as "other" providers. Any organisation appointing a custodian to hold their pledge assets should understand the underlying credit and real-world risk, and carefully monitor the networks that their custodian or sub-custodian is part of. Ideally this will involve automated monitoring and alerting embedded into an early warning process designed to protect their or their clients' best interests. The first step is to map out the often complex interlinkage within the custodial and sub-custodial network and then to gather the necessary credit information. After that the capital benefits can be compared to alternatives with a clear understanding of the facts.



[3]Credit Benchmark 2020, Global Custodians, Sub-Custodian Networks and Credit Risk, Credit Benchmark, downloadable here

Central Clearing Counterpart (CCP) for Securities Lending

The development of a viable Central Clearing Counterpart (CCP) for securities lending has been a long time in the making and a regular topic for discussion at industry events over many years. The objective of reducing the cost of capital for the borrowers is a primary driver behind these initiatives. There are a number of competing offers available now or under development. The impetus brought on by the rising expense and scarcity of capital has encouraged these specialised solutions.

The CCP impacts credit and systemic risk since the CCP is the legal counterparty to all transactions. The borrowers enjoy the advantage of borrowing at lower capital cost because the CCP typically, although not always, has a Consensus credit rating and that rating is often as good as that of beneficial owners.

In a recent whitepaper[4] we explore the CCP networks globally and the corresponding Consensus credit quality of the CCPs and their members – many of which are not rated by the main credit rating agencies. As for the custodians and sub-custodians previously mentioned, it is important to understand the structure and risks within the CCP networks. Figure x shows the extent to which the global CCPs have a credit rating.

This is split into two sections; by the "issuer paid" public ratings from a credit rating agency; and the "skin-in-the-game" credit Consensus ratings created by Credit Benchmark with credit views sourced from contributing financial institutions. Figure x shows the same breakdown, for the individual CCP members.

[4]Credit Benchmark 2020, The Creditworthiness of CCPs and the Global Clearing Member Network, Credit Benchmark, downloadable here

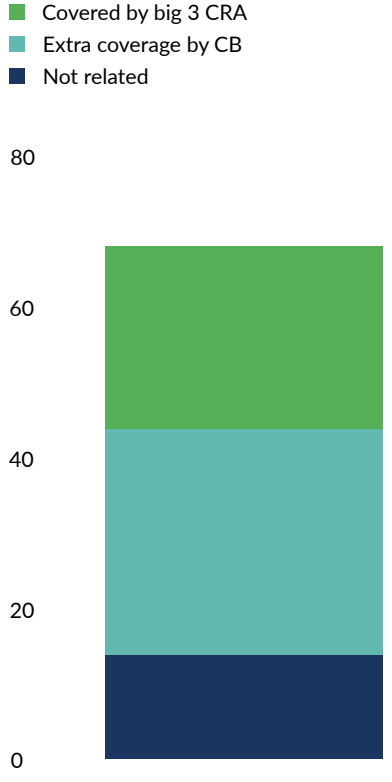


Fig 14: Ratings Available for CCPs

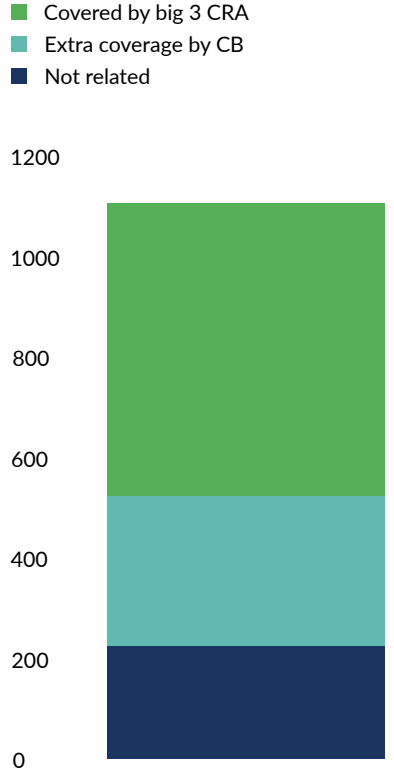


Fig 15: Ratings Available for Individual CCP Members

Irrespective of whether the securities lending transactions are conducted under a Pledge GMSLA or via a specialist CCP or both, the impact of Covid -19 upon credit transitions is visible in Figure x.

The general bias at present is unsurprisingly towards downgrades and the table shows that several CCP Members have dropped from Investment Grade to High Yield.

It reinforces the need to constantly monitor these networks and individual firms and build automated early warning capabilities.

Regulatory Requirements

A possible solution for the industry to consider is to tap into an existing source of external credit information via an External Credit Assessment Institution "ECAI". For banks to use external ratings for RWA purposes the ratings provider will need to be with the appropriate regulatory regime. At present US banks are somewhat restricted in their ability to use external credit information by The Dodd Frank Act. There is ongoing debate about this act and it may be changed in the future. However, the non-US divisions of the US banks are often large participants in the securities lending markets and may use external credit information.

Credit Benchmark is exploring the option of becoming a regulated ECAI in order to provide external credit data that can be used under Basel IV regulations. Credit Benchmark has already established relationships with a number of key global regulators, and the data is currently being used by the Bank of England to help maintain the supply of credit due to the ongoing Covid-19 crisis via the CCFF scheme.

Credit Benchmark data is already active in the securities financing industry, supporting firms on Agency Lending Disclosure (ALD), as well as speeding up client onboarding and Know Your Client (KYC) challenges.

Subsequent to the financial crisis, regulators have been keen to register more ECAIs to increase competition across the industry. Crucially, the regulatory focus for ECAI certification is on the credibility of the ratings, which is determined partly by their usage, and by the providers adhering to certain rules on transparency and disclosure.

The creation of Consensus ratings by aggregating all available information from banks that have actual exposure to obligors, and where there is no underlying conflict of interest, is clearly one potential solution to the challenge that Basel IV has posed to the securities financing industry.

With regards to the funds sector, Credit Benchmark already publishes Consensus ratings on close to 20,000 Mutual-, Pension- and Sovereign Wealth Funds, the vast majority of which are high-quality investment grade Consensus ratings. Whatever solution is decided upon, it is important that the industry moves quickly towards an agreement to prevent disruption to the capital market and falls in the returns of pensioners and savers.

Fig 16: Extract from Credit Benchmark Bank and Non-Bank Financial Institutions Risk Monitor June 2020

		Credit Consensus Changes			Credit Consensus Distribution						
Intermediaries	Total	Deteriorations	Improvements	IG To HY	aaa	aa	a	bbb	bb	b	c
Central Clearing Counterparts	40	2.5%	2.5%	0		6	15	19			
CCP Members	1904	11.3%	5.1%	4	6	119	953	520	275	21	10
Broker Dealers	261	7.3%	2.3%	0		7	108	83	62	1	
Custodians and Sub-Custodians	151	13.2%	7.9%	0		16	61	26	31	13	4

Credit Benchmark®

"Any organisation appointing a custodian to hold their pledge assets should understand the underlying credit and real-world risk

Summary

This objective of this paper is to make sure that this important issue is on the radar of all market participants and industry associations in sufficient time for them to carefully consider the ramifications of the forthcoming Basel IV rules. Furthermore, to provide the industry with a forum to consider rules in detail and to discuss and consider ways in which to address them for the benefit of the broader market. This paper was written following a preliminary meeting on this subject that was chaired by Andy Dyson, CEO of the International Securities Lending Association (ISLA) and attended by banking member representatives. It is a call to action for fellow ISLA members to get involved in this important discussion.

Next Steps

The next ISLA meeting on this topic will be convened soon and interested parties are invited to contact the author, Mark Faulkner, or the ISLA CEO Andy Dyson, to discuss their involvement. As agreed at the initial meeting, ISLA and Credit Benchmark will be reaching out to fund representatives and associations in key jurisdictions to brief them on the forthcoming Basel IV rules and the potential impact upon the Capital markets and to invite them to participate in the ongoing discussions.

Mark Faulkner
Co-Founder, Credit Benchmark

Mark has an established track record in bringing transparency to rapidly developing areas of financial services. Alongside his business partner Donal Smith, he co-founded Credit Benchmark in 2013, introducing the world's most comprehensive source of Consensus credit risk data. In 1994, Mark spotted an opportunity to provide customers in the securities financing industry with independent specialist advice and services. The company he founded, Data Explorers, became the leading provider of securities lending data across all global market sectors, and was acquired by IHS Markit in 2012. Mark graduated from the London School of Economics and held management roles at LM Moneybrokers, Goldman Sachs and Lehman Brothers.

In 2004 Mark wrote "An Introduction to Securities Lending". It was commissioned by the International Securities Lending Association and Endorsed by Association of Corporate Treasurers; British Bankers' Association; The London Stock Exchange's National Association of Pension Funds and The Securities Lending and Repo Committee. The booklet was subsequently translated into many languages and remains accessible

ISLA

Global Equity Markets in Focus

In the context of financial markets, the events of the first part of 2020 have been without parallel. The term 'unprecedented' was used by many commentators, as the single largest daily fall in equity markets since 1987 was reported on 12 March, and the UK FTSE fell some 33% between mid-February and the middle of March. As markets and regulators responded to these almost unique set of challenges, we saw some predictable tools being deployed by the regulatory community, especially here in Europe. Short selling bans were imposed across a number of markets across Europe and beyond.

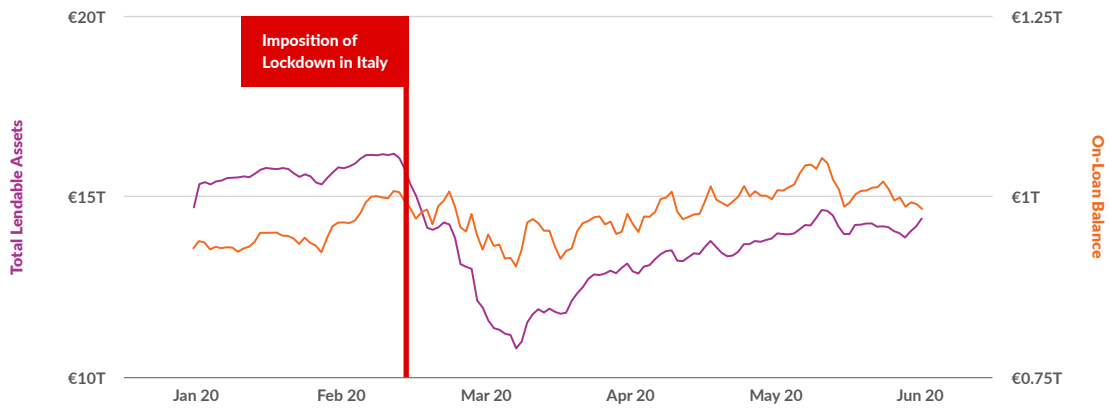
The effectiveness of short selling bans has constantly sparked considerable debate amongst the financial community, and the reaction to the recent bans in Europe was no different. There is much historical empirical evidence to suggest that bans of this type have limited material benefit on the behavior of markets during periods of stress. Anecdotal evidence from recent events across Europe appears to underline this view; those markets where bans were imposed did not behave significantly different to those where bans were not present.

As we look more broadly at how markets behaved both here and in North America during this period, the changes to the way banks are regulated since the 2007/8 crisis is probably a more material factor than short selling bans.

Following the global financial crisis, banks have faced a regulatory environment that has been designed to enhance their tier one capital base, and curtail large elements of their previous proprietary risk taking activities by allocating increasingly high levels of risk adjusted capital to these businesses. This has meant that over time banks have effectively withdrawn from these transactions. Where before trading desks would have stepped in to act as some sort of buffer to the extremes of markets movements, this is no longer the case, leaving that role in part to the central banks to police.

Not unexpectedly, many of these themes played out in our markets. The predominantly value-based data outputs that we use began to show the impact of the falling stock market values from late February.

Fig 17: Global Securities Lending Equity Market *Source: IHS Markit*



* See Data Methodologies for full details on page 50

From a low point of €898 billion of equities on-loan on 23 March however, equity balances increased steadily during the remainder of the half year, closing at €987 billion on 30 June

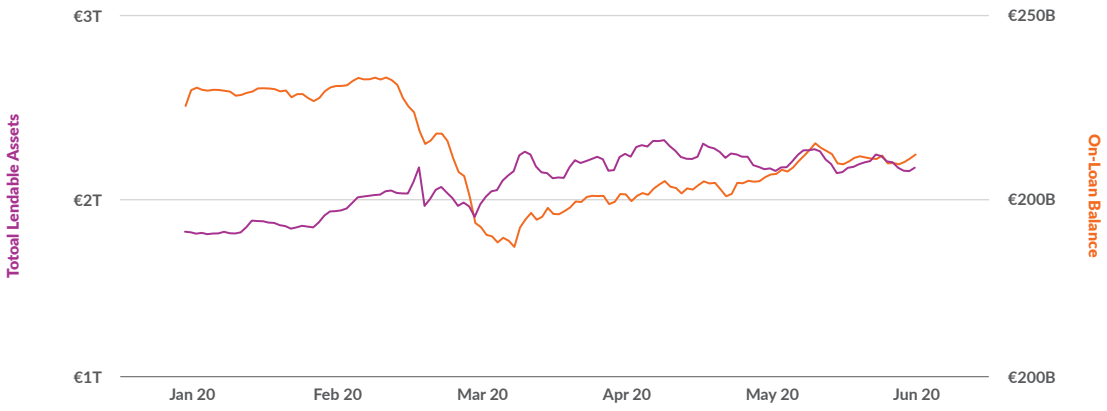
From late February, reported equites being held in lending programmes fell from a high of €16.1 trillion on 20 February, to a reported low of €10.7 trillion on 23 March. Since that point and as underlying equity markets recovered much of their poise thereafter, reported levels closed the six months at €14 trillion.

In terms of on-loan balances, the dramatic impact of COVID-19 on trading conditions makes it difficult to draw firm conclusions from the data. We can however try and deduce some sense from the trends we have seen. First, in early January and February we saw some seasonality in equity books, as borrowers looked to build up positions ahead of the corporate dividend season in Europe. As lockdowns were imposed from 24 February, first in Italy and progressively across the rest of Europe and then North America, balances fell sharply on the back of falling equity values as well as lenders and borrowers repositioning their books and exposure.

From a low point of €898 billion of equities on-loan on 23 March however, equity balances increased steadily during the remainder of the half year, closing at €987 billion on 30 June. Whilst some of this will undoubtedly be asset price appreciation as equity markets recovered, it is also clear that borrowers and their hedge fund clients were seeing real opportunities to reinvest in recovering markets.

In Europe, we saw a similar picture of falling asset valuations across inventory books from late February into mid-March. After the initial reactions to falling asset values, on-loan balances remained reasonably robust in Europe but without the steady growth seen globally.

Fig 18: European Securities Lending Equity Market *Source: IHS Markit*



* See Data Methodologies for full details on page 50

In line with our observations across fixed income markets and by historical standards, it is apparant that within equity lending cash collateral loans appeared more stable than those collateralised with other securities. As the following chart highlights, loans against cash collateral marginally increased into 30 June, whilst non-cash collateralised trades appeared more volatile and fell into the half year end.

The pronounced 'V' shape pattern seen around non-cash trades between mid-February and mid-April may be explained in part by the extreme market conditions, leading to clients pulling back from lending, combined with borrowers looking to reposition their loan books (including the mix of collateral pledged against loans).

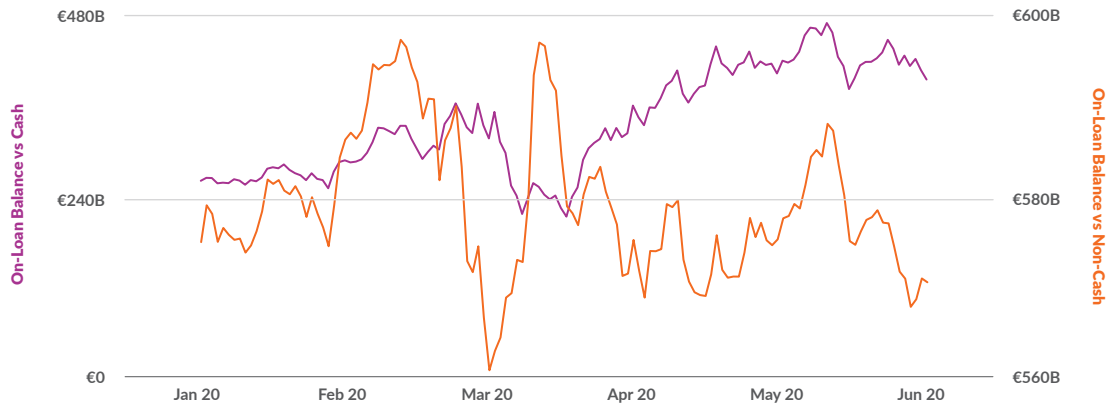
Another factor in play here could have been enhanced cash collateral reinvestment returns, that may have drawn in lenders (especially in North America) to actively opt to receive cash collateral.

Recent data released by DataLend has indicated that revenues derived from USD cash collateral reinvestment activities doubled in the first half of 2020, compared with the same period in 2019.

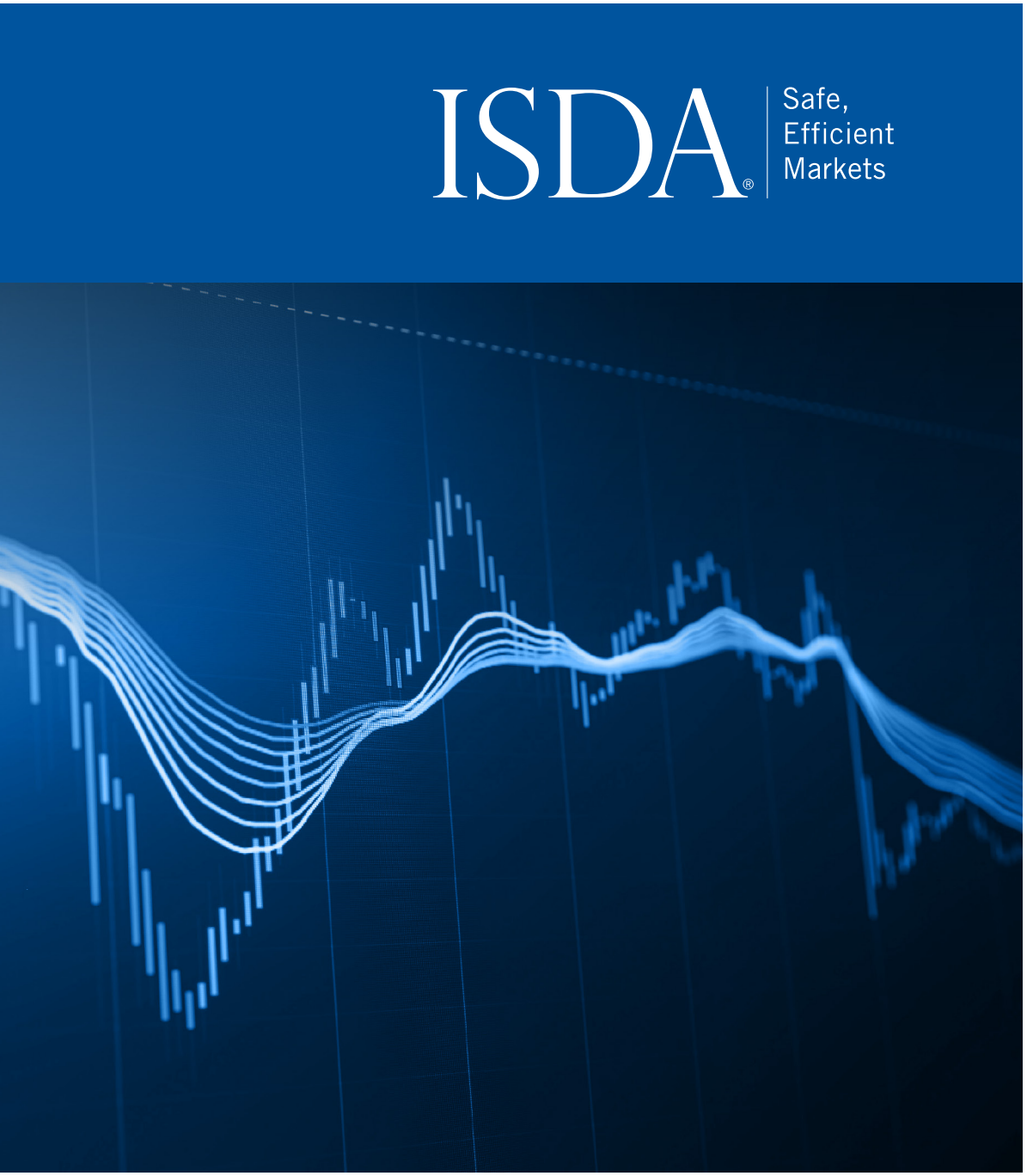
Recent data released by DataLend has indicated that revenues derived from cash collateral reinvestment activities doubled in the first half of 2020, compared with the same period in 2019

Although we have seen to some extent a recovery in equity lending, it has become something of a specials market, with intense activity around a limited range of names that are primarily associated with those industries and sectors most affected by the pandemic. A notable exception in that list is Wirecard, which prompted considerable debate and coverage in the first half of the year. It is not within the remit of this publication to comment further on this owing to the impending legal actions, however we would highlight the market scrutiny offered by short sellers as a fundamental and essential part of any broadly-based capital market.

Fig 19: Global Securities Lending Equity Market *Source: IHS Markit*



* See Data Methodologies for full details on page 50



A Digital Future for Financial Markets

Ciarán McGonagle
Assistant General Counsel, ISDA

Financial institutions are increasingly looking to technology to increase efficiencies and reduce costs, but scalable and interoperable automation is only achievable if the right foundations are in place first. ISDA, ISLA and several other associations last month sent a letter to regulators committing to develop those foundations[1].

The benefits of increased automation for market participants are clear. Digitization will promote the consistent creation, processing and aggregation of global financial data, bolstering regulatory oversight and compliance. Through the removal of redundancy and unnecessary complexity, increased digitization will increase efficiency and strengthen the operational resilience of market participants and financial markets infrastructure, reducing systemic risk and creating a safer and more robust global financial system.

None of this is possible without industry led development of essential data standards, and the distribution of these standards in digital formats to allow direct deployment within enhanced, automated and intelligent processes, systems and technology.

ISDA and ISLA share many of the same members. In a 2019 survey conducted by ISDA, members pointed to the continued use of bespoke legal documentation, inconsistent data representations, and a lack of digitized documentation and processes as among the main obstacles to reaching their desired future state for post-trade processing.

[1] [Link to letter]

Many of these issues and challenges are common across the derivatives and securities lending markets, particularly following the introduction of the Securities Financing Transactions Regulation. It is for this reason that ISDA and ISLA have recently agreed to collaborate on the expansion of electronic contract opinions and application of the Common Domain Model (CDM) to help facilitate greater automation in the derivatives and securities lending markets. Both markets and sets of products stand to benefit from greater digitization of documentation, the implementation of common, interoperable industry standard models for financial transactions and processes, and the distribution of these standards through mutualized solutions and platforms.

Our members expect trade associations to play an important role in the development and promulgation of these new standards. The results of a 2020 ISDA survey indicate that over 95% of ISDA members support our strategy to enable innovation and automation in the financial markets, by developing standards, data models and digital formats for our documentation and content. In particular, a majority of members highlighted increased digitization of new and existing ISDA documents as providing an important foundation for facilitating adoption of these documents and associated standards, providing greater connectivity between documentation, systems and processes, and ensuring interoperability among different providers and solutions. Bespoke, paper-based documentation creates an obvious impediment to delivering our vision of a digital future. Trading, operations, legal, compliance and technology

functions within our member firms increasingly expect us to make industry documentation available in different formats to allow for easier integration within their systems.

ISDA's flagship digital offering is the 2020 ISDA Definitions, a revised and updated definitions booklet for use with interest rate derivatives. Alongside necessary updates and adjustments to take account of market evolution and global benchmark reform efforts, a key driver for this project is making the standardized interest rate definitions more user and technology friendly.

The 2020 ISDA Definitions will be produced in a digital format, allowing for the production and maintenance of a consolidated and up-to-date view of the definitions. This will avoid the need for users to compile paper or pdf copies of the main definitional booklet and up to 70 amending supplements in order to understand the terms that apply to their trades (as is the case with the current 2006 Definitions). ISDA will deliver the 2020 Definitions later this year through an online platform, increasing accessibility and incorporating various built-in functionalities and capabilities, such as hyperlinking and version control to provide a more user-friendly experience.

Expanding ISDA's digital offering across our suite of actively negotiated documentation requires enhanced standardization of those documents. Firms will always need to negotiate and customize documentation to address specific commercial, compliance, legal and operational risks. However, excessive customization can increase complexity and on-boarding times, while providing little or no commercial or legal benefit. A lack of standardization therefore gives rise to operational inefficiency, increases risk through unnecessary complexity and creates impediments to digitization.

In response, ISDA has developed the ISDA Clause Library. This tool effectively deconstructs the standard legal document and assigns meaning to the various different obligations and events expressed within it. Using thousands of agreements and clause samples, we identified, defined and categorized the most commonly negotiated clauses within the ISDA Master Agreement and various credit support documents. Having established this framework, we created standard-form drafting options that are capable of achieving the vast majority of the most commonly negotiated outcomes within standard-form ISDA documentation. This standard-form wording is now available for use by members in their negotiations[2]. The Clause Library will also be integrated within ISDA Create, ISDA's digital negotiation and execution platform, when the ISDA Master Agreement is added later this year. That will allow for more structured legal agreement data to be captured as part of the negotiation process.

Importantly, we developed the ISDA Clause Library by reference to substance and outcome, rather than form. Put simply, we focused on what a contractual provision intends to achieve, rather than the precise formulation of words used to achieve it. There is a clear opportunity to expand this initiative to cover additional forms of documentation across different types of financial transaction. For example, a cross-default clause within one contract may achieve the same effective outcome as an equivalent clause located within a different type of contract. There is no good reason to treat these clauses differently, irrespective of drafting nuance or the document in which the clause is located. A common, industry-wide taxonomy for financial contracts would be a powerful tool in dismantling institutional siloes and enhancing risk management and regulatory compliance across different products and functional areas.

Standardization and digitization of documentation is only half the battle. There is also a lack of common data and process standards, and little alignment between these standards and the underlying documentation. Firms and infrastructure providers typically use their own unique set of representations for transaction events and processes. As a result, market infrastructure is inefficient and expensive.

ISDA and ISLA both support the development of common, interoperable industry standard models for financial transactions and processes. The CDM establishes a common, digital representation of derivatives trade events and actions that will increase automation and efficiency in the derivatives market. This model can be easily expanded to cover additional products and contracts as a means of encouraging further standardization across the financial markets. Indeed, ISLA is currently working to model and code specific securities financing transaction (SFT) components for inclusion in the CDM, creating greater alignment between derivatives and securities lending markets.

Refinement and expansion of these models will facilitate greater connectivity between contractual terms and the processes designed to implement important business and operational functions deriving from contracts, including netting and collateral enforceability, liquidity, and counterparty credit risk management. All of this will help move the industry towards more efficient, cost-effective and scalable payment, settlement, collateral management and regulatory processes, providing a robust foundation for further straight-through processing and automation of financial transactions.

Of course, not everything within a contract can be digitized and automated. However, the vast majority of derivatives transactions and SFTs rely heavily upon repetitive operational processes, such as valuations, calculations, payments and settlements. These terms are readily capable of being automated effectively and efficiently within a standardized, digital model.

Critical to the success of these efforts will be the extent to which market participants can easily access and benefit from these new standards. Fragmented and duplicative distribution of digital offerings will inevitably result in incompatible platforms and solutions. This will increase inefficiency and cost to the market. We will therefore ensure that our standards and their digitized representations are made available in a way that promotes competition, encourages innovation and facilitates the development of mutualized technology solutions within our markets.

Over the past 30 years, ISDA and ISLA have a proven track record of addressing our members' problems with common, standardized solutions, such as the ISDA Master Agreement and the Global Master Securities Lending Agreement. Our two trade associations are perfectly placed and ready to lead and support our members in developing enhanced, digital standards and in delivering our vision of a digital future for our markets. In doing so, we will foster an environment for technological innovation and reduce costs for market participants. By removing complexity and strengthening the operational resilience of market participants, our initiatives will also contribute toward the reduction of systemic risk. All of this is consistent with ISDA's mission to build safer, more efficient markets.

Ciarán McGonagle
Assistant General Counsel, ISDA

[2] The ISDA Clause Library currently covers the ISDA Master Agreement. The Clause Library will be expanded to cover various ISDA credit support documents by the fourth quarter of 2020. More information is available here

ISLA

Collateral Dynamics

With non-cash collateral loans making up the vast majority of the market today, the scale and complexity of the collateralisation process makes it integral to risk management within the industry

In previous editions of this report, we have discussed how securities lending can provide a fascinating window into elements of the capital markets that tell us how efficiently they are functioning. The past six months has seen moments of considerable strain on operational infrastructures, including the provision of collateral which has at times led to a very different collateral mix across our industry. With non-cash collateral loans making up the vast majority of the market today, the scale and complexity of the collateralisation process makes it integral to risk management within the industry.

As we think about the collateral environment during the past six months, it is important to consider what was driving the market at that time, and how this would have affected the use of collateral more broadly.

We have already highlighted comments made by the BoE in early June, regarding the increased margin requirements seen across UK CCPs in March. This led in part to a 'dash for cash', as some market participants had insufficient cash and cash-like assets to meet actual or anticipated margin calls. Pressure was also seen in the derivatives markets more widely, where recently introduced Uncleared Margin Rules (UMR) meant that for the first time many buy-side firms were grappling with their responsibilities to ensure that their derivatives exposures were appropriately collateralised. With many market participants using equities as collateral, the picture was further compounded by the sudden falls in equity market valuations that would have triggered further margin calls across all of collateralised markets.

As equity markets lost value and remained highly volatile, counterparts had to look for alternative forms of collateral. Where we have seen similar but less extreme falls in equity markets in the past, market participants have tended to switch to using government bonds as collateral. Whilst these are likely to be more expensive to finance, they do offer the recipient (the lender) a normally high quality and low risk form of collateral. Government bond markets were themselves under pressure however, with liquidity issues seen in North America and funding concerns in the UK, which led to the provision of support from the central bank community in the form of increasingly large and wide-ranging asset purchase programmes. Whilst providing much needed liquidity to allow key bond markets to continue functioning, these programmes also have the effect of taking securities out of the markets. As these programmes have expanded, they have also covered other fixed income asset classes, such as corporate credit, municipal debt and asset backed securities.

Securities lending markets have historically been at the leading edge when it comes to both thinking about collateral as well as automating the management of the collateral process. Securities lending markets in Europe were one of the first markets globally to embrace the use of equities as collateral, and through the use of independent tri-party agents a sophisticated network of services providers now support the industry. This means that although the past six months have not been without pressure points across the industry, the collateral infrastructure has worked well in supporting it through these challenging times.

We have for some time followed the development of collateral in our markets, and typically see a broad split between government bonds and equities; each asset class normally makes up between 40 and 45% respectively of all collateral held in European tri-party. At the time of our last report in December 2019, the split was 45% for both government bonds and equities, with corporate bonds making up the remaining 10%. At the end of June, the picture was very different.

Pressure was also seen in the derivatives markets more widely, where recently introduced Uncleared Margin Rules meant that for the first time many buy-side firms were grappling with their responsibilities to ensure that their derivatives exposures were appropriately collateralised. With many market participants using equities as collateral, the picture was further compounded by the sudden falls in equity market valuations that would have triggered further margin calls across all of collateralised markets

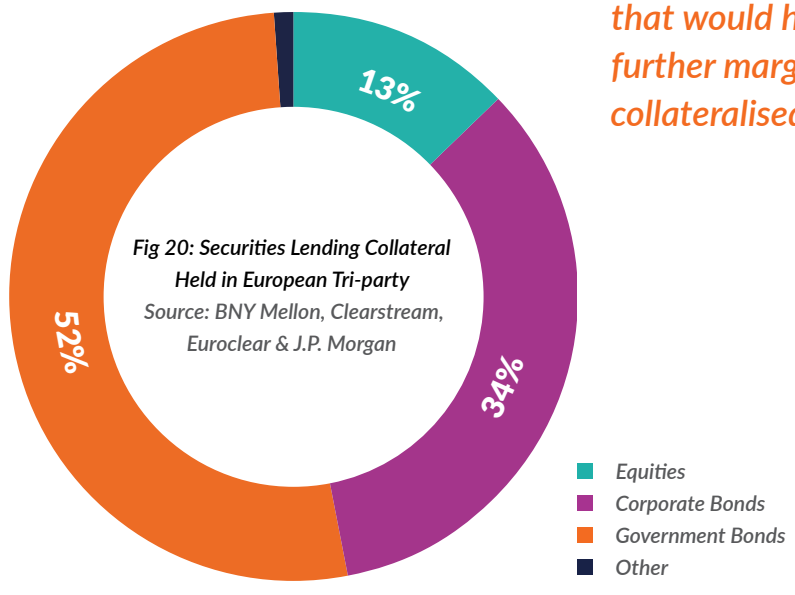


Fig 20: Securities Lending Collateral Held in European Tri-party
Source: BNY Mellon, Clearstream, Euroclear & J.P. Morgan

ISLA

Sentiment appears to have changed in the past six months with corporate bonds now accounting for 34% of all collateral held in tri-party. This is up from the 10% reported in December 2019, and is the highest concentration of this asset class we have seen since we started following these particular statistics in 2015

Not unexpectedly as equity markets came under pressure, with falling valuations, increased volatility, and a fall-off in equity positions held by hedge funds, the proportion of equities being posted as collateral fell dramatically to only 13% of all collateral. In the past where we have seen a decline in the use of equity collateral, we have normally expected it to be replaced with government bonds. Whilst the use of government bonds increased from 45 to 52% of all collateral pledged, it was not enough to cover all of the shortfall. As asset buy-back programmes pulled securities out of the markets, and many underlying institutional investors liquidated their holdings of government bonds, they appeared less prominent within the collateral eco-system than expected.

The most unexpected change in the last six months has been the renewed use of corporate bonds as collateral.

Following the 2007/08 crisis, corporate bonds fell out of favour as a collateral class, as some lenders experienced liquidity issues when trying to sell off against positions held with defaulting counterparties. Since then, there has been an apparent reluctance to embrace corporate bonds as collateral.

Sentiment appears to have changed in the past six months with corporate bonds now accounting for 34% of all collateral held in tri-party. This is up from the 10% reported in December 2019, and is the highest concentration of this asset class we have seen since we started following these particular statistics in 2015.

The increasing prevalence of corporate bonds is likely to have led to higher levels of over collateralisation for borrowers, as lenders would have demanded higher risk buffers to negate the liquidity risks associated with accepting this asset class. The use of corporate bonds may well have also led to higher fee levels, as lenders sought a more appropriate risk/reward ratio for these transactions.

What is not clear at this point is if this is a temporary shift away from equities towards corporate bonds, or whether this is a more permanent feature. We are aware that many hedge funds have actively sought to take positions in the corporate bond sector, and therefore some of these assets may well be finding their way into collateral pools.

The data we have does not tell us anything about the quality or liquidity of these assets, but we do know historically that corporate bonds sometimes trade less freely than mainstream equities or government bonds. This liquidity risk may well be managed by lenders or their agents through higher levels of over collateralisation (haircut), together with specific concentration limits to avoid lenders holding too much of a given issuer or issue. We will of course continue to monitor this particular data set over the coming months.

Another factor that can tell us something about the underlying cash and investment markets that sit behind securities lending collateral pools, is the dispersal of government bonds in tri-party by domicile.

During our last review in December 2019, we observed a fairly typical jurisdictional dispersal of government bonds in tri-party, with over half coming from Europe, and a further 35% being recorded as JGBs. The picture as at 30 June 2020 was very different. The use of European government bonds fell as a proportion of overall government bond collateral, but as the overall use of government bonds did increase, it was probably little changed in absolute terms. The use of JGBs fell in both percentage and absolute terms, perhaps reflecting some dislocation of the previous profitable basis-trading arbitrage between US Dollars and Japanese Yen. What is of note however in the latest outputs, is the sudden increase in the use of US Treasuries as collateral here in Europe. This has risen from 10% of all government bond collateral in December, to just under 30% in June - a threefold increase.

Ordinarily, US Treasuries are relatively expensive to finance, and are therefore used elsewhere within the financial ecosystem to reflect their premium value and ensure more efficient use.

Whilst it would be wrong to read too much into one data point, the use of US Treasuries in this way may suggest that other forms of collateral were exhausted, forcing borrowers to use premium assets.

As we look forward, it will be interesting to see if the use of corporate bonds will continue at the levels seen in June, and how any unwinding of the asset purchase programmes during the remainder of 2020 and into 2021 will affect the supply of available collateral.

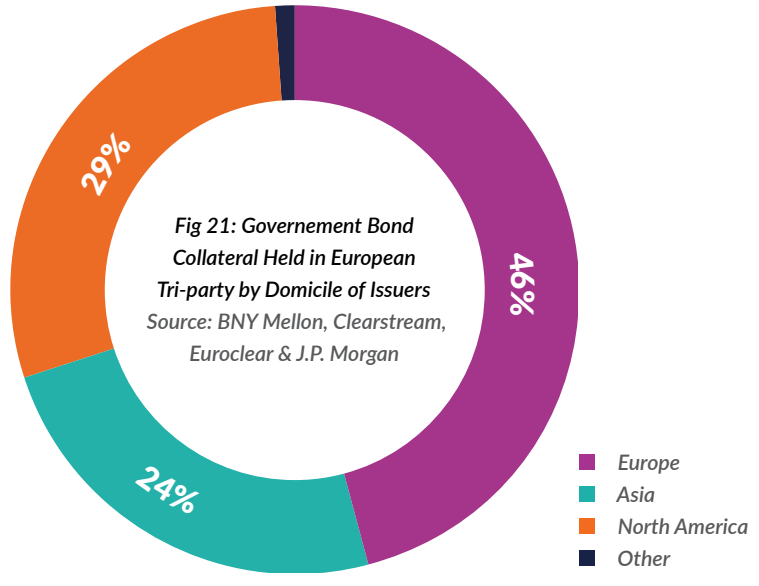


Fig 21: Governement Bond Collateral Held in European Tri-party by Domicile of Issuers
Source: BNY Mellon, Clearstream, Euroclear & J.P. Morgan

ISLA

Data Methodologies

This ISLA Securities Lending Market Report has been compiled using a range of data contributors together with specific information provided directly by our members through surveys and questionnaires.

We would like at this point to thank all of the various contributors for their efforts in assisting ISLA in the production of this report.

Loan information that includes details of securities on-loan across different asset and client types has been provided by three institutions that provide commercial data and benchmarking services for the securities financing industry.

DataLend, IHS Markit and FIS Global all collect data from industry participants on a high frequency basis and provide a range of securities lending benchmarking analytics that allow firms and their clients to better understand and assess the relative performance of any given lending programme.

Whilst each of these data providers covers broadly the same market we have chosen to use data from each to reflect the fact that each has a slightly different business model and client mix and therefore provide different perspectives across certain asset classes or regions.

By adopting this approach, we have been able to develop and publish the ISLA Global Securities Lending Aggregate.

This aggregate, that will be used to develop consistent trend indicators over time, has been compiled by combining information from each of the commercial data providers.

The aggregate was compiled to provide the most representative global estimation of the size and scope of the securities lending markets. In compiling the aggregate, we took the largest securities lending on-loan balance provided by the three commercial data providers as a starting point for the calculation.

This global on-loan balance was then adjusted to reflect incremental data from the other commercial data providers where their reported on-loan balances across different asset classes or regions created a more representative overall global number.

All regional and geographic analysis reflects the location of the issuer of the securities (as opposed to the location of the lender or borrower) as this is the basis on which the providers collect and analyse their data.

Data from the principal tri-party service providers active in Europe today is also incorporated within the report as part of our analysis of collateral.

About ISLA

Who are we?

The International Securities Lending Association (ISLA) is a leading industry association, representing the common interests of securities lending and financing market participants across Europe, Middle East and Africa. It has over 165 members, including institutional investors, asset managers, custodial banks, prime brokers and service providers.

What do we do?

Working closely with the global industry as well as regulators and policymakers, ISLA advocates the importance of securities lending in the context of broader capital markets. ISLA supports the development of a safe and efficient framework for the industry, by playing a pivotal role in promoting market best practice, amongst other things. ISLA sponsors the Global Market Securities Lending Agreement (GMSLA) and the annual enforceability review in over 65 jurisdictions globally.

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How do we do it?

Through member working groups, industry guidance, consultations and world class events and education, ISLA helps to steer the direction of the industry and is one of the most influential voices on the global stage.

Further details may be found at: **www.isla.co.uk**

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