THE PURPLE

A DATALEND RESEARCH PUBLICATION

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CONTENTS

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Jonathan Hodder
Global Head, Sales & Marketing
Publisher

Christopher Gohlke
VP, Marketing & Communications
Editor in Chief

Damian Antommarchi
Graphic Designer
Creative Director

Gary He
Marketing Associate
Production Assistant

DATALEND

Brian Lamb
CEO

Dan Dougherty
Dow Veeranarong
Global Co-Heads,
Business Development &
Product Management

Nancy Allen
Global Product Owner, DataLend

Chris Benedict
Director, Senior Analyst, DataLend

Robert Antelmann
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Matt Ross
Gareth Vass
DataLend Product Specialists

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Sean Menago
Arun Nunna
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Engineers

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DEAR READERS,

Welcome to the latest installment of The Purple! In the last issue I wrote about the growing importance of data, and how firms must leverage their own and industry-wide data in new ways to prosper in today's environment. In this issue, we delve deeper into the topic of data, emerging technologies and innovation throughout the securities finance industry.

On page 6, Ken DeGiglio, EquiLend's Chief Information Officer, identifies the inflection point currently transpiring in the fintech industry as shared ledger, artificial intelligence (AI), cloud-native platforms and other technologies help to revolutionize the way we do business. We then investigate how market participants are making the most of big data, supported by DataLend's strides in that space. Finally, we unveil details of The Pulse—Precision Analytics Powered by DataLend, the latest solution in the EquiLend ecosystem, which enables NGT members to optimize their trading activities better than ever before.

We are excited to be at the forefront amongst securities finance technology providers as we work to implement these and other forward-thinking innovations to enhance our clients' experience. As our clients have found since our launch almost two decades ago, the firms that adopt technologies such as ours, and whose staff embrace them, are the ones that continue to thrive.

I hope you enjoy this issue of The Purple!

Brian Lamb
CEO, EquiLend
brian.lamb@equilend.com

DEAR READERS,

Wow, issue five of The Purple! Time flies, and the DataLend product suite continues to evolve and grow. In this issue of The Purple, we focus more than ever on innovation, artificial intelligence and big data—fitting topics given the projects we have been focused on in 2018.

In summer 2018, we launched our brand-new application programming interface (better known as an API). Our first cloud-based DataLend product, the API is designed for utmost compatibility with many software languages and provides users with a powerful tool to easily access DataLend's market data without the need to maintain additional data storage.

As we go to press, we are in the process of releasing an enhanced version of our Excel Add-In tool, which leverages the cloud-based API and features a new and more intuitive user interface as well as new research functionality. The API and new Excel tool provide clients with the tools to more easily customize, visualize and incorporate DataLend's data into their proprietary systems and processes.

In addition to bringing our clients more innovative and efficient ways to access our 40 terabytes worth of market data, the DataLend team introduced a new and exciting analytics tool: The Pulse—Precision Analytics Powered by DataLend. The Pulse provides detailed analytics around NGT trade flow to provide our clients with the business insight needed to optimize trade flows and capture missed opportunities. We are continuing to enhance The Pulse as it quickly becomes an invaluable tool to a market embracing greater automation and efficiency.

As always, we are grateful for the strong partnerships we have developed with our client base, and we thank you all for your continued support and valuable insights, which we endeavor to incorporate into our products. We look forward to continuing to partner with you as big data is used alongside automation and AI to drive the securities finance market forward.

Nancy Allen
Global Product Owner, DataLend
nancy.allen@equilend.com

DATALEND PRODUCT SPECIALISTS

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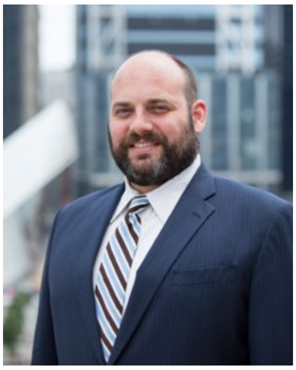


CHRIS BENEDICT
+1 212 901 2223
chris.benedict@equilend.com

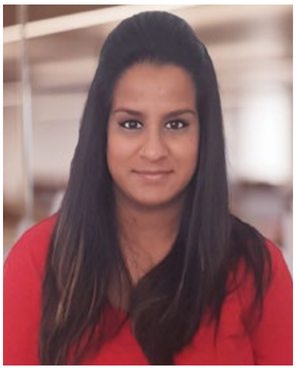
KEITH MIN
+1 646 767 4327
keith.min@equilend.com

JOSEPH PARASCANDOLO
+1 646 767 4363
joseph.parascandolo@equilend.com

MATT ROSS
+1 212 901 2299
matthew.ross@equilend.com

EMEA

TOM ASHTON
+44 20 3023 8376
thomas.ashton@equilend.com

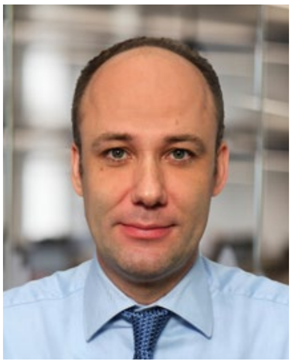


NIMISHA PATEL
+44 20 7426 4415
nimisha.patel@equilend.com

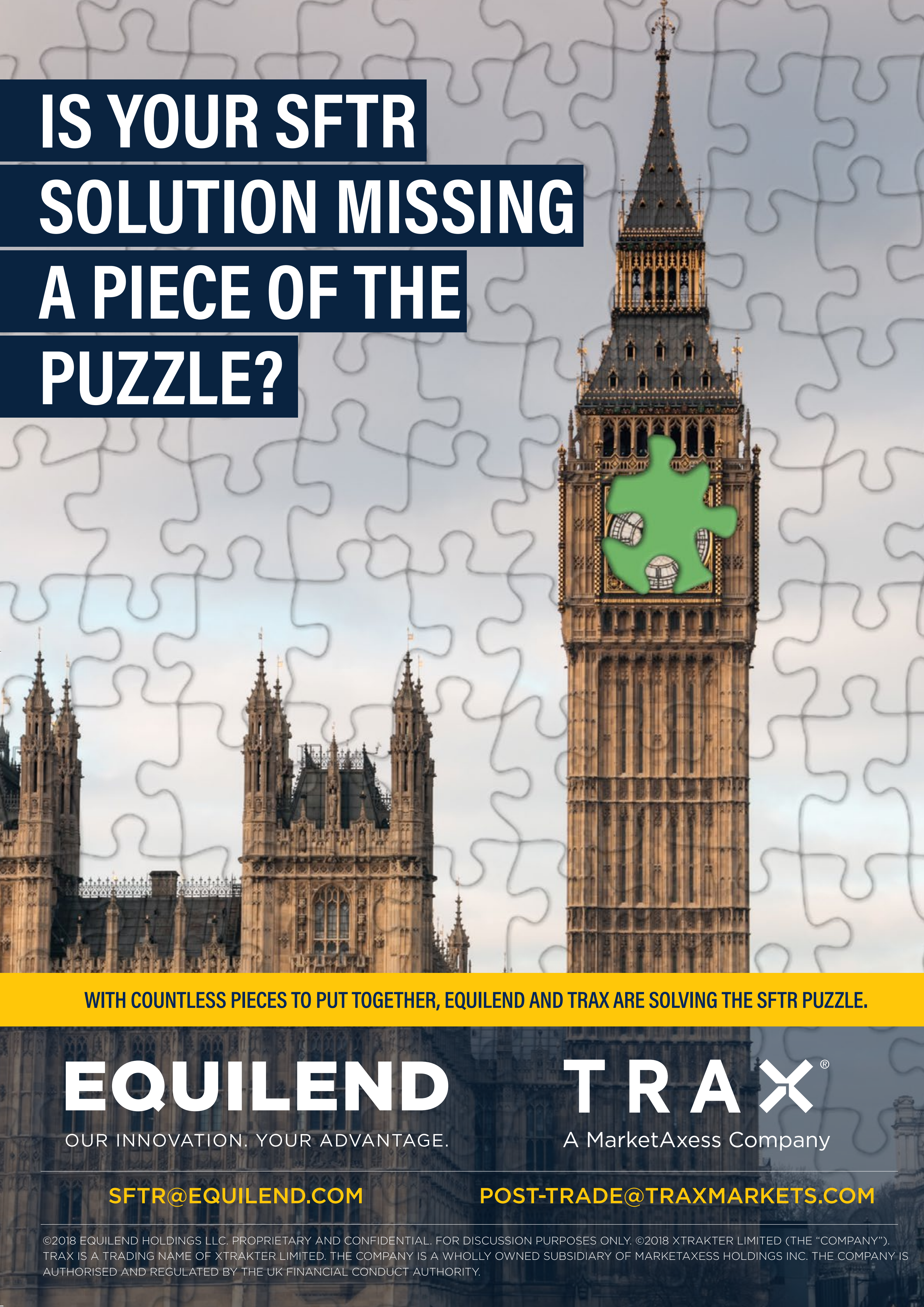
DAVID POULTON
+44 20 7426 4416
david.poulton@equilend.com

GARETH VASS
+44 20 3023 8379
gareth.vass@equilend.com

APAC



ROBERT ANTELMANN
+852 3101 7072
robert.antelmann@equilend.com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IN FINTECH, AN INFLECTION POINT

BY KEN DEGIGLIO, CHIEF INFORMATION OFFICER, EQUILEND

WHEN IT COMES TO technology investment, especially in the securities finance industry, firms are laser focused on driving down costs, maximizing efficiency and keeping up with evolving regulations.

When most technology investment by firms these days is directed toward these must-haves, emerging technology that may offer a competitive advantage oftentimes takes a back seat. Technologies such as machine learning and blockchain are real and valid and exciting, and they have the potential to truly revolutionize the way we all operate, but in all likelihood they will be more slowly adopted by securities finance market participants than some of the buzz would suggest.

That said, a technology provider such as EquiLend is ideally placed to incorporate these revolutionary technologies into services already used by firms throughout the industry—such as DataLend, NGT, Post-Trade Suite (PTS) or EquiLend Clearing Services—allowing our clients to benefit from this cutting-edge technology with minimal to no resource and monetary spend.

In fact, we are doing just that. We are currently building enhancements to both NGT and PTS that leverage machine learning, and we expect to extend the technology to our other services as well. We are also actively working on cloud deployments as well as implementing a shared ledger model that can be easily extended to leverage distributed ledger technology (DLT) and "smart contract" frameworks in the future.

DataLend is a shining star of how we have implemented forward-thinking technology for our clients' benefit. Since its inception in 2013, we have been thinking—and building—outside the box to develop tools throughout the DataLend suite of services that can help our clients gain a competitive edge through the richest data set in the securities finance industry. Examples include our options data-derived implied borrow cost module, our proprietary securities lending indices and our unique approach to peer group benchmarking, which has standardized performance reporting in our industry.

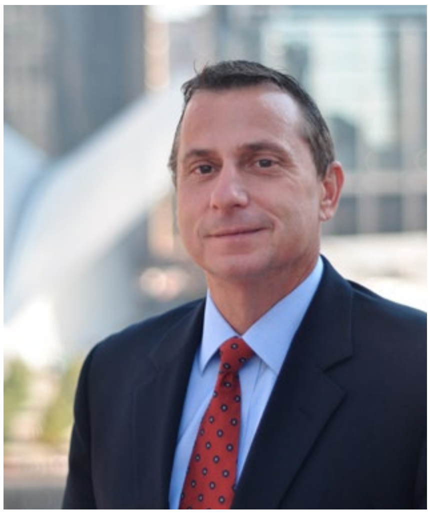
This is a true value-add for our clients. As with all of our services, we have always said that we will implement new features, small or large, as and when there is an appetite from the market to use them. Machine learning, shared ledger and other innovations are all examples of us listening to where our clients' pain points are and building technology to alleviate them.

These are exciting times in the fintech space. I have been in the financial technology industry for more than three decades. I can count on one hand the number of true inflection points there have been in this space through that time: the shift from mainframe to PCs and client server; the advent of the Internet and the World Wide Web; the migration to relational databases; the proliferation of mobile computing; and now the movement to cloud-native platforms.

These were all very gradual paradigm shifts. In the future, I believe we will see more rapid technological change as new, disruptive technologies emerge.

Ultimately, as technology is revolutionized and reinvented, firms will be able to redirect their staff toward more impactful activities as human-machine collaboration becomes more important than ever.

In the next few articles, we will examine these and other technological and data innovations in securities finance. ▲



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BIG DATA IN SECURITIES FINANCE

BY CHRIS BENEDICT AND TOM ASHTON, DATALEND PRODUCT SPECIALISTS

THE AMOUNT OF DATA IN THE world is increasing exponentially—by some accounts, doubling approximately every 18 months. This phenomenon has given rise to the term "big data," which some dismiss as another 21st Century buzz word. Yet those on the cutting edge of technology understand big data's true potential to transform the way most industries—from finance to healthcare to transportation and beyond—do business.

The objective of big data is not just to store and maintain vast quantities of data. Instead, it is the ability to meaningfully process huge data sets utilizing advanced analytical practices such as predictive analytics and machine learning to unlock information and insight. With advancements in technology and the costs associated with data storage and retrieval continuing to fall, these projects are no longer blocked by significant expenses. Cost saving is even more prevalent with the introduction of cloud computing, allowing firms of all sizes to engage in advanced analytics without significant hardware investment.

Some still view big data as a necessary evil that creates technological challenges and headaches; however, there are many benefits firms can realize from harnessing and efficiently using big data: cost savings from identifying more efficient ways to do business, reducing decision-making time, anticipating and responding to the needs of clients and quicker, more robust error detection and handling, to name but a few.

Big data can be used for such obvious business solutions as reducing time to payment in the accounts receivable department to more complex and potentially life-saving applications such as predicting lava flow vectors during volcanic eruptions. Big data permeates every aspect of our lives, whether we know it or not.

Combining big data with machine learning brings with it huge transformative potential across many industries, not least the financial sector. Banks are using data to their advantage by training algorithms to react to market trends, track trading volatility and manage assets on behalf of investors. This technology is able to spot trends (and divergences) much more efficiently than humans, and is also able to react in real time, thereby reducing any impact from major events—for example, by tracking and analyzing market volatility during a breaking global incident and halting, or drastically reducing, any trading activity to minimize risk. Banks also utilize these practices to minimize the risk of fraudulent transactions: Historically, banks would rely on analysts running complex SQL queries against massive data warehouses, which could take weeks or even months to provide any meaningful results. With big data, this has changed significantly, as these systems are now able to learn and become more useful as they ingest more data.

Consequently, these systems can pick out events that could suggest untoward behavior, allowing firms to act quickly and investigate, preventing situations from spiraling out of control.

Outside of the financial sector, Google has been utilizing big data for years across its various products. In 2015, Google introduced a "smart reply" functionality in Gmail. This functionality relies on two recurrent neural networks, one to process the incoming mail and the other to predict a set of canned responses based on the original mail's content. Gmail is not the only product to be on the receiving end of these machine learning concepts, with Google Maps applying deep learning algorithms to its Street View cars to analyze more than 80 billion photos and assist in extracting street names and house numbers, a task which would have been almost impossibly time consuming for mere humans.

In order to conceptualize what big data really is, one must understand the four key characteristics of big data, known as the "Four V's":

- Volume: how much data is being stored
- Variety: the different types of data being stored
- Velocity: the speed at which the data is generated and processed
- Veracity: how "clean" the data is

Volume

As noted, the volume of data in the world is increasing exponentially. The financial services industry historically has struggled with the issue of big data, and the securities finance market is no exception.

Since 2013, DataLend has accumulated more than 40 terabytes worth of securities finance data, which equals more than three million phone books worth of data (for those of us who remember what those were). A large volume of data typically causes trouble with velocity, or how quickly that data can be retrieved.

Velocity

The speed at which data is accumulated is constantly increasing. For example, NYSE is said to capture more than one terabyte of data each day. According to Forbes, around 1.7 megabytes of new information will be created every second for every human on the planet by 2020. It is important to return result sets to end users as quickly as possible; as a result, a large volume of data can cause data velocity issues.

Challenges around volume and velocity are usually answered by IT departments. Servers can be upgraded, queries can be optimized and network infrastructure can be improved to help alleviate these issues. But veracity and variety are usually tackled from a business perspective.

Variety

On the surface, a securities lending transaction looks pretty straight forward: a broker-dealer borrows a security from an agent lender and posts either cash or securities as collateral. However, there is a variety of detail that goes along with that transaction. Trades can be booked as open, or set to end after a specific date. Cash collateral trades can be booked against a variety of currencies, while non-cash collateral trades can be booked against a wide range of collateral, including corporate bonds, money market securities such as Treasury bills and U.S and international equities, to name a few. The fee or rebate rate associated with each transaction can vary widely, from GC trades of 10 basis points (bps) to extremely hot securities trading with demand spreads of 5,000 bps or more. Firms usually trade with numerous counterparts across many asset classes and geographic regions, necessitating specific settlement instructions. And so on.

All of these characteristics, and many more, need to be stored at the trade level and cross-referenced for performance or compliance reporting across a wide array of views. Since DataLend processes and cleanses over three million transactions per day, the variety of securities lending data stored over time can be quite complex.

Veracity

The volume, velocity and variety of data are meaningless if the data is not accurate. DataLend strives to ensure the cleanest, most robust and deepest data set possible in securities finance. This is achieved in part by employing multiple data cleansing

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algorithms to identify and segregate "outlier" trades, or transactions that do not represent normal market conditions based on the intrinsic lending value of a particular security. For example, broker-dealers lending securities to other broker-dealers may charge different fees compared to a traditional lender-to-broker transaction. Broker-to-broker fees can skew the market, so it is best to identify and segregate these transactions and report them as a separate market.

In another example, new loans may be booked incorrectly; algorithms to detect and flag higher-than-normal unit quantities, contract values or fees given current and historical patterns can help eliminate these erroneous values.

But the concept of data veracity is not always straight forward. There are times when certain types of valid transactions are viewed differently by different users. For example, fees associated with structured transactions may be seen as not representative of normal market conditions and dismissed as "noise" by some. Other users may deem these transactions of critical importance in their performance reporting metrics.

Market nuances, such as the disparity in fees to borrow Asian equities from onshore versus offshore lenders, also can be captured and segregated to show the differences and more granularity. In such situations, a fifth "V" is often quoted in the big data world: visualization. The ability to quickly retrieve accurate data is pointless if the consumer cannot comprehend it in its end state.

What all this means for the securities finance industry and consumers of market data is greater efficiency and more informed decision making. DataLend's Web portal provides traders, quantitative analysts, relationship managers and desk heads with all the functionality necessary to use securities finance big data to their advantage, as DataLend pre-calculates a wide array of securities lending metrics across approximately 50,000 individual securities on loan globally and provides trending information for any of them at the click of a button.

Using Big Data to Tell the Full Story

The ability to quickly view historic and current fees or rebate rates, utilization, re-rate trends, transactional-level data and many more metrics provides traders a platform to make better informed trading decisions. Traders and managers can also use this information to see where they are under- or over-performing from a borrowing or lending perspective, allowing them to take corrective action. All of this granular information can be aggregated and distilled to help determine a firm's most (or least) profitable and efficient trading partners, asset classes and/or markets.

Big data in DataLend can assist relationship managers in explaining performance results to their beneficial owner clients through the use of our robust Client Performance Reporting (CPR) tools, showing them performance metrics across asset classes, countries, sectors or even individual securities over customizable, user-defined reporting timeframes. CPR also goes one step further by running data through comprehensive peer comparison algorithms, allowing users not only to see their own performance, but how that performance compares to peers in pre-defined groups, organized by fiscal location, legal structure or by the type of collateral used.

These metrics can help relationship managers identify revenue opportunities for their beneficial owner clients, allowing them to have a better informed conversation regarding the risks and rewards associated with these opportunities.

Furthermore, securities lending traders are working more closely than ever with their collateral management teams as a result of big data. Previously, trading and collateral information was housed in separate systems, requiring an analyst to run queries to extract and combine that data. Now users can quickly retrieve both sets of information, allowing them to more easily determine if an asset should be used as collateral or lent out.

Using Big Data to Model Possibilities

Agent lenders can use big data to play "what if" when lending on an exclusive basis to estimate how much revenue a beneficial owner's portfolio might have made had it been lent on a discretionary basis at prevailing market rates. Traders can quickly see varying prices and rates between a depositary receipt and the underlying security trading in the local market to detect arbitrage opportunities.

Quantitative analysts process securities lending data related to hundreds or possibly thousands of underlying assets within an ETF versus the ETF itself to engage in more efficient and accurate statistical arbitrage trading. Traders on both the agent lender and broker-dealer side can run vast quantities of historic securities lending data through proprietary models to anticipate possible rate movements as a result of upcoming earnings surprises. Models related to these and other examples can be run again and again as more data is ingested, evolving to become more accurate over time (an example of machine learning).

Outside of the securities finance world, DataLend's big data can help asset managers from an investment perspective. The ability to quickly see various securities finance metrics across a portfolio helps to tell a story from both a long and short perspective. Increased utilization, short interest and volume-weighted average fees in a security usually signal increased short-selling pressure.

This information juxtaposed against a backdrop of fundamental and technical analysis may help an asset manager implement a strategy that would mitigate the potential near-term selling pressure. Analyzing recent price action in conjunction with a rising days-to-cover metric may signal an upcoming short squeeze, given the right catalyst. Comparative metrics can suggest a particular security is undervalued (or overbought) relative to its peers.

Historically, asset managers have not consumed much securities finance data to help make investment decisions; however, this is changing. More and more firms are gravitating toward non-traditional information sources, or "alt data," as a means to realize additional alpha, and securities finance data is rife with opportunity.

What's Next for Big Data

Taking big data a step further, cutting-edge firms are leveraging emerging technologies such as artificial intelligence to incorporate newly amalgamated sources of big data with sophisticated deep learning and predictive analysis applications. We will start to see the true benefits when questions no longer need to be asked to obtain desired information; instead, answers will be found to questions that were never before considered.

With the ever-increasing velocity at which data is being created, zetta (1 billion terabytes), yotta (1,000 zettabytes) and brontobytes (1,000 yottabytes) will soon become the language with which we describe data volume. The future of big data may still be evolving, but one thing is for sure: It will transform how organizations operate with and use data. Firms are getting better at interpreting big data, and as a result a huge paradigm shift is underway. ▲

FROM BIG DATA EMERGES PRECISION ANALYTICS

BY MATT ROSS, PRODUCT SPECIALIST, DATALEND

GLOBAL TRADING ACTIVITY on NGT, the leading trading platform in the securities finance marketplace, continues to rise as firms seek to automate as much of their activity as possible.

The platform now processes an average of $43 billion in trade notional from over 6.2 million trade requests across more than 60,000 unique securities each and every day (see Figure 1). What that means is NGT is home to a lot of data!

Financial institutions are focused on the consumption and interpretation of big datasets to make more informed trading decisions (see “Big Data in Securities Finance” on page 8). Gaining insight into NGT data affords EquiLend clients the opportunity to develop more efficient trading strategies.

To provide our clients with the most robust analytics available, EquiLend brought together DataLend’s powerful data processing and visualization know-how with NGT’s dataset to bring you The Pulse—Precision Analytics Powered by DataLend.

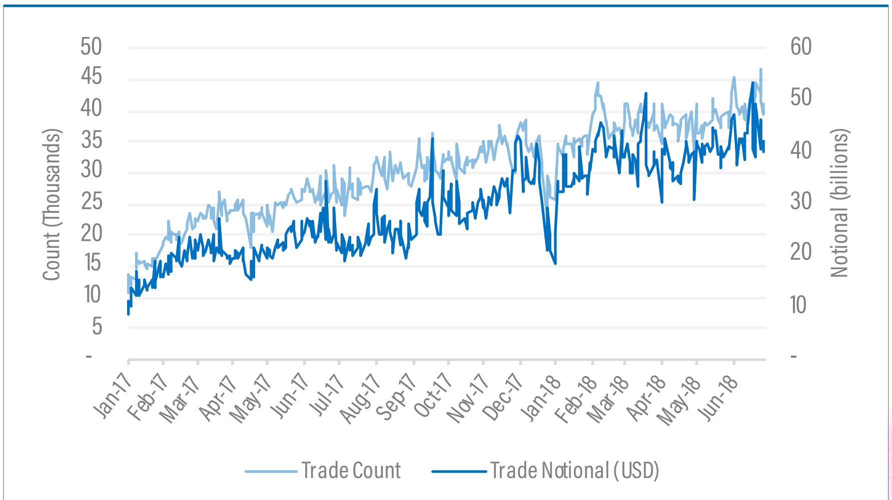
As technology and data continue to play a vital role in the financial world, MIS tools, like The Pulse, utilize big data technologies to help market participants interpret all of this information. The ability to recognize patterns and therefore drive decision making are two key aspects of good MIS reporting; many firms today are investing in new tools to view large datasets in an easy-to-digest manner. The Pulse was designed with these key concepts in mind.

The Pulse was built to help borrowers and lenders answer two questions: Who are my most active and efficient counterparts on NGT, and how does my firm, or desk, compare to the rest of the industry and my peers on NGT?

While The Pulse no doubt has succeeded in helping the securities finance industry answer those two questions, the functionality and use cases for The Pulse have grown exponentially and will continue to evolve as the market becomes more automated.

By leveraging DataLend’s security classifications, The Pulse allows NGT

FIGURE 1. NGT TRADE COUNT AND NOTIONAL



THE PULSE—PRECISION ANALYTICS POWERED BY DATALEND

participants to view their and the industry's activity on NGT across any combination of market, asset type, sector, collateral and fee band. That flexibility, combined with a quick, responsive and user-friendly Web-based user interface, allows subscribers of The Pulse to start asking and, more importantly, answering the right questions about their trading patterns.

The **Counterparty Heat Map** provides organizations insight into their largest and their most efficient trading partners on NGT. Trading desks and managers can use this tool to better understand trade flows across the IOI, Targeted Availability and Unsolicited Bids work streams at the counterparty level.

Why does this matter? Trading desks can leverage this data to identify which counterparts are sending high volumes of requests but generate low trade counts, and which counterparts may not be responding to trade requests at all. Viewing activity across all counterparts in one consolidated view allows desks to optimize trade flow and maximize opportunities.

The Pulse also allows traders to view counterparty details in the **Counterparty Trending** graph. With this slice of data, a trader can identify if changes to internal algorithms and thresholds will have a material impact on balances and efficiencies for each counterparty. Simple tweaks to borrowing and lending thresholds could result in a significant increase in hit-rate and revenue.

The Pulse **League Tables** allow both borrowers and lenders to rank themselves relative to their peers. Firms are constantly asking: Am I the fifth biggest participant in a market, or am I the first? Finding your position in a given asset class, market, sector or fee bucket is critical information for understanding where there is opportunity for gaining market share.

The **Market Share by Fee Bucket** graph has garnered a huge amount of interest from our clients. Intrinsic-only lenders can obtain insight to how they rank in that fee band, and for predominantly GC firms, The Pulse provides insight into the hard to borrow space and where there is potential market share to be gained.

The Pulse also arms NGT users with the information necessary to make a business case for capturing additional flow on NGT. Debating whether or not to enter into the IOI workflow on NGT? Use The Pulse to see not only the depth but also the breadth of activity being captured via the IOI workflow. Want to start borrowing or lending against non-cash collateral? Use The Pulse to see how many competitors are already participating in that space.

While The Pulse is already serving up large amounts of data, it is a living product that will continue to grow. Additional functionality will be added to The Pulse in 2018, including legal entity filtering and GC versus rate taker versus explicit bid filtering capabilities. Most importantly, transaction-level detail will be introduced across all NGT workflows.

With no end in sight to the expanding role that data will play in the financial markets, The Pulse will ultimately look to bring together all elements of the securities lending workflow from pre-trade decision-making to post-trade analytics. The DataLend team is excited to be bringing this new level of transparency to the market. ▲

CASH REINVESTMENT REVENUE IN SECURITIES LENDING

BY CHRIS BENEDICT, PRODUCT SPECIALIST, DATALEND

IT HAS BEEN 10 YEARS SINCE the financial crisis of 2008 caused some beneficial owners to suspend their securities lending programs and prompted many central banks to radically cut interest rates to record lows to stave off a financial depression. Much has changed since then. Beneficial owners have largely returned to securities lending, but with a new focus on more robust performance reporting, as well as viewing securities lending as an alpha-generating activity rather than something to help cover costs (as detailed in a survey of beneficial owners conducted in late 2017 by *Funds Europe* magazine in conjunction with DataLend).

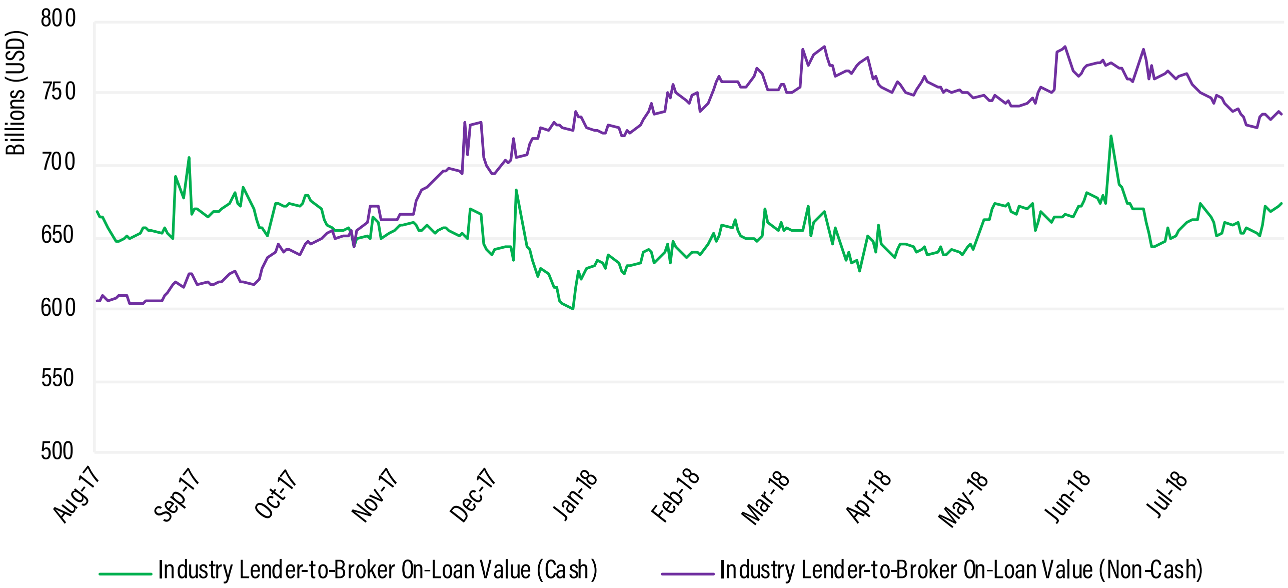
A host of legislation was passed to curb leverage, overly risky trading strategies and to increase market transparency. Non-cash collateral and term trades have increased as a result of new regulatory requirements and the need for balance sheet efficiency. In the United States, interest rates have finally begun their slow climb from near zero in the form of several rate hikes from the Federal Reserve that commenced in December 2015 and accelerated in 2017. As of this writing, the Overnight Bank Funding Rate (OBFR), which the securities lending industry generally uses as a benchmark for USD cash collateral-based rebate rate trades, stands at 191 bps.

Agent lenders may be able to make a few extra basis points for their beneficial owner clients by reinvesting the cash collateral pledged by broker-dealers borrowing their securities into a wide array of typically short-duration fixed income instruments.

DataLend investigated the impact that rising interest rates had on returns generated by cash collateralized trades. The net reinvestment rate, or "above-the-line" spread, is the difference between the gross yield and the benchmark rate; it essentially shows the additional revenue generated as a result of the assets purchased with the cash collateral.

When observing collateral type as a percentage of the global total on loan over time, it is no secret that non-cash collateral has been gaining ground. Thus far, this trend has not changed as a result of the recent interest rate hikes in the U.S. Figure 1 shows that in late October 2017, the U.S. reached a 50/50 cash versus non-cash collateral split, a big change from how U.S. securities lending long operated as a primarily cash-based market in the past.

FIGURE 1. CASH VS. NON-CASH COLLATERAL, U.S. SECURITIES, AUGUST 2017-18



The use of non-cash collateral pledged against U.S. assets continued to grow throughout the remainder of 2017 into 2018, where it most recently resided at a 53% non-cash versus 47% cash split. That differs markedly from the rest of the world, which currently shows approximately 85% of all outstanding loans booked versus non-cash collateral and only 15% versus cash. Thus far, it seems that the recent interest rate hikes have not caused agent lenders to switch gears and take more cash collateral when lending U.S. securities, most likely due to balance sheet constraints faced by their broker-dealer counterparties.

Revenue generation in the cash reinvestment space due to recent rate increases does not seem to be increasing from an absolute standpoint due to the continued decline in cash collateral balances, especially in the U.S. However, when comparing cash reinvestment revenue from the first half of 2018 versus the same timeframe in 2017, we do see a 10% revenue increase of approximately $84.8 million year over year. We also see an encouraging 42% cash reinvestment revenue increase of $163.3 million from Q1 to Q2 2018. Indeed, cash reinvestment revenue reached a three-year high of almost $543.9 million in Q2 2018. That suggests that cash reinvestment revenue is seeing a bump as a result of rate hikes despite a broader trend away from pledging cash as collateral in securities lending. Cash collateral trades may be becoming more profitable on a per-trade basis due to rising rates.

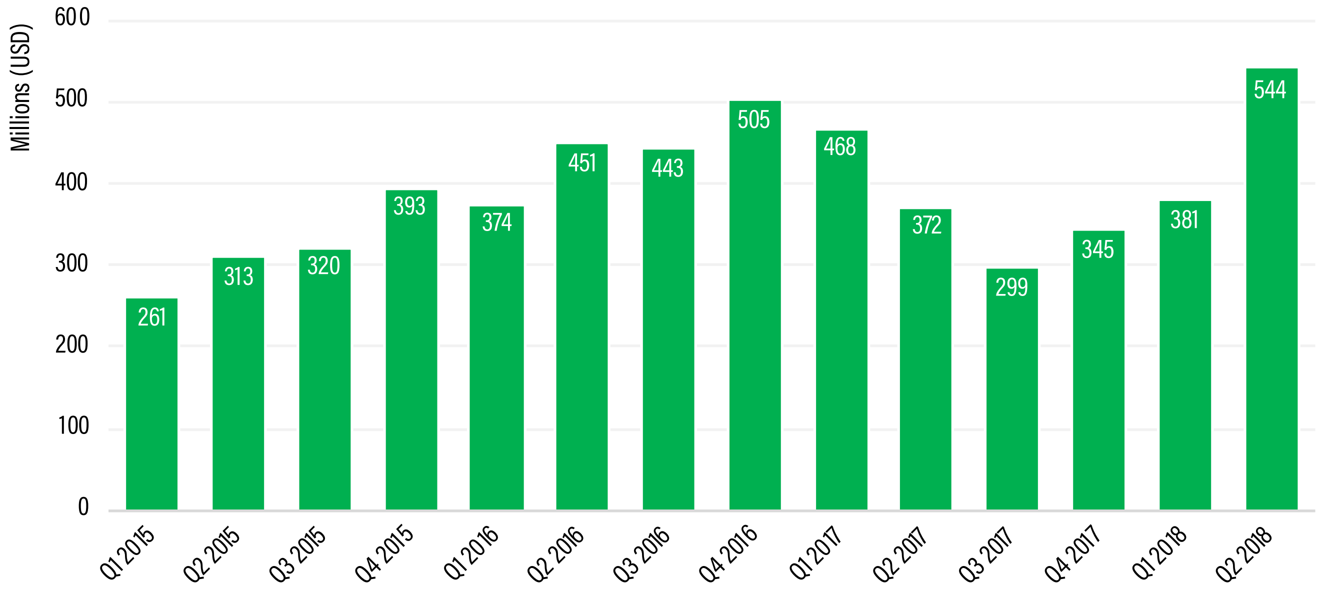
However, it is important to note that in a rising interest rate environment, rebate rates associated with cash collateral securities lending transactions are immediately updated to reflect interest rate changes; the cash reinvestment side may lag. This is due to reset duration mismatch. Overnight deposits and repurchase agreements will be reset after a day to reflect the interest rate change, but cash reinvestment in longer contractual terms or maturities will not have that option.

To further investigate trends in net reinvestment rates, DataLend researched how the net reinvestment rate looked across the major currencies within the securities finance space. After all, not every market is experiencing rising interest rates. Not surprisingly, for countries that experienced low and negative interest rates, their average net reinvestment rates were also low (or in some cases slightly negative). However, these examples represent an extremely small part of the cash reinvestment market, which is dominated primarily by the USD, and to a lesser extent CAD and AUD. While we see some fluctuations in the average net reinvestment spread for USD, the data shows that agent lenders are reinvesting cash collateral profitably for their beneficial owners, and generally the average net reinvestment spread appears to be on the rise.

Of course, there is more to cash reinvestment revenue than just interest rates. Duration of the reinvestment, as well as the cash reinvestment vehicle itself, will have a significant impact on yield. Given the recent trends, it would seem that cash reinvestment desks in the U.S. may have a more profitable year in 2018 than in years past. ▲

> “Cash collateral trades may be becoming more profitable on a per-trade basis due to rising rates”

FIGURE 2. CASH COLLATERAL NET REINVESTMENT REVENUE ESTIMATES BY QUARTER 2015-18



AUSTRALIA:
DOWN UNDER IN SECURITIES FINANCE

THE AUSTRALIAN EQUITIES market was placed third in Asia Pacific by market size behind Japan and Hong Kong, respectively, in 2017. The equities securities lending market in Australia is characterized by a decentralized network of bilateral relationships consisting of both onshore and offshore participants. A cost differential between onshore and offshore beneficial owners creates a premium for offshore supply on GC positions, with offshore rates averaging 68 basis points at the end of May 2018, compared to 56 bps for onshore. Typically, the offshore loan balance for Australian equities is roughly three times that of the onshore positions.

While Australia continues to be a predominantly GC market, the percentage of the market in the super GC range trading at 15 bps or below has almost completely disappeared. The proportion of securities trading up to 25 basis points has dropped from 78% of the market in 2017 to 66% of the market at the end of July 2018. Meanwhile, super specials, or those securities with fees above 500 bps in the securities lending market, have more than doubled from $271 million (USD) on loan, or 1.47% of the market, to over $700 million on loan, or 3.9% of the market. The largest increase has been in the warm space, from $1.1 billion on loan (6.26% of the market) to $3.4 billion (18.59%).

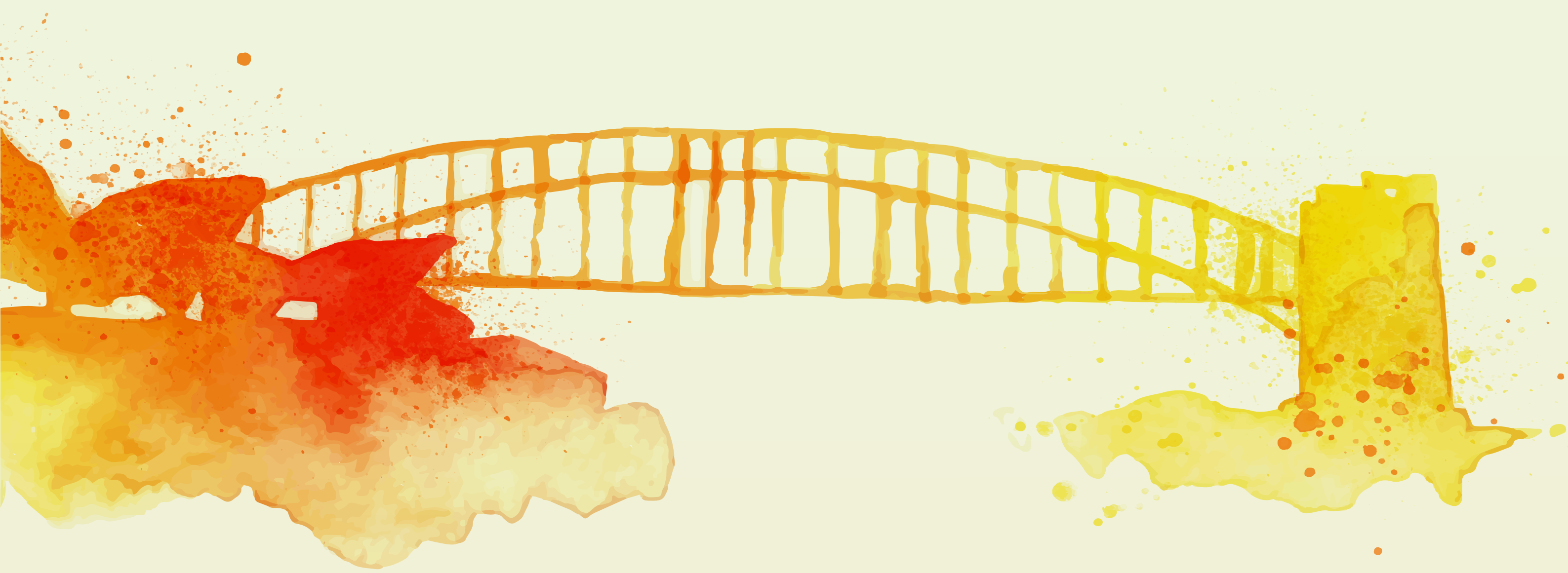
Rising Balances and Revenue

Australia saw a large withdrawal of participants from the securities finance market following the financial crisis, with the Australian Securities and Investments Commission (ASIC) banning both covered and naked short selling in September 2008. The ban on covered short selling was lifted after amendments to the Corporations Act, which required covered short sales to have a "presently exercisable and unconditional right to vest" the security being sold.

With current securities lending agreements providing lenders the right to cancel a trade at any point up to settlement, regulatory requirements to have unconditional right to vest has challenged the market. Further challenges around proxy voting for annual general meetings (AGM) and extraordinary general meetings (EGM) create a supply squeeze as domestic positions are recalled over AGM period in October and November each year.

The Australian equity market has seen loan balances steadily increase over the last three years from $13.3 billion at the start of 2015 up 52% to $20.2 billion as of July 31, 2018, on the back of both increased volumes and asset values.

For 2017, revenue across both equities and fixed income stood at $112 million. Rates averaged 45 bps with loan balances of $25.17 billion. The market is heavily dominated by the Consumer Staples, Consumer Discretionary, Financials and Materials sectors, comprising around 75% of loan balances as of July 31. JB Hi-Fi (JBH AU) and Harvey Norman (HVN AU) have some of the largest balances in the Consumer Discretionary sector as the companies face concerns over consumer demand amidst a cooling housing market and as Amazon enters the local market. The big four banks in Australia—The Commonwealth Bank (CBA AU), Australia and New Zealand Bank Group (ANZ AU), Westpac (WBC AU) and National Australia Bank (NAB AU)—have all come under pressure on the back of



BY ROBERT ANTELMANN, PRODUCT SPECIALIST, DATALEND

the Royal Commission investigating misconduct in the financial services industry. The Mining sector continues to face adjustment after the mining boom, while concerns over how a trade war between the U.S. and China would impact Australia's largest trading partner, China, weighs on the likes of BHP Billiton, Rio Tinto and Amcor.

Fixed Income

The Australian fixed income market exhibits a concentration around high-grade instruments of sovereign and agency debt, similar to trends observed in the international market. The concentration around this government-issued debt is largely due to regulatory factors, such as Basel III, and the impacts on the balance sheet of holding high-quality liquid assets (HQLAs).

Issuances across Australian government securities have seen a significant increase since 2008; as a result, the federal deficit has ballooned from around $60 billion (AUD) in 2008 to over $500 billion (AUD) in 2017. The increased issuance and corresponding market size have attracted both domestic and offshore institutional participants to the local bond lending market.

Collateral

Regulatory changes globally, including a push to central clearing in the derivatives market, have raised both the demand and cost of collateral. The importance of collateral management has become a key part of any securities lending program. While historically Australian collateral has been transacted on a bilateral basis, the role of tri-party agents in the market has increased in recent years, as has the increased diversity of eligible collateral. Both globally and domestically, the use of non-cash collateral has risen. Cash collateral balances against Australian equities are down 14% since the beginning of 2015, while non-cash balances have increased 84% to $16.4 billion.

Australia is well placed against its global peers in terms of collateral flexibility, with a more balanced acceptance of both high- and mid-grade collateral across sovereigns, corporates and equities. An analysis of Australian-domiciled beneficial owners found that only 1% took cash collateral only. The majority, at around 80%, accepted both cash and non-cash, with the remaining 19% taking non-cash only. Within the non-cash space, high-grade collateral of AAA- to A-rated debt was accepted by 25% of participants, while 20% approved primary equity index securities. Fifty-three percent accepted sovereign debt less than A rated, with only 2% accepting A-grade corporates or other equities.

The Australian market continues to be an important part of the Asia-Pacific securities finance market, exhibiting a mix of both onshore and offshore participants across both equities and fixed income. Australia is a relatively developed market when compared to other countries in the Asia region and thus GC in nature; the rate of return does not compare to Korean or Taiwanese securities, but increased participation and market value in Australia have driven up balances and revenue relative to its peers.

For more on the Australian market, see the infographic on the next page.

AUSTRALIA:

DOWN UNDER IN SECURITIES FINANCE

FIGURE 1. AUSTRALIAN EQUITIES ONSHORE VS. OFFSHORE AVERAGE FEE TO BORROW (BPS)

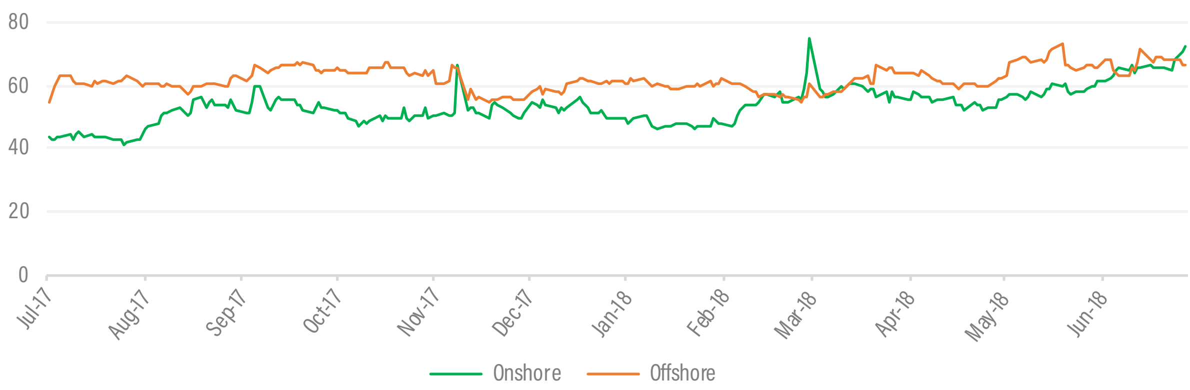


FIGURE 2. AUSTRALIAN EQUITIES ONSHORE VS. OFFSHORE LOAN BALANCE (USD)

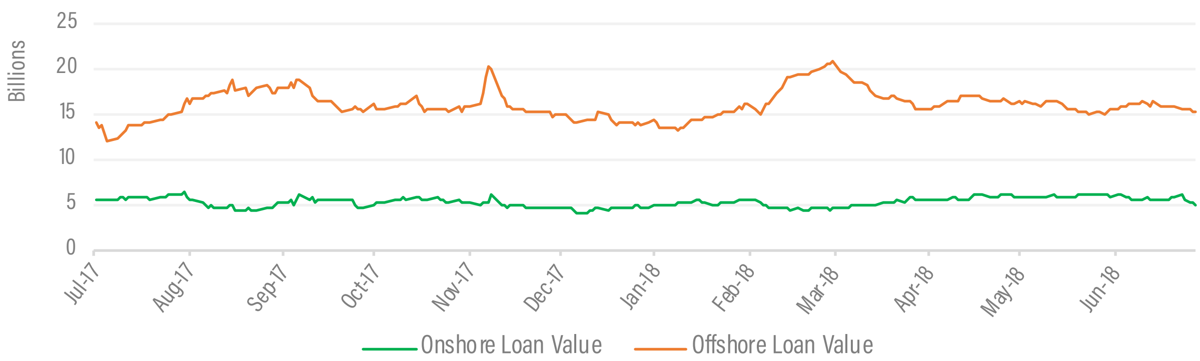


FIGURE 3. AUSTRALIAN EQUITIES ON-LOAN BALANCE (USD)

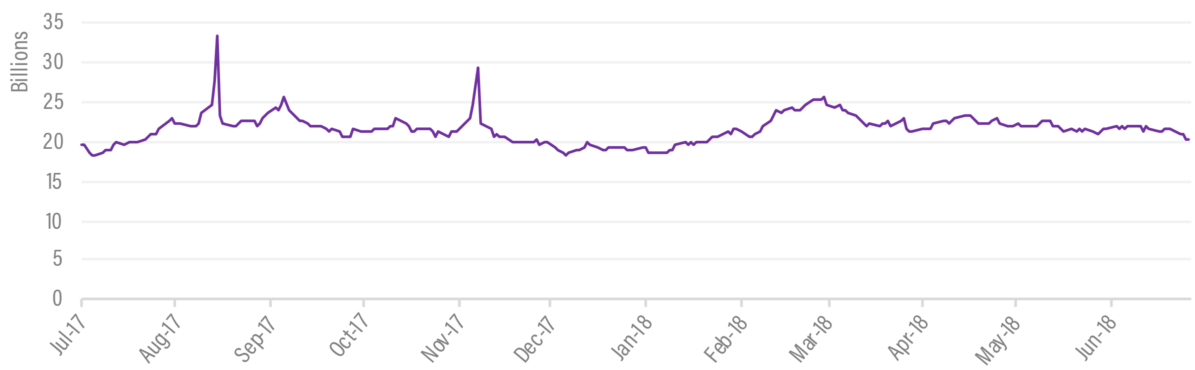


Figure 4. Australia Average Loan Balance by Sector, H1 2018 (USD)

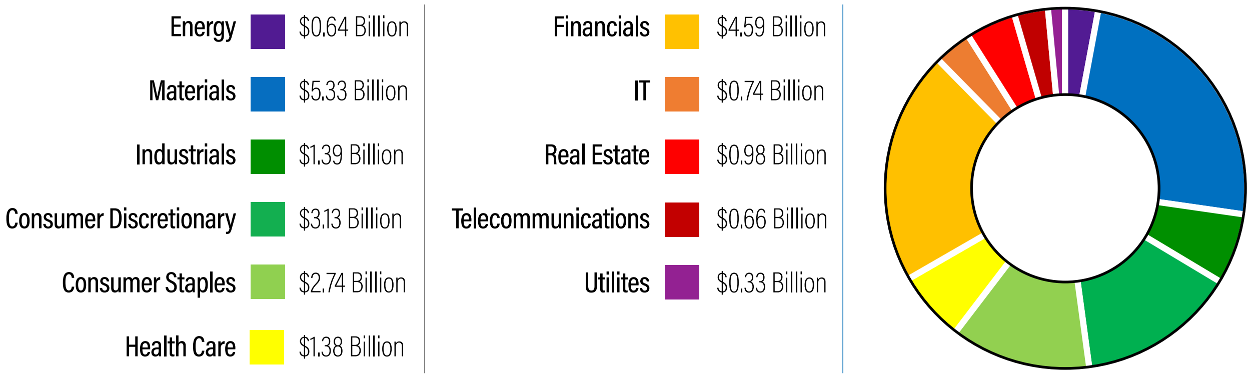


FIGURE 5. AUSTRALIA FIXED INCOME ON LOAN BY INSTRUMENT TYPE

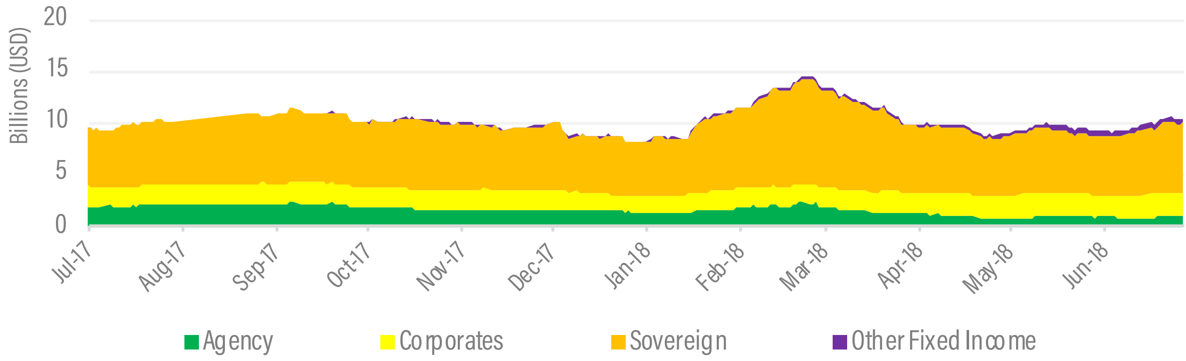


FIGURE 6. AUSTRALIAN EQUITIES CASH VS. NON-CASH COLLATERAL BALANCE (USD)

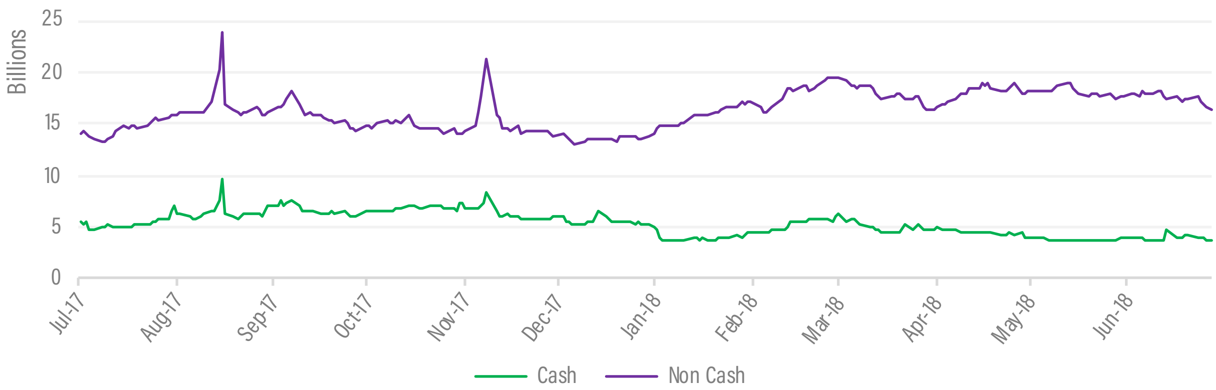
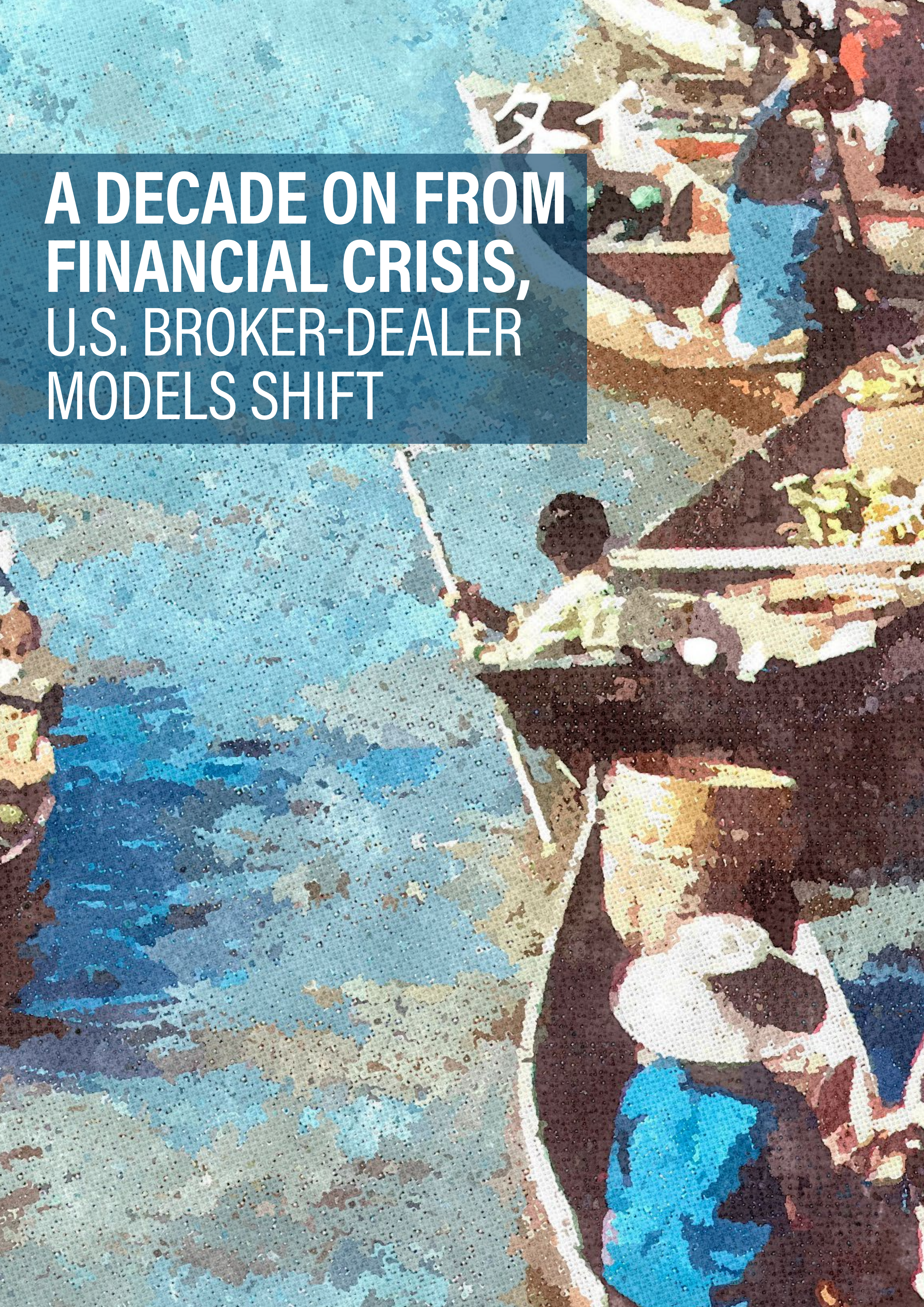


FIGURE 7. AUSTRALIA BENEFICIAL OWNER BREAKDOWN BY COLLATERAL ACCEPTED

<table>
<tr><th>CASH ONLY</th><th colspan="2">MIXED COLLATERAL</th><th colspan="2">NON-CASH COLLATERAL</th></tr>
<tr><td>1%</td><td colspan="2">80%</td><td colspan="2">19%</td></tr>
<tr><td></td><td>SOV1</td><td>+EQUITY1</td><td>+SOV2, CORP1</td><td>+CORP2, EQUITY2, OTHER</td></tr>
<tr><td></td><td>25%</td><td>20%</td><td>53%</td><td>2%</td></tr>
</table>

Sov1 - Investment-grade sovereign debt, AAA-A rated **Sov2** - Below A-rated sovereign debt **Corp1** - Investment-grade corporate debt, AAA-A rated **Corp2** - Below A-rated corporate debt **Equity1** - S&P 500 or equivalent major index constituent **Equity2** - Any other equity that is not a member of a major stock index **Other** - Any other collateral not defined above

A DECADE ON FROM FINANCIAL CRISIS, U.S. BROKER-DEALER MODELS SHIFT



BY TIM KEENAN, FIXED INCOME STRATEGIST, BONDLEND

IN 2007, PRE-CRISIS, BANK balance sheets were large and supported client flows both on the long and short side. On one hand, dealers had large cash inflows from mutual funds, asset managers and banks (to whom they supplied collateral). On the other hand, they were buying (reversing) inventory (collateral) from hedge funds, lenders and their own large proprietary trading desks.

Dealers were willing to make prices to retain current business and to take on new business. They played the role of a true intermediary, buying collateral at a high price from one side of the market and selling it to the other side of the market at a lower price.

Make no mistake, dealers played a very valuable role. They provided two primary services that allowed them to effectively operate in that environment: credit intermediation and term market intermediation.

As a credit intermediary, a broker-dealer will stand between two counterparties that would likely not be able to deal with one another. For example, cash providers—securities lending cash reinvestment desks, mutual funds, pension funds—typically cannot get credit limits with the other side of a dealer's trade—accounts that need cash, namely hedge funds, REITs and other similar firms. As a result, dealers step in the middle of those two counterparties and in that way play the role of a credit intermediary.

As a term market intermediary, dealers will provide all of their counterparties the desired term of the transaction that their client needs. For example, in most cases, cash providers wanted to keep their investments very short, with the majority of cash investor trades termed overnight out to one week.

However, dealers often had terms of a month or longer with other counterparties. Hedge funds, REITs and other counterparts need longer-term funding mandatory from dealers, if they want the business. So dealers effectively took the mismatched risk between overnight and term dates to make prices for both sides of the market—a very valuable role indeed.

In the run up to 2008, dealer balance sheets ballooned. Clients were investing in riskier assets, because dealers issued inventory and supplied the balance sheet to fund these purchases. It has been argued that this behavior, which in part became known as the shadow banking market, was a factor that precipitated the crisis.

As the financial crisis roiled the global markets in 2008, the business models of these dealers were about to fundamentally change.

THE GLOBAL REPO MARKETS have seen enormous change in the last decade, not only in structure but also in volume. This has had a considerable impact on the U.S. dealer community.

Figure 2 on the next page highlights the shrinking repo market over the last five years. Bear in mind, the total volume of fixed income securities issued and outstanding has not substantially changed in the past decade.

What caused the shift? The decline is due in part to a market program that took securities out of the traditional repo market: the Federal Reserve's Quantitative Easing Program, a massive expansion of the Fed's open market program. The Quantitative Easing Program involves the central bank buying massive amounts of securities from its member banks, thereby adding extraordinary amounts of money into the economy.

Where did the money come from? Basically, from thin air. The Federal Reserve simply printed money to stimulate the economy. The Fed added $2.1 trillion to the economy from the end of 2008 through 2014. In a nutshell, that explains away $2.1 trillion in securities missing from the repo market—the Fed took them out of circulation through Quantitative Easing.

What happened to the money that had been funding those securities pre-crisis? The Federal Reserve Bank had an existing program to accept bank deposits.

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Traditionally, the rate paid on those deposits was well below market rates, and the facility had been looked at as a last resort prior to 2008. However, to avoid a market imbalance, the Fed changed the rate paid on those reserves to a much more competitive rate. As a result, from the end of 2012, balances in this facility grew extraordinarily, and currently sit at \$2.1 trillion while paying a rate of 1.75% (as of March 2018), according to Bloomberg data.

Another mechanism that pulled money out of the traditional repo market was the Fed's Reverse Repo Program. Originally established as temporary, the program has become a recognized market facility that does not appear to be leaving the market any time soon. While this program has had less of a detrimental impact on the traditional repo market—balances hit \$450 billion at their peak, and more recently have stood at between \$25 billion and \$75 billion daily—it is still a considerable chunk of change redirected out of the traditional repo market.

WHILE dealers continue to play a crucial role in the market, they have had to shift their business models to survive—and indeed thrive—in this post-crisis era, particularly amidst a shrinking repo market.

Reacting to the disruption in the repo market, dealers have had to pare down the counterparts they deal with and "reprice" the business they transact to reflect the new regulations, the ballooning cost of balance sheet and the encroachment of the Fed programs.

The new model seems to be working. Anecdotally, many dealers have seen substantial increases in P/L in recent years, which shows that once the house cleaning was done following the crisis, they were able to put on profitable trades with the clients that they remained willing to deal with. ▲

Tim Keenan is a director and global fixed income strategist at BondLend. He has more than 30 years of experience in the fixed income securities lending and repo markets and has worked on lender, broker and technology desks in New York, London, Tokyo and Sydney.

U.S. Repo Market: Key Facts

CURRENT REPO MARKET SIZE:

\$2.3 trillion

PEAK REPO MARKET SIZE:

\$5 trillion

The collateral types that make up the current \$2.3 trillion repo market are:

- U.S. governments 54%
- Agency mortgage-backed securities & CMOs 26%
- Equities 7%
- Corporates 5%
- Non-agency ABS & MBS 3%
- Agency securities 2%
- Other 3%

The operational mechanisms that the collateral is traded in are:

- Bilateral delivery
- Tri-party
- Dealer to client
- GCF (General Collateral Finance)
- Anonymous dealer-to-dealer finance
- Tri-party settled

FIGURE 1. TRADITIONAL MARKET SETUP PRIOR TO 2008

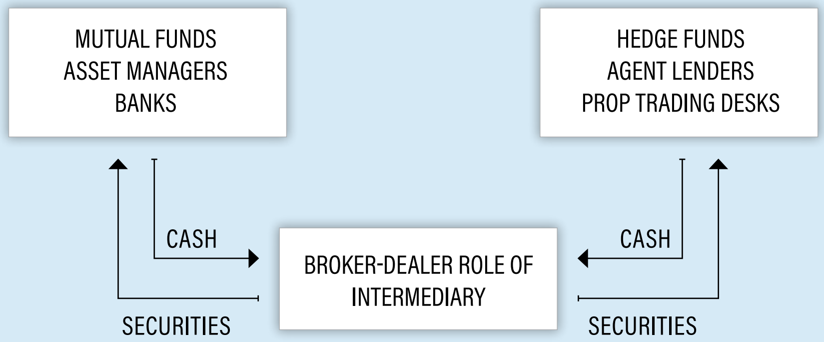
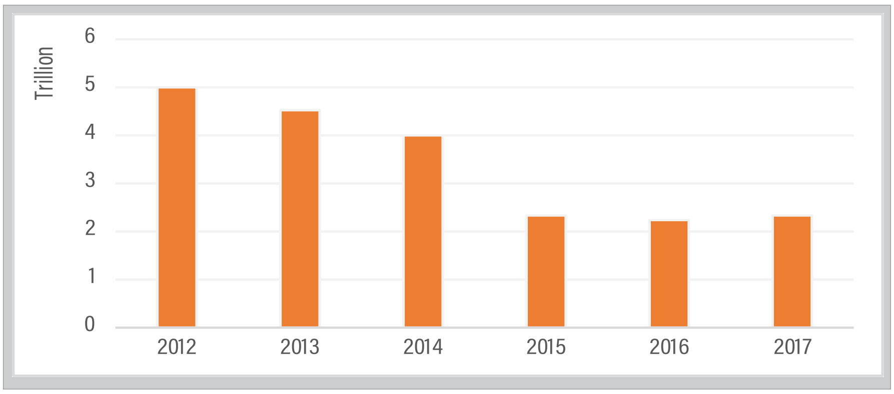


FIGURE 2. U.S. REPO MARKET SIZE



SOURCES: SIFMA, FEDERAL RESERVE BANK OF NEW YORK

AROUND THE WORLD IN SOVEREIGN BONDS

INDEPENDENT SOVEREIGN BOND ANALYST **CLAIRE MEIER** AND DATALEND PRODUCT SPECIALIST **GARETH VASS** INVESTIGATE THE BOND MARKETS OF THE U.S., LATIN AMERICA AND EUROPE AMIDST A BACKDROP OF TRADE WARS AND RISING INTEREST RATES.

THE GLOBAL ECONOMY IS going through yet another period of change. Shifting trade relationships and the threat of an outright trade war are weighing on the global outlook for growth. Whether current changes in tariffs are permanent or escalate further is up for debate, but the saying "buy the rumor, sell the fact" is apt here. The mere talk of trade wars is moving global growth expectations and market reactions.

At the same time, there is no need to rely on rumors to ascertain what central banks are doing. Most major central banks have begun, or articulated that they are likely to begin, removing the exceptionally accommodative policies that have supported growth since the financial and sovereign debt crises. Economies are not as homogeneous in their recovery as they were in contraction. Central banks are struggling to create bespoke policy in a global economy dominated by U.S. Federal Reserve action.

United States

The Federal Reserve began raising rates in December 2015, but the very gradual pace of those hikes dissipated any real global concern or outsized reaction. The market got its withdrawal from easing money out of its system when then Fed President Ben Bernanke announced tapering, and the market reacted with its "tantrum."

After that episode, the market seemed able to digest the hikes. The Fed hikes accelerated in 2017 and have continued that momentum thus far. The debate now begins about when the Fed will stop and what it means for the dollar. The Fed is still expected to hike one more time in 2018, but developments in the trade war arena may weigh on the appetite to continue hiking after that.

Dollar strength picked up after hitting lows with the global volatility in February 2018 and has been gaining momentum ever since. The U.S.'s humming economy and outperforming stock market as well as attractive bond yields compared to other developed markets contributes to the USD appeal. If the trade wars dent the Fed's desire to hike rates, it could also take the shine off the USD, but there are few other attractive options at the moment.

Across the globe, central bank policies, political uncertainties and greater market volatility have all contributed to increases in on-loan balances in the securities lending market compared to last year. While average fees in the global fixed income market are down a couple basis points, the increase in loan balances of 26% more than makes up for this in revenue earned. The U.S. sovereign bond market, the largest in the world, is central to this increase; the on-loan value of U.S Treasurys (UST) has increased by 15% year on year (see Figure 1).

Five main factors all contribute to the demand for USTs: short covering, funding, high-quality liquid assets (HQLA), cross-currency basis and specials. The increasing rate environment provides opportunities for dealers to take directional views on interest rates rather than being range bound. It also provides opportunities for larger spreads for lenders who take cash as collateral and reinvest the proceeds. On-loan balances versus cash collateral are up 12% in 2018 compared to 2017.

The demand to borrow USTs versus non-cash collateral has also increased substantially, up 15% in 2018 compared to 2017. Increased non-cash collateral usage is being driven by several main factors. The first is the regulatory environment, both from a balance sheet perspective and liquidity ratio, with dealers paying to swap their high-capital-cost, lower-rated bonds for HQLA. The other factor is the cross-currency basis, in particular USD/JPY; this has become narrower this year but still remains a driving factor in the demand for USTs to be able to generate USD cash to swap in the forward foreign exchange (FX) market.

The last main driver is the specials market—bonds that are in specific demand trading at higher fees than general collateral (GC). However, the recent supply issuance of bonds and notes has limited the amount of bonds trading with considerably more value than GC. Just over 90% of USTs trade in the 0 to 20 bps fee range.

While the degree to which these factors will fluctuate over time is up for debate, the strong demand for USTs seems likely to stay and provide securities lenders with a core revenue stream.

Emerging Markets

The Fed rate hikes have far-reaching implications for the rest of the world, none more so than the countries that have USD-denominated debt and volatile domestic stories. Mexico, Brazil and Argentina are all such examples, and have seen the servicing payments increase substantially due to rate increases and a plunging local currency versus the dollar. The electoral cycle in particular has put pressure on Mexico.

Polls correctly foresaw the election of three-time left wing candidate Andrés Manuel López Obrador (aka AMLO) to the office of president on July 1, 2018. AMLO's party, Morena, became the biggest party in the Senate and the Chamber of Deputies as voters expressed their desire for change.

Investors got comfortable before the vote, and Mexican bonds rallied 40 bps ahead of the vote. Now investors are likely to take a pause before jitters return around what AMLO and Morena will do with their newfound power. It remains to be seen if the new administration will choose the Venezuela or Brazil path, though current market levels and rational deduction suggest Brazil.

This rate increase and political pressure creates uncertainty, resulting in rising utilization rates in the securities finance market—up from 6% in September 2017 to just under 12% in August 2018. On-loan values of Mexican sovereign bonds have been going up steadily throughout the year and are currently at approximately $1.4 billion, all on open. The average fees paid follow the political pressure cycle: A greater percentage of bonds trading in the 20 to 50 bps in the run up to the election represented uncertainty, whereas from July we have seen a greater percentage trading in the 0 to 20 bps range (see Figure 2).

The old adage that Mexico and Brazil can never perform at the same time is ringing true currently. While the Brazilian economy rebounded strongly post its 2015 and 2016 recession, domestic politics are putting pressure on growth while global trends are shifting investor appetite away from Brazilian assets.

The general population is disenchanted with its political class and will likely use the general elections in October 2018 to express that view. The run up to the election and the result is likely to increase market jitters at a time when demand for Brazilian assets is already wavering. Brazil is likely to suffer due to the allure of a strong dollar on the back of continued hikes from the Fed, while the Banco Central do Brazil looks set to hold rates at 6.5% for the medium term.

Brazil's central bank also takes a very active stance to try to contain volatility outside of the traditional rate setting environment. It announced in mid-2018 a range of operations, including FX swaps, repo and bond sales. This has fed through into the securities lending market, with available lendable values falling from a high of $5 billion down to under $4 billion in under a year. Political, currency and market volatility all weigh on the securities lending market for Brazil sovereigns: On average, 80% command a fee of 20 bps or more.

Argentina also largely escapes from any explicit trade war contagion but does not share the same fiscal and political stability as its neighbors.

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Argentina is working through the necessary adjustments to recreate an open and market-friendly economy after years of distortion, but those adjustments are painful, and the government may not survive the implementation process. Some of the work has paid off, however, as the stock market has been announced for promotion to the main Emerging Markets indices by MSCI in May 2019.

The Argentine central bank is actively engaged in supporting the peso amidst serious market pressure. The central bank has raised rates to 45% in August from 33.25% in May 2018. Uncertainty is still being felt in the securities lending market, with lendable values down approximately $3 billion, with clients restricting or selling out of underlying positions. The volatility is also reflected in the approximately 86% of Argentinian sovereign bonds trading above 20 bps, and a third trading between 50 to 250 bps (see Figure 3).

United Kingdom

Since the actual day after the Brexit referendum in March 2016, U.K. markets have been largely immune to the constant political noise around the country leaving the U.K. The Sterling story has been one more of U.S. dollar strength than Sterling weakness. While the Fed has been actively raising rates, the Bank of England (BoE) has only managed to add 50 bps since its post-referendum cut. The last 25 bps comes on the back of contained inflation, albeit higher than its 2% target, and is garnering much criticism as the Brexit day approaches and no deal is in sight. Brexit might finally be beginning to influence the markets instead of just dominating headlines, but current market movement isn't overwhelming yet.

The securities lending market data also backs up this subdued nature in the Gilt market, with 75% of the £54 billion loan value trading between the 0 to 20 bps and the remaining between 20 and 50 bps. The overall lendable value and the utilization have remained practically unchanged from 2017 to 2018. The Sterling repo benchmark, which measures the effective cost of funding for U.K. government bonds, is relatively stable throughout the period, implying no real Brexit worries—in the short term at least.

Europe

The media fixation on Brexit peters out quickly as one crosses the channel to the continent. The European Union has recently added the possibility of a trade war to its mix of domestic and

FIGURE 1. U.S. TREASURY ON-LOAN VALUE (USD)

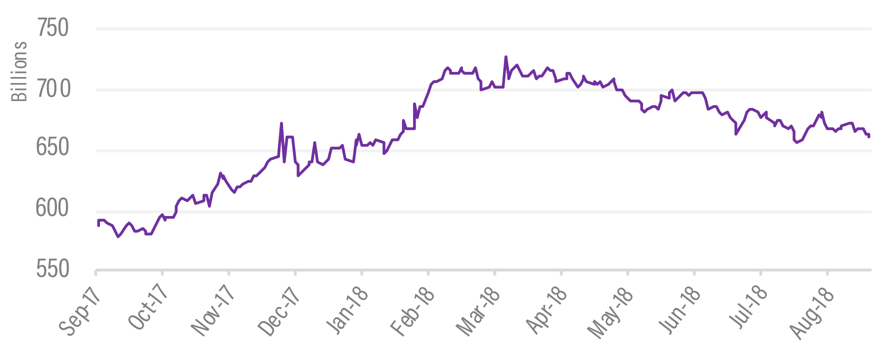
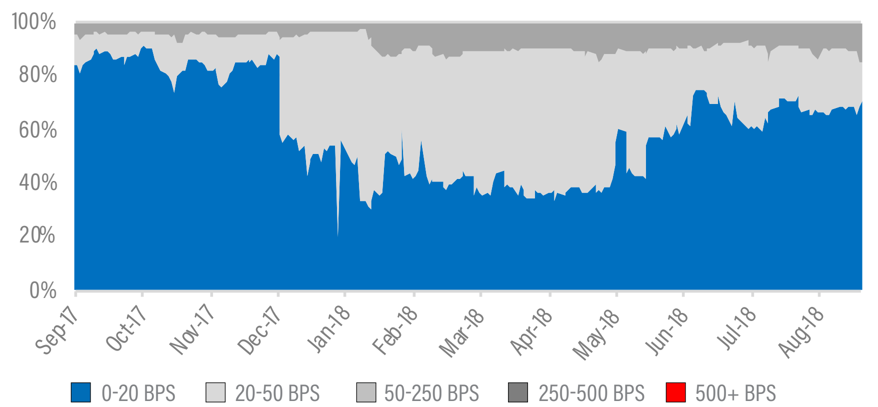


FIGURE 2. MEXICO SOVEREIGN FEE BAND AS A PERCENT OF LOAN BALANCE



institutional challenges; it, however, does not have the stress of an eager central bank. The European Central Bank (ECB) announced an end to its quantitative easing program at its meeting in June 2018, but it will be a gradual move and one that is likely to be halted should there be any hiccups in the form of disappointing data. The ECB plans to begin tapering purchases in September 2018 and end the program completely by the end of 2018. Rates are unlikely to move before the second half of 2019.

The euro strengthened on the back of dollar weakness during the February 2018 volatility, but didn't really react to the ECB news in June. By summer, dollar strength dominated domestic stories, a trend likely to continue for the medium term. Even without news flow on Italy, there is little on the political spectrum short of a crisis in Germany that would weaken the euro independently. If growth or German data were significantly weaker, the ECB would likely halt its tapering and thus also support euro levels, though it may take some time to act.

The EU already had its mini trade war with the U.S., and while some tariffs remain elevated, an increase in tensions was averted after a friendly Washington, D.C., summit between President Trump and European Commission Chief Jean-Claude Juncker. The EU can now return to its variety of other challenges.

Italy

Italy's anti-EU stance is currently making the biggest impact in European markets. However, that impact is highly concentrated on Italian sovereign and bank paper.

The sovereign paper is the obvious first place to express a view on the country. There are a lot of bonds and previously a lot of liquidity, which made it easy to express a negative view on the direction of the country based on the current administration's desire to exit the euro and the EU. The banks are the logical next step given the close relationship with the sovereign. Italian banks never cleaned up their balance sheets post financial and sovereign debt crisis and remain in bad shape.

On the whole, the sector will need government financial and political support to clean up their balance sheets, which so far has been shaky.

That will continue to be a difficult circle to square given EU prohibitions on bank bailouts, the political climate on bank bailouts and the lack of money to fund bailouts.

But we don't see a sell-off in the euro on the back of the Italian stress, at least not yet, and Italian corporates with a global focus are largely escaping the current investor backlash. The ECB has announced its tapering, but if there were to be any risk of contagion from Italy to the wider Eurozone, it is likely the ECB would halt its retreat from accommodative policy.

Investor concerns were reflected in the Italian bond market sell off at the end of May as investors became wary of lending to the Italian government. This filtered through into the securities lending market, with total lendable values falling from $90 billion in April 2018 to around $77 billion in June as underlying clients sold or restricted positions. For the Italian government bond positions remaining, however, utilization increased to as high as 30%, and fees spiked by 10 bps over the last week in May.

In particular, two-year Italian bonds, the most sensitive to sovereign credit risk yields, rose substantially. This was also represented clearly in the securities lending space—as the bond price fell, the average fees jumped from 10 bps to over 100 bps. In contrast, the 10-year average fees only increased to just under 30 bps for the same period (see Figure 4).

Industry utilization for both the two-year and 10-year jumped in parallel in May; however, the two-year was more in demand with approximately 20% more out on loan than the 10-year during late May and early June 2018. These fears do not have seem to have filtered through into the largest Italian corporate sector in the securities lending space. ENI and ENEL in the Energy sector, along with UniCredit group and Intesa Sanpaolo in the banking sector, all remained relatively unmoved in trading around 20 bps over the same period.

The market is looking for facts on trade developments, and right now a lot of rumors are coloring growth outlooks and market valuations. Trade-sensitive countries like Canada, Mexico and China are vulnerable to U.S. policy changes. At the same time, emerging market valuations will be sensitive to global monetary policy decisions and contagion from weaker members of the asset class. Volatility only recently re-entered the market's vernacular, and trade and monetary policy are likely to be the biggest global forces on bond spreads this year.

However, as apparent in the positive relative performance of Italian corporates versus Italian sovereign and bank paper, idiosyncratic stories will drive valuations as well. ▲

FIGURE 3. ARGENTINA SOVEREIGN FEE BAND AS A PERCENT OF LOAN BALANCE

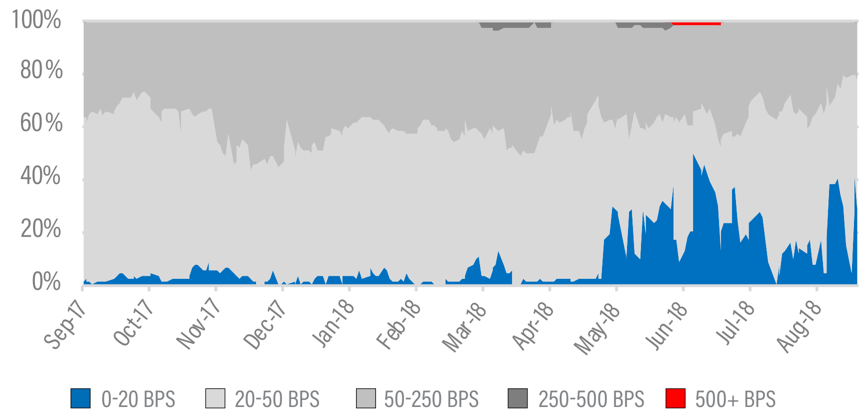
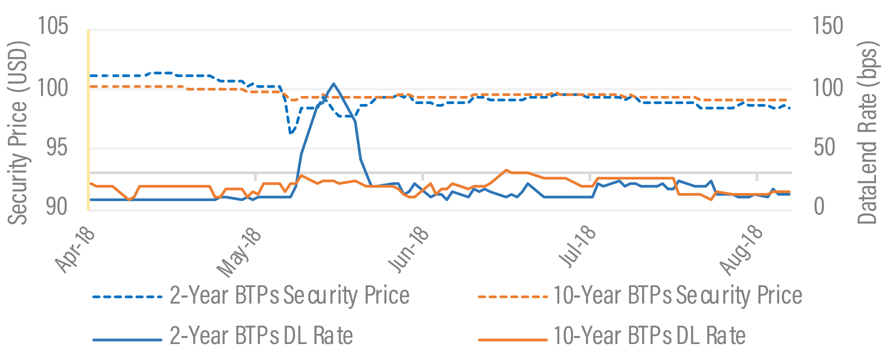
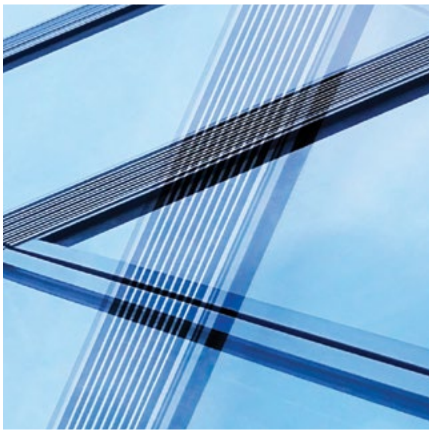
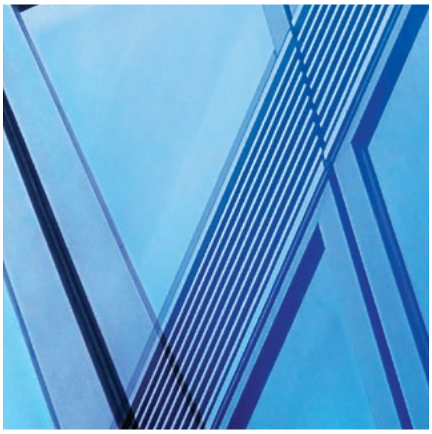


FIGURE 4. 2-YEAR VS. 10-YEAR ITALIAN SOVEREIGN SECURITY PRICE & DATALEND RATE



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OCC has the largest centrally-cleared stock loan offering in the world with approximately $80 billion in cleared loan balances. Over the last 25 years, OCC has built an innovative and unique U.S. program for securities lending transactions where OCC steps in as the counterparty (with a two percent risk weight) and guarantees the return of stock or collateral. We continue to enhance and expand access to our stock loan program in order to offer clearing solutions and capital efficiencies for our members and the entire securities finance industry.

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- New data fields are easily implemented
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For more information about the all-new DataLend API, please contact the DataLend Product Specialist team at DataLendProductSpecialists@equilend.com.

Notes for Developers

- Up-to-date RESTful API architecture implemented on scalable, cloud-based technologies
- Built with HTTP Web standards for direct compatibility with open-source libraries in many software languages
- Sub-second response times, ensuring a consistent and swift experience
- Well-formed concrete nouns for the securities lending industry and standard HTTP verbs for the request
- All queries are executed over HTTPS, ensuring secure communication
- Authentication and authorization based on latest OAuth 2.0 standards

SECURITIES FINANCE REVENUE

JANUARY 1 TO JUNE 30, 2018

GLOBAL $5,466,114,564

AMERICAS

$2,507,710,302

EMEA

$1,846,102,805

ASIA PACIFIC

$1,112,301,456

FIGURES ARE FROM JANUARY 1 TO JUNE 30, 2018, AND REPRESENT LENDER TO BROKER ACTIVITY ONLY

EMERGING TRENDS IN SECURITIES FINANCE

DataLend takes a look beyond Q2 to forecast what to expect ahead in the securities finance industry.

BY KEITH MIN, PRODUCT SPECIALIST, DATALEND

TREND 1: GLOBAL REPRESENTATION IN TOP 100 REVENUE-GENERATING SECURITIES

In June and July 2017, North America accounted for 60 of the top 100 revenue-generating securities. In the same two months in 2018, that number reduced to 44 securities, with many of 2017's hottest names—RH, Under Armour and Sears Holdings, among others—cooling off the Consumer Discretionary sector. Europe had a modest gain from 28 to 32 securities, and Asia saw the largest improvement from 12 to 22 securities. Within the region, Hong Kong had a strong representation, accounting for 10 of the top 100 with newcomers such as Semiconductor Manufacturing Intl Co., Luye Pharma Group and the IPO of Xiaomi Corporation appearing on the list.

TREND 2: INCREASES ACROSS THE BOARD FOR EUROPEAN ETFS

Comparing June and July year over year from 2017 to 2018, there has been a 44% increase in the number of individual European ETFs traded, resulting in an increase of total revenue by 90% and on-loan balances by 140%. Average fees across all European ETFs decreased by 29 bps to an average of 105 bps.

TREND 3: GLOBAL GC REVENUE AND BALANCES ON THE RISE

General collateral (GC) balances increased 20% in June to July 2018, with GC revenue increasing 12% compared to the same period last year. On-loan balances and revenue in the specials space has remained virtually unchanged.

TREND 4: EQUITIES HEATING UP IN SOUTH AMERICA

The fee for South American equities has grown 118% from 102 basis points in the first five months of 2018 compared to 223 basis points in June and July of 2018 following political (Brazilian elections in October) and fiscal (Argentinian and Brazilian currencies weakening) concerns within the area. Some of the largest contributors were Raia Drogasil SA, Cielo SA, Magazine Luiza SA, Petrobras Distribuidora SA and Controladora Vuela Cia de Aviacion, all of which on average exceeded 750 basis points to borrow.

TREND 5: FISCAL POLICY IMPACT ON TURKEY'S FIXED INCOME MARKET

Prior to the heavy inflation experienced in the first two weeks of August, Turkey has seen a 92% increase in bond revenue in June and July of 2018 compared to 2017, with the total on-loan value increasing by 32% to $48 billion. Utilization has been steadily increasing from 8.5% at the beginning of the year to over 13.3% on July 31.

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- Ds Decision Science
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- Treasury
- Expense Manager
- Cash Master
- Price Master
- Raptor
- IVP NAVigate
- edm
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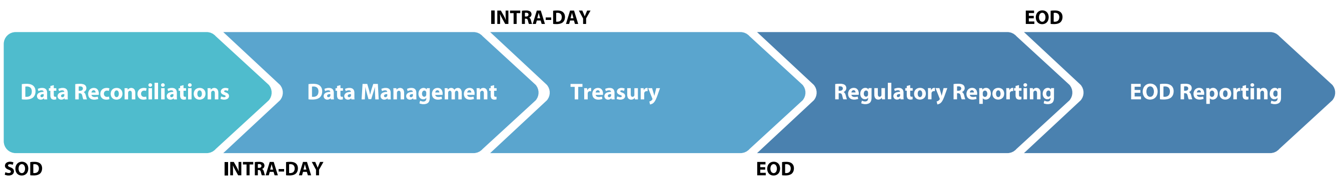

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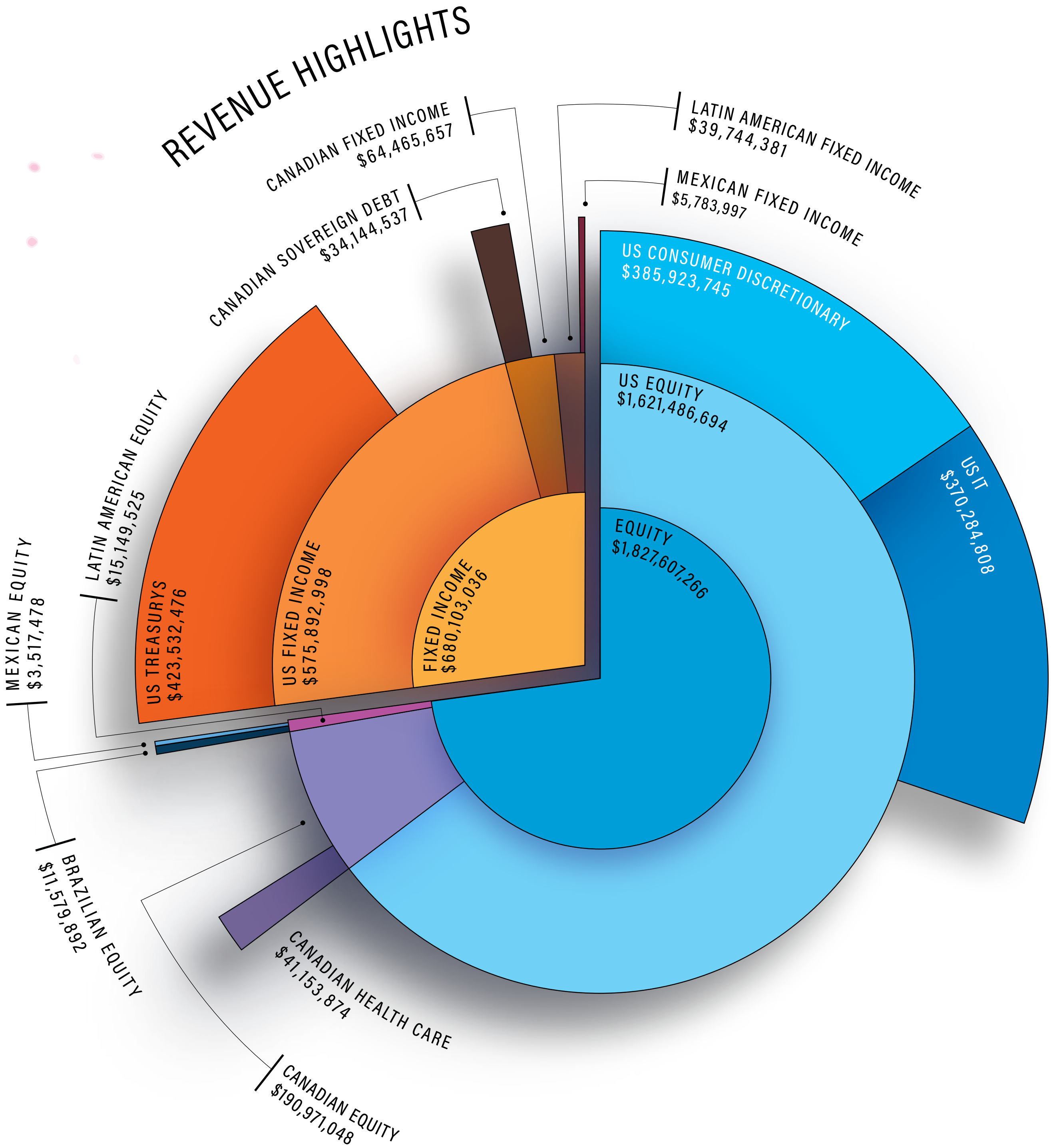
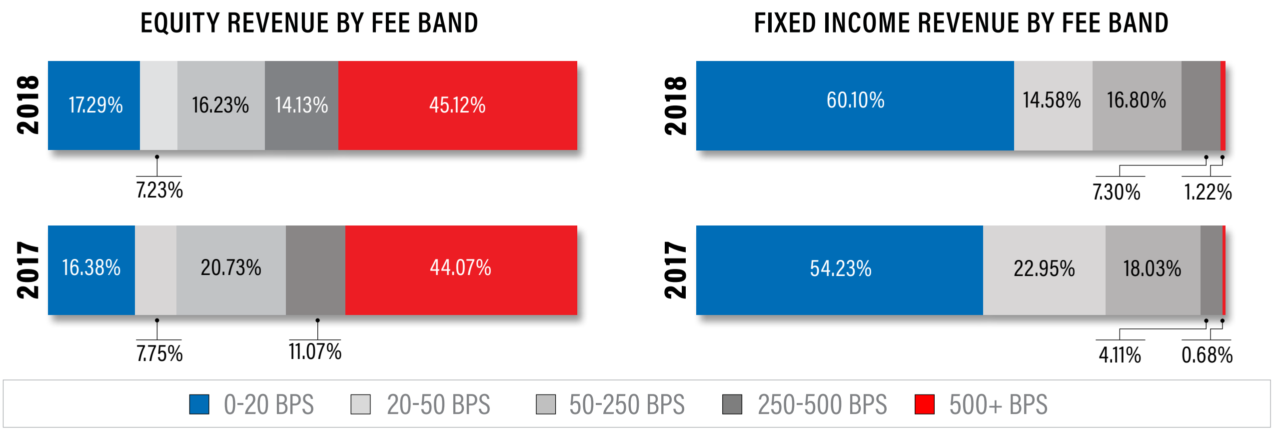
AMERICAS

JANUARY 1 TO JUNE 30, 2018



FIGURES ARE FROM JANUARY 1 TO JUNE 30, 2018, AND REPRESENT LENDER TO BROKER ACTIVITY ONLY

LENDABLE	ON LOAN	REVENUE
$12.17 TRILLION	$1.59 TRILLION	$2.51 BILLION



TOP 10 EQUITY EARNERS

SECURITY	REVENUE	SECURITY	REVENUE
1. TESLA INC	$97,361,390	6. 3 D SYSTEMS INC	$28,420,880
2. UBIQUITI NETWORKS INC	$56,700,414	7. MIMEDX GROUP INC	$26,983,428
3. SIRIUS XM HOLDINGS INC	$43,534,420	8. ALIBABA GROUP HOLDING LTD	$25,056,449
4. APPLIED OPTOELECTRONICS INC	$32,894,159	9. FRONTIER COMMUNICATIONS CORP	$24,236,454
5. ISHARES TRUST IBOXX USD HI YLD CP BD	$28,452,346	10. CANOPY GROWTH CORPORATION	$19,653,111

TOP 10 CORPORATE DEBT EARNERS

SECURITY	REVENUE	SECURITY	REVENUE
1. BOOKING HOLDINGS INC 0.9% CNV 15/09/21	$7,159,556	6. TEVA PHARMACEUTICAL FINANCE CO LLC 6.15% 01/02/36	$2,275,234
2. TENET HEALTHCARE CORP 6.75% 15/06/23	$3,680,338	7. NOBLE HLDG INTL LTD 7.75% 15/01/24	$2,107,504
3. TESLA INC 5.3% 15/08/25	$3,126,659	8. AMC ENTERTAINMENT HOLDINGS INC 5.875% 15/11/26	$1,964,251
4. COMMUNITY HEALTH SYSTEMS INC 7.125% 15/07/20	$3,010,062	9. COMMUNITY HEALTH SYSTEMS INC 8% 15/11/19	$1,933,156
5. COMMUNITY HEALTH SYSTEMS INC 6.875% 01/02/22	$2,993,053	10. AMC ENTERTAINMENT INC 5.75% 15/06/25	$1,892,803

EQUITY TRENDS

PERCENT CHANGE, JAN. 1 TO JUNE 30, 2017 VERSUS 2018

MARKET	REVENUE	FEES	ON LOAN	LENDABLE	UTIL
UNITED STATES*	11%	-2%	12%	22%	-8%
CANADA**	-13%	-10%	-4%	11%	-14%
BRAZIL***	1%	17%	-14%	18%	-27%
MEXICO†	42%	2%	36%	9%	25%

FIXED INCOME TRENDS

PERCENT CHANGE, JAN. 1 TO JUNE 30, 2017 VERSUS 2018

MARKET	REVENUE	FEES	ON LOAN	LENDABLE	UTIL
UNITED STATES	9%	-16%	30%	11%	17%
CANADA	32%	1%	30%	11%	11%
S./CENTRAL AMERICA	-8%	-20%	14%	33%	-14%

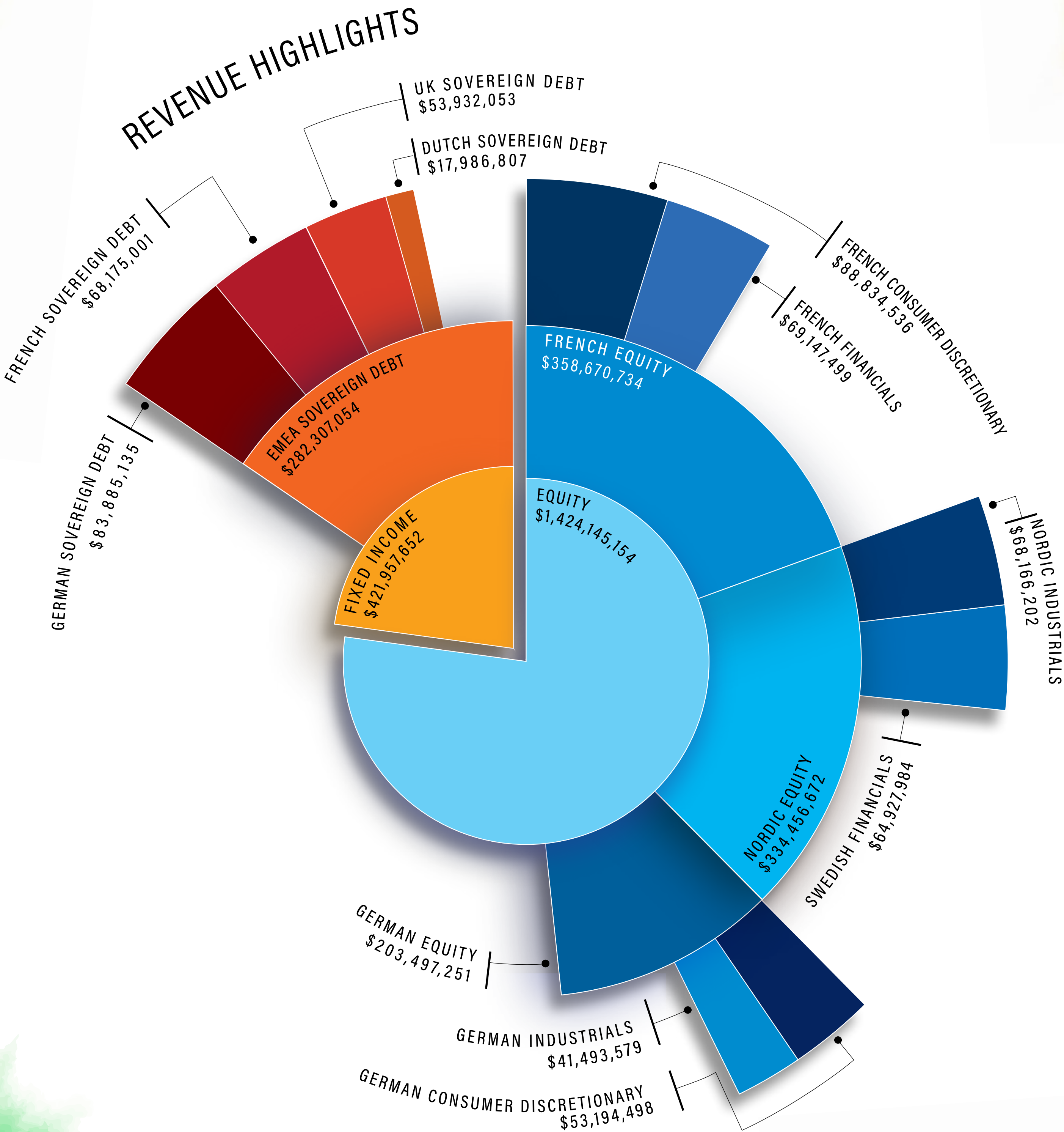
HOTTEST SECTORS

	HEALTH CARE	CONSUMER DISCRETIONARY	TELECOMMUNICATION SERVICES	ENERGY	INFORMATION TECHNOLOGY
FEES	92 BPS	72 BPS	71 BPS	55 BPS	50 BPS
UTILIZATION	7.22%	12.07%	9.70%	10.53%	9.11%

*S&P 500 up 15% over same period **TSX Composite up 2% over same period ***B3 up 27% over same period †BMV IPC down 1% over same period

EMEA

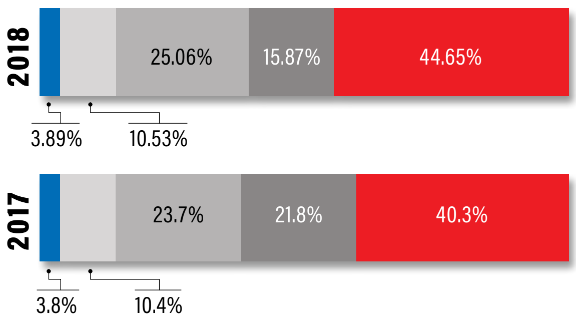
JANUARY 1 TO JUNE 30, 2018



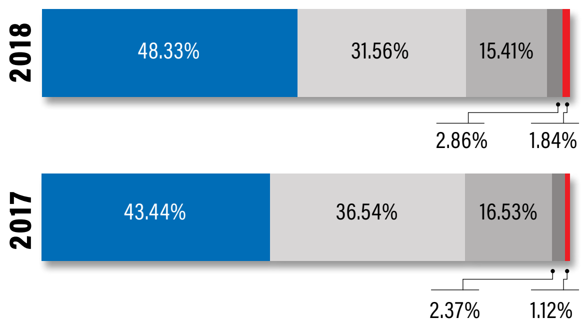
FIGURES ARE FROM JANUARY 1 TO JUNE 30, 2018, AND REPRESENT LENDER TO BROKER ACTIVITY ONLY

LENDABLE	ON LOAN	REVENUE
$4.97 TRILLION	$691.61 BILLION	$1.85 BILLION

EQUITY REVENUE BY FEE BAND



FIXED INCOME REVENUE BY FEE BAND



0-20 BPS 20-50 BPS 50-250 BPS 250-500 BPS 500+ BPS

TOP 10 EQUITY EARNERS

SECURITY	REVENUE	SECURITY	REVENUE
1. KERING	$44,780,020	6. SANOFI	$22,267,058
2. TOTAL SA	$35,594,530	7. SAMPO PLC	$19,296,848
3. NORDEA BANK AB	$24,826,309	8. DNB ASA	$17,986,297
4. AXA	$24,236,263	9. DANONE	$17,875,486
5. BNP PARIBAS	$22,951,927	10. K&S AG	$15,090,756

TOP 10 CORPORATE DEBT EARNERS

SECURITY	REVENUE	SECURITY	REVENUE
1. ASTALDI 7.125% 01/12/20	$2,597,164	6. ALTICE SA 6.25% 15/02/25	$1,237,086
2. MALLINCKRODT INTL FINANCE SA 4.75% 15/04/23	$2,184,789	7. TEVA PHARMACEUTICAL FIN NETH III 3.15% 01/10/26	$1,041,492
3. ALTICE SA 7.625% 15/02/25	$2,041,206	8. STEINHOFF EUROPE AG 1.875% 24/01/25	$976,657
4. TECHNIPFMC PLC 0.875% CNV 25/01/21	$1,610,409	9. MALLINCKRODT INTL FINANCE SA 5.625% 15/10/23	$954,902
5. ALTICE SA 7.25% 15/05/22	$1,314,493	10. MALLINCKRODT INTL FINANCE SA 4.875% 15/04/20	$790,629

EQUITY TRENDS

PERCENT CHANGE, JAN. 1 TO JUNE 30, 2017 VERSUS 2018

MARKET	REVENUE	FEES	ON LOAN	LENDABLE	UTIL
FRANCE*	21%	-8%	28%	30%	-2%
SWEDEN**	9%	-11%	25%	18%	6%
GERMANY***	87%	33%	40%	11%	26%
UNITED KINGDOM†	33%	4%	30%	23%	5%
ITALY††	28%	-21%	64%	46%	12%

FIXED INCOME TRENDS

PERCENT CHANGE, JAN. 1 TO JUNE 30, 2017 VERSUS 2018

MARKET	REVENUE	FEES	ON LOAN	LENDABLE	UTIL
GERMANY	-7%	-13%	7%	0.2%	7%
FRANCE	25%	-5%	32%	20%	10%
UNITED KINGDOM	12%	-6%	19%	10%	7%
NETHERLANDS	23%	4%	18%	6%	11%
ITALY	9%	-8%	18%	18%	0%

HOTTEST SECTORS

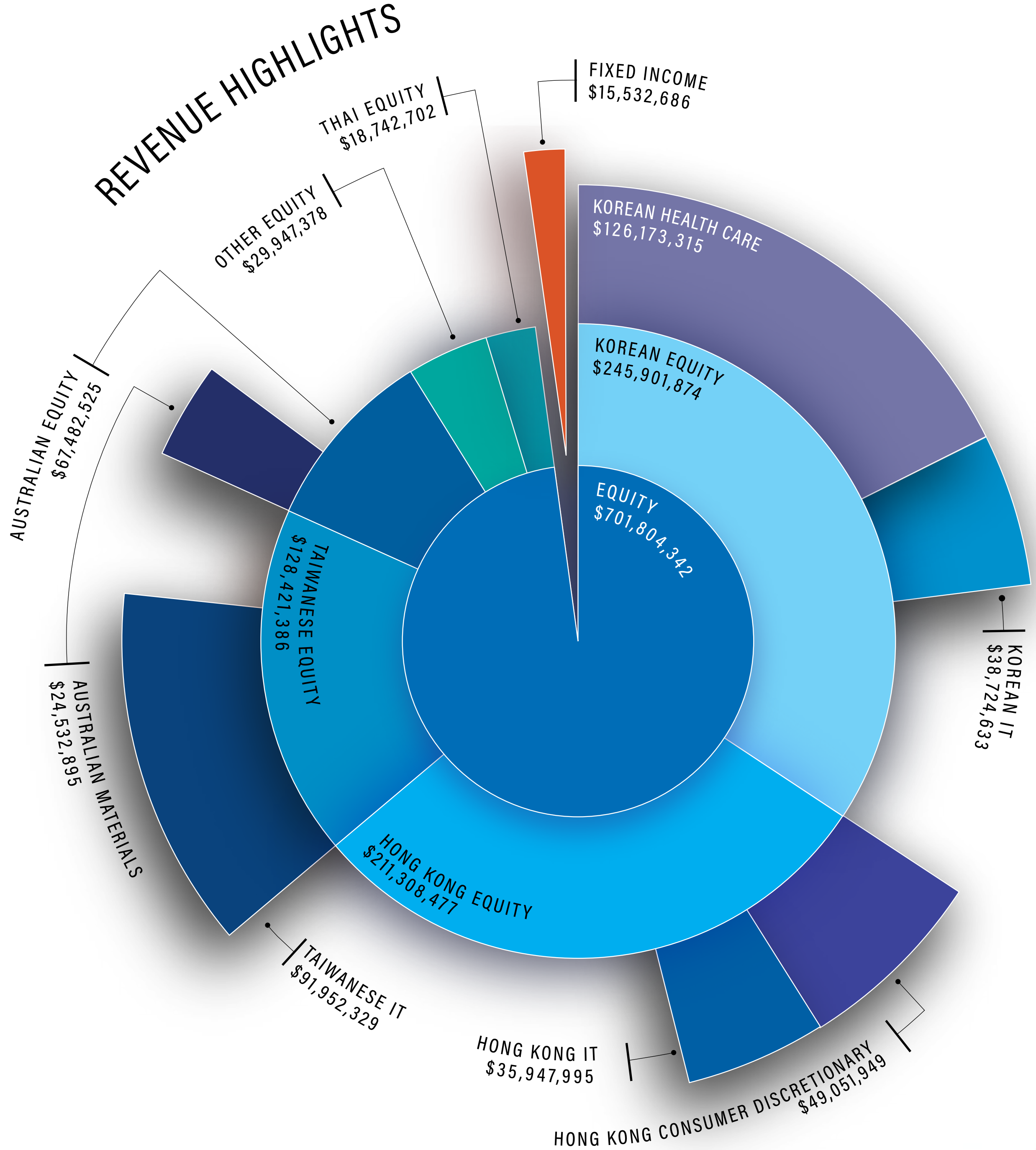
	FINANCIALS	REAL ESTATE	ENERGY	TELECOMMUNICATION SERVICES	UTILITIES
FEES	152 BPS	134 BPS	118 BPS	115 BPS	109 BPS
UTILIZATION	7.29%	8.72%	9.08%	9.33%	8.80%

*CAC 40 up 6% over same period **OMXS 30 down 1% over same period ***DAX up 4% over same period †FTSE 100 up 2% over same period ††FTSE MIB up 14% over same period

ASIA PACIFIC

(EX-JAPAN)

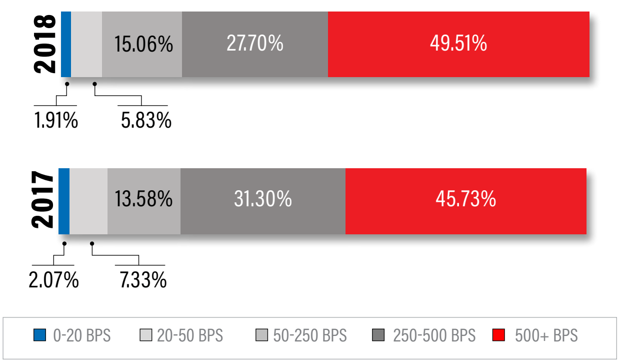
JANUARY 1 TO JUNE 30, 2018



FIGURES ARE FROM JANUARY 1 TO JUNE 30, 2018, AND REPRESENT LENDER TO BROKER ACTIVITY ONLY

LENDABLE	ON LOAN	REVENUE
$1.35 TRILLION	$102.22 BILLION	$717.34 MILLION

EQUITY REVENUE BY FEE BAND

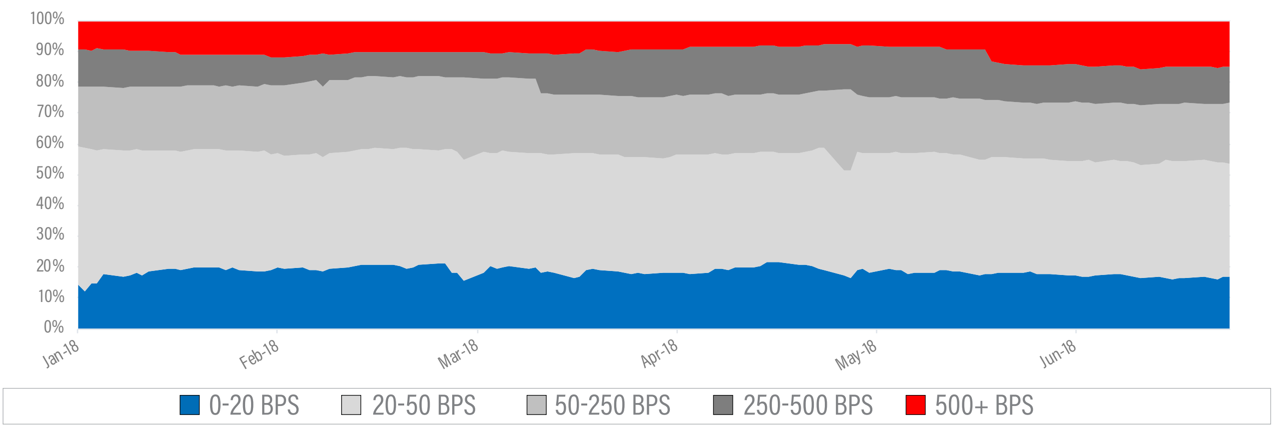


EQUITY TRENDS

MARKET	REVENUE	FEES	ON LOAN	LENDABLE	UTIL
KOREA*	70%	13%	50%	32%	13%
HONG KONG**	36%	-3%	40%	50%	-7%
TAIWAN***	21%	10%	10%	32%	-17%
AUSTRALIA†	47%	22%	21%	19%	1%
THAILAND††	22%	16%	5%	35%	-22%

PERCENT CHANGE, JAN. 1 TO JUNE 30, 2017 VERSUS 2018

EQUITY HEATMAP



TOP 10 EQUITY EARNERS

SECURITY	REVENUE	SECURITY	REVENUE
1. CELLTRION INC	$58,258,035	6. KAKAO CORP	$8,997,120
2. CELLTRION HEALTH CARE CO LTD	$22,214,321	7. YAGEO CORP	$8,691,036
3. BYD COMPANY LIMITED 'H'	$21,366,940	8. KINGSTON FINANCIAL GROUP LTD	$8,433,275
4. SEMICONDUCTOR MANUFACTURING INTL CO	$18,048,194	9. PING AN INSURANCE(GROUP)CO.OF CHINA'H'	$7,915,785
5. SILLAJEN INC	$15,282,761	10. FULLSHARE HOLDINGS LIMITED	$7,486,452

HOTTEST SECTORS

	HEALTH CARE	IT	INDUSTRIALS	CONSUMER DISCRETIONARY	MATERIALS
FEES	325 BPS	245 BPS	199 BPS	196 BPS	134 BPS
UTILIZATION	18.31%	6.81%	7.56%	12.96%	8.61%

*KOSPI up 12% over same period **HANG SENG up 27% over same period ***TSEC Weighted Index up 11% over same period

†ASX 200 up 4% over same period ††SET up 13% over same period

JAPAN

JANUARY 1 TO JUNE 30, 2018

TOP 10 EQUITY EARNERS			
SECURITY	REVENUE	SECURITY	REVENUE
1. SHARP CORP	$40,394,463	6. HARMONIC DRIVE SYSTEMS	$4,852,718
2. CYBERDYNE INC	$17,641,474	7. PEPTIDREAM INC	$4,250,758
3. YAHOO JAPAN CORPORATION	$8,408,468	8. EUGLENA CO LTD	$3,708,290
4. JAPAN DISPLAY INC	$6,867,982	9. SOSEI GROUP CORP	$3,555,345
5. YAMADA DENKI CO	$5,056,391	10. METAPS INC.	$3,360,881

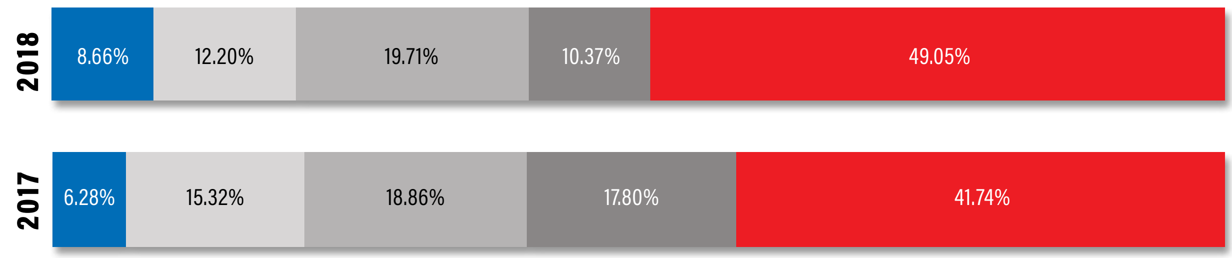
EQUITY TRENDS PERCENT CHANGE, JAN. 1 TO JUNE 30, 2017 VERSUS 2018					
MARKET	REVENUE	FEES	ON LOAN	LENDABLE	UTIL
JAPAN*	55%	0.5%	53%	37%	11%

*NIKKEI 225 UP 15% OVER SAME PERIOD

FIGURES ARE FROM JANUARY 1 TO JUNE 30, 2018, AND REPRESENT LENDER TO BROKER ACTIVITY ONLY

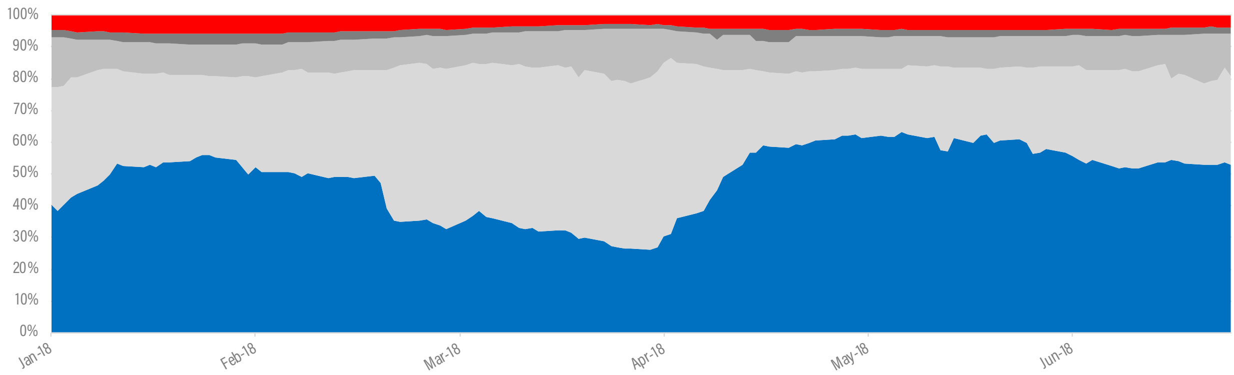
LENDABLE	ON LOAN	REVENUE
$1.00 TRILLION	$112.21 BILLION	$394.96 MILLION

EQUITY REVENUE BY FEE BAND



0-20 BPS 20-50 BPS 50-250 BPS 250-500 BPS 500+ BPS

EQUITY HEATMAP



0-20 BPS 20-50 BPS 50-250 BPS 250-500 BPS 500+ BPS

TOP EARNING SECTORS

	CONSUMER DISCRETIONARY	IT	INDUSTRIALS	HEALTH CARE	CONSUMER STAPLES
REVENUE	$109,616,334	$102,150,580	$52,406,746	$46,869,716	$24,741,107
FEES	94 BPS	127 BPS	61 BPS	123 BPS	41 BPS
UTILIZATION	13.03%	12.85%	8.72%	11.62%	15.29%

	FINANCIALS	MATERIALS	REAL ESTATE	TELECOMMUNICATION SERVICES	UTILITIES
REVENUE	$18,331,307	$18,312,473	$10,769,258	$4,203,137	$3,833,820
FEES	48 BPS	59 BPS	76 BPS	34 BPS	54 BPS
UTILIZATION	7.49%	9.72%	6.64%	6.11%	10.83%

A DAY IN THE LIFE OF

DAVID FIELD

Founder and Managing Director, The Field Effect

The Purple chats with David Field about life inside and outside work at the helm of specialist consultancy The Field Effect.

Tell us about your current role. What does a typical day look like?
Mondays start with a long-ish commute up from Sussex and a "start-the-week" coffee at London Bridge with my train buddies—our current fave is Monmouth in Borough Market. On other days I now have the best commute of my entire career: a nine-minute walk from our pied-à-terre to the office in Canary Wharf. Four of those minutes are riding the elevator. Sometimes that short commute might allow me 10 minutes before work to learn a bit more Italian—a country we keep going back to.

Most days involve meeting clients to shape how we might help with upcoming challenges such as collateral and margining, LIBOR replacement or Brexit preparation, or perhaps checking progress on an in-flight project such as SFTR solution design, legal agreement management or securities finance transformation. Alternatively, I might be brainstorming with my team on how we can help clients with challenges coming further along the horizon, or hiring the right project experts to resource engagements we have just won.

I prefer the informal approach, so a lot of my meetings are conducted over a coffee or a glass of wine. I've discovered you can be highly productive without having to be too formal all the time.

What is the biggest challenge you face in your position?
When you look at the business pipeline for a consultancy, you're always balancing demand from clients with availability of the right resources. I'd say the biggest challenge is managing demand to coincide with team members coming free from their assignments. There is also the frustration of having to leave a client project halfway through because budgets have been cut from on high, irrespective of project progress. Alongside the day-to-day issues in a small firm, there's always the challenge of finding time to look up and plan our future growth.

What is your proudest moment on the job?
There are great moments in every part of the project lifecycle. To begin with, there's nothing to beat winning a mandate from a new client. Consultancy is quite intangible compared with other services, so when a client awards you a contract, it demonstrates real trust—in our expertise, our approach and our

integrity. It is a proud moment. It's also great to see a team in action—people with different skills, knowledge and levels of experience, our own and our clients', pulling out the stops to deliver to a deadline. Even when people leave the firm (it happens occasionally!), it makes me proud to hear them say they have learned a lot, appreciated our approach and also had fun along the way.

The best moments, though, are when clients tell us they couldn't have achieved their results without our help. A client told me last week he wants to switch consultancy supplier to TFE because "you guys are the best in the market." Doesn't get much better than that. I'm immensely proud to have built the recognition we enjoy in the market.

What do you do in your spare time?
There's not a lot of spare time when you run your own business, especially at the beginning. I've spent many a weekend paying the VAT, authorizing invoices or updating the cashflow. But now that we have more operational support in place (thanks Angie!) I try to be quite disciplined about taking time out. My wife and I are both musicians and regularly perform with both a London and a Sussex choir—music ranging from some of the most uplifting works known to man (Bach's "Mass in B Minor" comes to mind) to ultra-modern (even world premiere) choral works with sublime words and harmony.

At the weekend I become "lumberjack man"—complete with check shirt and chainsaw—bringing my own patch of Sussex woodland back into a managed coppice, becoming CO_2 neutral in the process.

Our kids are grown up now, and one of my proudest moments ever was earlier this summer when our daughter got married (in our woodland), and seeing our son in his HAC army uniform (though his day job is scrum master on a bank technology project). They're both in London, so we often meet up for dinner; it's great seeing their lives unfold.

What is the best advice you have ever received?
Where to start! I have sat on a number of companies' boards, and had some great advice from non-exec advisers. I remember consulting one about staff productivity, and he encouraged me to pay "much more attention to what people do than what they say." Another recommended that I should "be ruthless in decision, humane in execution."

Some of the best advice I have taken on board is from the famous "7 Habits" book, which in my honest opinion is worth re-reading every 10 years: "start with the end in mind," prioritize "important not urgent" activities and "keep learning." One of the hardest pieces of advice for me personally, being very goal-driven, is to loosen up, hence my preference for networking socially.

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