Data matters: Best practices and strategies for the use of securities lending data — Revenue attribution, performance measurement and alternative uses of lending data

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Abstract

Securities lending data holds the key to unlock additional value from a securities lending programme. This paper dives into the data available today and the best practices and strategies for the use of that data. Revenue attribution and performance measurement techniques are discussed alongside examples of real analysis produced and used by market participants today. The paper also covers how to identify missed opportunities and addresses the pitfalls and considerations to be understood when conducting analysis of a lending programme. Finally, it explores the future use of data to drive artificial intelligence and further automation in and beyond the securities financing markets.

Keywords: market data, securities lending; performance measurement, analytics, Big Data

SECURITIES LENDING MARKET REVENUE, SIZE AND SCOPE

The securities lending market generated US$8.66bn in revenue on behalf of beneficial owners in 2019 (see Figure 1). In the securities lending world, we refer to the long holders of securities (sovereign wealth funds, pension funds, insurance companies, etc.) as beneficial owners. Revenue in 2019 was down from the post-crisis record level of approximately US$10bn in 2018. For many securities lending participants, from beneficial owners to agent lenders and broker dealers, the crucial and ongoing question is: Was the optimal return achieved on the portfolio? The answer to this question is in the data; as securities lending data has become exponentially more robust over the last decade, market participants have embraced the ability to perform more detailed analysis of their lending programmes. In the paragraphs to follow, we will examine how best to use securities lending data to monitor performance and extract additional value from a lending programme.

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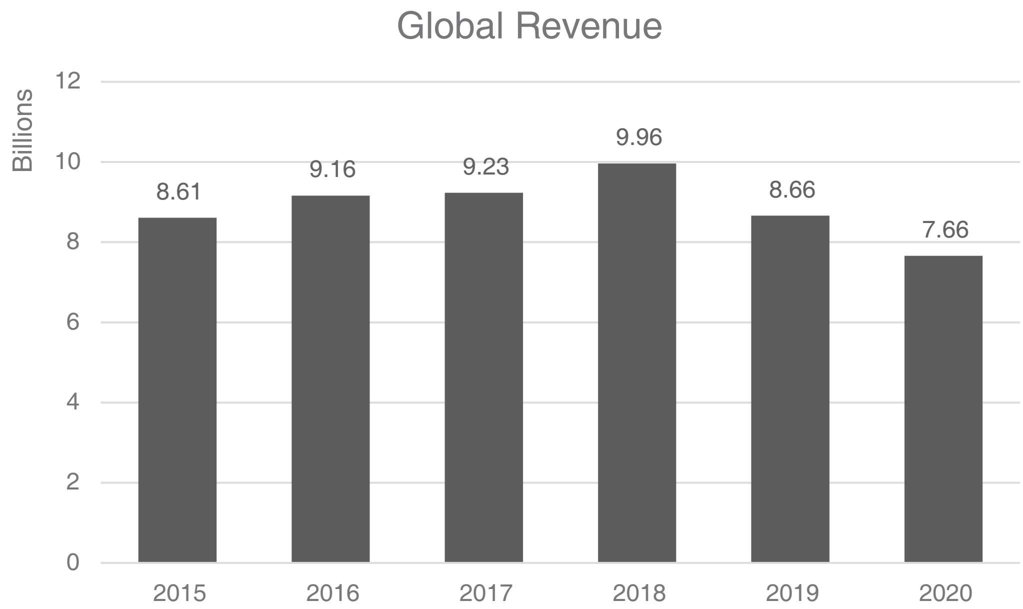

Figure 1 Historical securities lending global revenue 2015–2020
Source: DataLend.

THE DATA

Securities lending data has become embedded across the market and is treated as an asset in its own right, one that is pivotal in the navigation of a changing market environment. DataLend — the securities finance market data division of EquiLend — provides aggregated, anonymised, cleansed and standardised securities finance data covering all asset classes, regions and markets globally.

DataLend data is a composition of our beneficial owner, agent lender, principal lender and broker–dealer client contributions. Our beneficial owner client base ranges from small common trusts to some of the largest asset managers, pension plans and sovereign wealth funds in the world.

The DataLend universe of data captures US$2.23tn in assets on loan, across over 53,000 unique securities. Our clients' lendable assets exceed US$21.7tn across 177,000+ unique securities (see Figure 2). More than 3.2 million global transactions are processed, aggregated, validated and further cleansed daily to ensure unparalleled data quality.

THE CHANGING LANDSCAPE AND SHIFTING MINDSET

Primarily driven by regulatory changes and the subsequent capital charges incurred by lenders and borrowers, securities lending programmes have become more complex in recent years. The business has evolved from a back-office commodity to a front-office investment product. All participants must now consider a wider range of collateral types, varied term structures, new routes to market, risk-weighted asset (RWA) charges for beneficial owners and bespoke indemnities.

Given the various decisions that beneficial owners face when reviewing their lending programmes, many have now taken a hands-on approach with their investment teams providing programme oversight, as

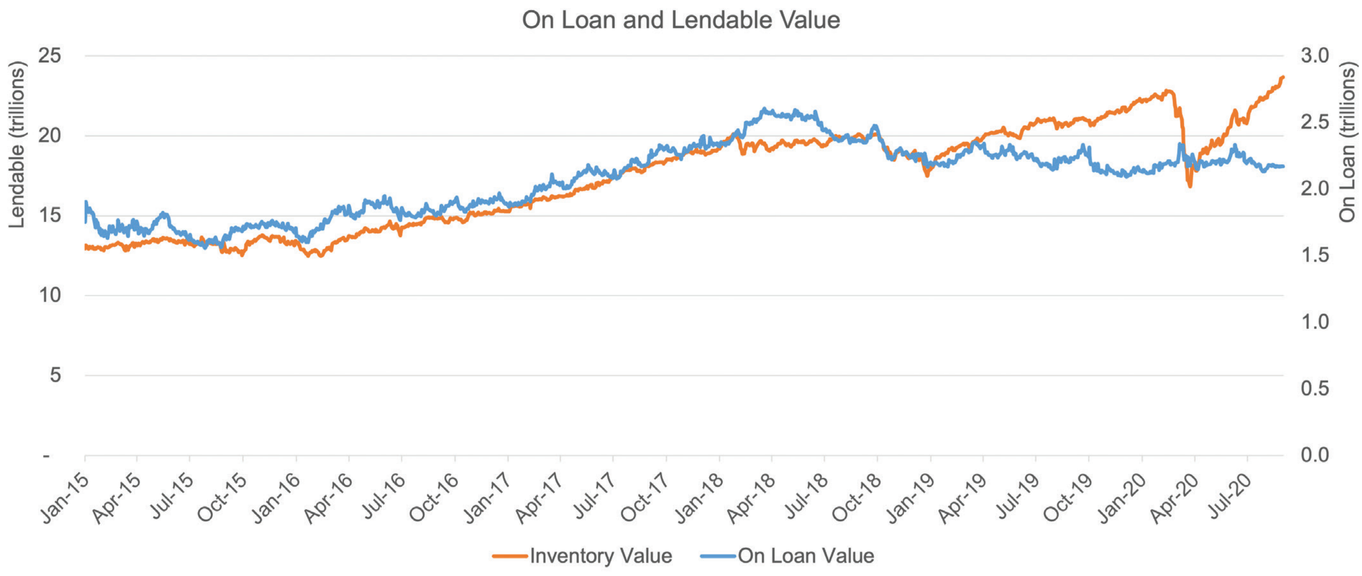

Figure 2 Trending on-loan balances and lendable securities 2015–2020
Source: DataLend.

opposed to an outsourced approach using their custodians or external investment managers.

The shift in approach is evidenced by a recent DataLend global survey, which found that 66 per cent of beneficial owner respondents enrolled in securities lending had a primary goal of generating alpha — a 7 per cent increase from our previous survey two years prior. Historically, the incremental revenue from lending was viewed as a way of offsetting custody fees, management fees or operational expenses; in more recent times, however, beneficial owners are starting to see lending revenue in a new light — one that not only covers operational expenses but can offer additional returns resulting in outperformance by the underlying funds relative to market peers. In other words, securities lending is an investment product — one that adds value to the investor by enhancing fund performance. As an investment product, beneficial owners and agents are scrutinising their programmes in more detail and are using higher-quality data to assist. According to the recent survey, 81 per cent of beneficial owners are using securities lending market data and are demanding more detailed data and analytics. The trend continues when we look at the importance of independent research. More than 50 per cent of respondents said that they use independent research and trade publications, such as DataLend's *The Purple*, to stay informed of developments and broader market revenue trends. With the right data, beneficial owners can define their programme parameters to ensure yield objectives are met while remaining within their individual risk parameters.

SECURITIES LENDING ANALYSIS: REVENUE ATTRIBUTION AND PERFORMANCE MEASUREMENT

Historically, beneficial owners relied on their agents to provide data, typically focused on general market trends or comparative year-over-year performance. Today, there is a desire for direct access to more detailed reporting around revenue attribution and performance relative to the broader industry. Before examining best practices around revenue attribution analysis and performance measurement, it is important to define the key performance terms as follows:

- Lendable: the total value of assets that are available to be lent
- On Loan: the total value of securities on loan
- Volume-weighted average fees (intrinsic rates): the average fee paid to borrow a security weighted by loan volume
- Cash reinvestment yield: return earned on reinvested cash collateral
- Utilisation: on-loan value as a percentage of lendable
- Securities lending return to lendable: intrinsic revenue as a percentage of lendable, usually expressed in basis points
- Total return to lendable: total revenue (including cash reinvestment) as a percentage of lendable, usually expressed in basis points
- Securities lending revenue: the intrinsic revenue generated from securities lending
- Cash reinvestment revenue: revenue generated by cash reinvestment activity
- Total revenue: securities lending plus cash reinvestment revenue
- General collateral (GC): securities trading at roughly the same rate (usually with lower intrinsic value)
- Special: securities with higher intrinsic value
- Bullet: a term trade with a finite end date
- Evergreen: a term trade with a rolling end date

REVENUE ATTRIBUTION

Understanding revenue attribution is the foundation to the sound management of a securities lending programme. Simply put, the analysis details the drivers of the overall return to lendable and therefore provides the underlying lender with the tools necessary to make decisions regarding programme guidelines.

A detailed and strong revenue attribution analysis should be understood within the context of liquidity, credit, market and structuring risk. For example, especially for a GC security, the same loaned security could generate very different returns based on noncash collateral type (eg government debt versus equity), borrower type (eg highly rated broker–dealer versus nonrated dealer or fund), trade term (open versus bullet/evergreen) and cash reinvestment guidelines (in the case of cash collateral).

There are many ways to cut and slice the data when looking at revenue attribution. The analysis is commonly performed on a quarterly or semi-annual basis and starts with a high-level examination of the contribution to overall revenue from different asset classes and sectors. A deeper dive can then look at the revenue contribution from each of the following:

- Asset-type performance
  - Equity versus fixed income
  - Sector performance
- GC versus specials
- Cash reinvestment returns
- Term trades
- Individual securities (eg top 20 earners)

As mentioned earlier, the end result is to dissect the portfolio to a level where each dollar of revenue can be attributed to either the intrinsic value of a security or one of the drivers of demand, such as term or collateral. Revenue from cash reinvestment is also a key factor to be considered across both special and GC securities.

In addition to looking at attribution at the gross revenue level, a lender will then likely want to consider the same analysis

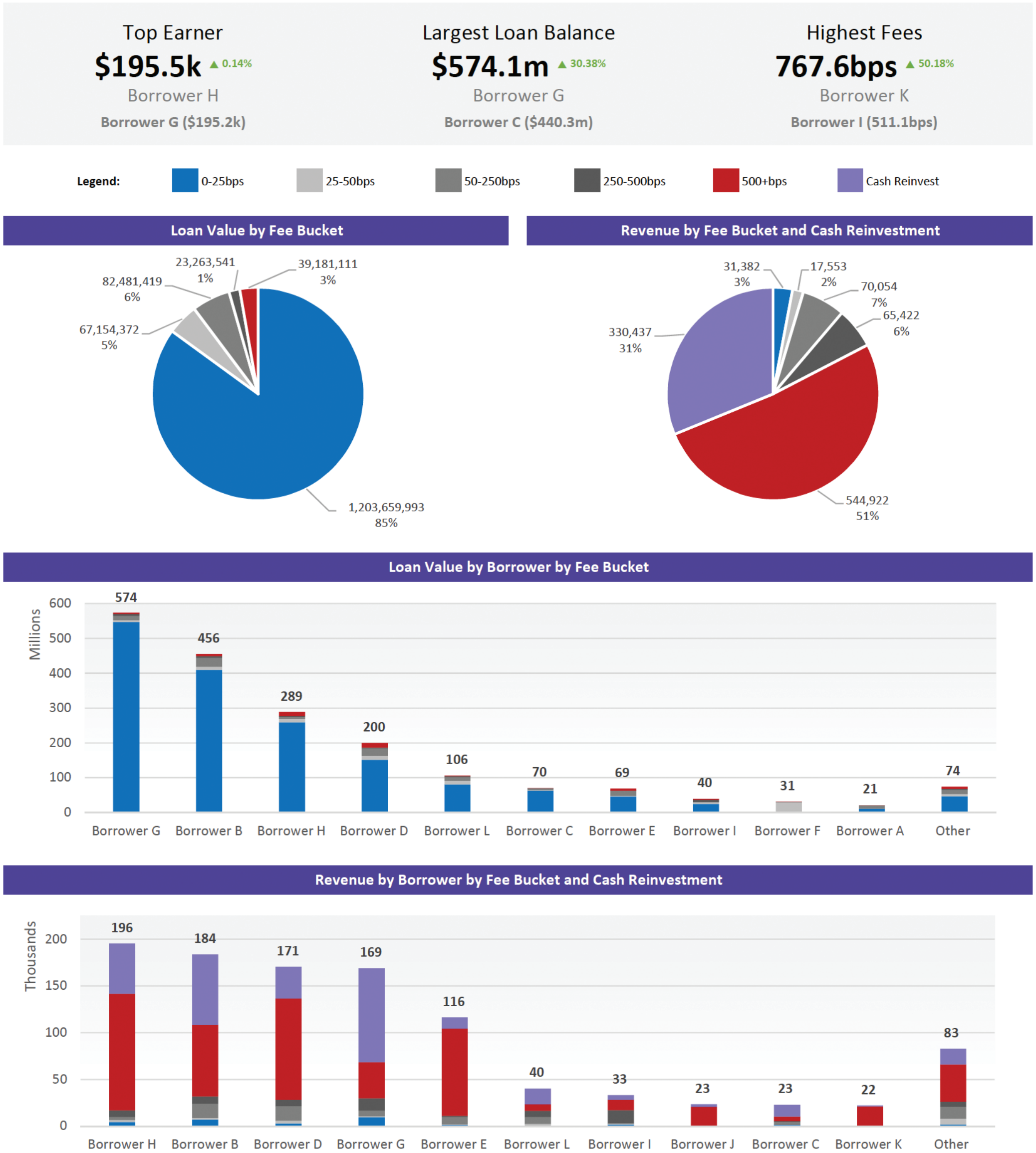

Figure 3 Overview of loan activity by borrower
Source: DataLend.

based on return to lendable and even a return to the on-loan value. These data points will help paint a better picture around the value being returned based on the holding available and the amount on loan or 'at risk'. The final output of a revenue attribution analysis can vary. One popular report regularly used by lenders is the 'Beneficial Owner Borrower Overview' (see Figure 3).

The borrower-level revenue attribution allows a beneficial owner or an agent lender to understand how each borrower is contributing to the overall return. The analysis looks at the borrower with the highest revenue contribution, the borrower with the largest loan balance, and identifies the one with the highest average fees. It also details the loan value by fee bucket, revenue by fee bucket and cash reinvestment at an aggregate level and then across each individual borrower.

The borrower-level revenue attribution helps a lender ensure they are optimising their activity with each of their counterparts and may drive decisions around future trade structures.

PERFORMANCE MEASUREMENT

The availability of comprehensive and quality data today provides market participants with the tools to analyse the drivers of revenue across their portfolio. Revenue attribution, however, is only one piece of the puzzle.

Aggregated industry data provides insight into trends in the broader market, trends that may not be apparent when looking at an individual portfolio in isolation. Aggregated industry-level data can help a lender identify new opportunities or trade types they had not previously considered, while at the same time provide the tools to measure portfolio performance relative to the larger marketplace. Performance measurement is the practice of taking a daily replica of an individual portfolio based on all holdings and weightings and calculating how the industry would have performed on that portfolio. To conduct effective and accurate performance measurement, standards must be applied to all data contributions to ensure a consistent comparison from one portfolio to the next. Once beneficial owners establish programme parameters in line with their risk appetites, they then have a responsibility to ensure that their programmes are being properly managed and that they achieve returns commensurate with market rates. Given the complexities of the market and the unique nature of each beneficial owner's programme, this is not an easy or straightforward task. Many have asked, 'How can I get a true like-for-like analysis when comparing my programme to the broader industry, and how can I ensure that my agents are reporting their performance in a consistent manner?' The answer starts with data quality and a standardised peer group.

APPLYING STANDARDS TO PERFORMANCE MEASUREMENT

The standardisation of beneficial owner performance reporting is a key focus for a market data provider. DataLend led the standardisation of performance measurement when our performance measurement product was launched in 2016. The reporting tool was built in consultation with our agent lender and beneficial owner clients to ensure consistency around the submission of lendable assets, including the removal of restricted positions, the handling of beneficial owner or agent lender buffers and permission-based lending. On an ongoing basis, market data providers must work closely with agent lender clients to ensure all beneficial owner static data is accurate and updated in a timely fashion.

As part of performance measurement, agent lenders and beneficial owners may compare an individual fund's or account's performance to the entire industry or to a defined peer group. The peer group is constructed based on the attributes assigned to the beneficial owner by their agent lender and weighted to the beneficial owner's portfolio holdings during a reporting period. To ensure consistency in reporting across agent lenders, peer groups should be maintained and managed by the market data provider and should not be able to be altered by the agent lender.

The peer group benchmark performance can be conducted at five different matching levels:

1. Peer Group 1: Industry — compares a client's portfolio to the rest of the industry regardless of that client entity's characteristics
2. Peer Group 2: Legal Structure and Collateral Type — compares a client's portfolio to other beneficial owners with the same legal structure and collateral type
3. Peer Group 3: Legal Structure and Fiscal Location — compares a client's portfolio to other beneficial owners with the same legal structure and collateral type
4. Peer Group 4: Legal Structure, Fiscal Location and Collateral Type — compares a client's portfolio to other beneficial owners with the same legal structure, fiscal location and collateral type
5. Risk Group: DataLend Collateral Matching — compares a client's portfolio to other beneficial owners with the same noncash collateral flexibility

For all peer group benchmarking options, DataLend matches at both the security level and dividend rate level to ensure a 'like-for-like' comparison.

As a leading data provider, we recognise there is more work to be done when it comes to refining the standards and consistency of data in the performance measurement process. DataLend is committed to actively participating in the International Securities Lending Association Performance Measurement Working Group, through which agent lenders, beneficial owners and our data provider peers are working to further refine the process.

PERFORMANCE MEASUREMENT ANALYSIS

Performance measurement is a more robust version of revenue attribution analysis, bringing in the wider industry or peer group as a benchmark.

Historically, most beneficial owners looked at performance measurement as a tool to evaluate their agent; while this exercise still has value today, one can see from the aforementioned revenue attribution discussion that there is a lot more value to be extracted by digging into the data, better understanding the broader market trends and identifying missed opportunities. For example, when comparing a portfolio to a peer group of like funds (eg pension plans), a fund may identify additional revenue opportunities should they unrestrict a certain asset class or allow for a new collateral type.

KEY REPORTS

Similar to revenue attribution analysis, there are many ways to examine a portfolio using a performance measurement tool. The following represents a highlight of the key reports many DataLend clients use today.

AGENT LENDER PERFORMANCE FOR BENEFICIAL OWNERS

A comparison of the portfolio balances, rates and revenue, aggregated by each agent lender for both the beneficial owner and the peer group (see Figure 4).

ASSET-TYPE PERFORMANCE

A comparison of the portfolio balances, rates and revenue, aggregated by asset type and agent lender for both the beneficial owner and the peer group.

TOP 20 EARNERS

A list of the top 20 revenue-generating securities in the portfolio by agent lender (see Figure 5).

OPPORTUNITIES

The top 20 highest-earning securities by the peer group for which the lender had 0 per cent utilisation.

Balances (USD)

Lender	Client Lendable	Client On Loan	Group On Loan	Client Cash On Loan	Group Cash On Loan	Client Non-Cash On Loan	Group Non-Cash On Loan	Client Utilization	Group Utilization
Lender 1	174,649,316,576	16,187,989,897	9,643,711,650	16,187,989,897	5,140,263,986	-	4,503,447,663	9.27	5.52
Lender 2	84,430,253,511	1,022,469,664	6,072,993,568	252,529,272	2,284,284,447	769,940,393	3,788,709,169	1.21	7.19
Lender 3	44,596,070,093	1,377,119,297	4,672,252,203	-	558,138,714	1,377,119,297	4,114,113,489	3.09	10.48
Lender 4	30,782,940,783	1,857,429,554	2,753,020,689	354,022,312	961,551,973	1,503,407,243	1,791,468,716	6.03	8.94
Total	**334,458,580,962**	**20,445,008,412**	**23,141,978,110**	**16,794,541,480**	**8,944,239,121**	**3,650,466,932**	**14,197,739,037**	**6.11**	**6.92**

Rates (bps)

Lender	Client Cash Intrinsic Rate	Group Cash Intrinsic Rate	Client Net Reinvest Rate	Group Net Reinvest Rate	Client Total Spread	Group Total Spread	Client Non-Cash Fees	Group Non-Cash Fees
Lender 1	9.91	29.11	23.80	31.62	33.71	60.72	-	22.18
Lender 2	354.29	54.23	(1.40)	25.55	352.89	79.78	99.45	37.81
Lender 3	-	57.43	-	21.88	-	79.31	64.61	34.35
Lender 4	24.36	62.07	22.46	30.79	46.82	92.86	62.27	62.27
Total	**15.39**	**40.83**	**23.39**	**29.37**	**38.79**	**70.20**	**71.00**	**34.94**

Revenue (USD)

Lender	Client Cash Revenue	Group Cash Revenue	Client Non-Cash Revenue	Group Non-Cash Revenue	Client Total Revenue	Group Total Revenue
Lender 1	13,754,545	7,867,391	-	2,517,190	13,754,545	10,384,581
Lender 2	2,246,180	4,593,292	1,930,016	3,611,117	4,176,196	8,204,409
Lender 3	-	1,115,769	2,242,778	3,562,427	2,242,778	4,678,196
Lender 4	417,814	2,250,630	2,359,741	2,811,959	2,777,555	5,062,589
Total	**16,418,539**	**15,827,082**	**6,532,535**	**12,502,693**	**22,951,074**	**28,329,775**

Figure 4 Lending statistics by each agent lender
Source: DataLend.

Lender 1

#	Security	Fees	Average On Loan	Average Lendable	Revenue
1	VISA INC COM STK - V	0.04	993,336,744	1,477,741,792	715,837
2	BEYOND MEAT INC COM - BYND	4,668.16	1,856,962	2,202,128	222,854
3	UBER TECHNOLOGIES INC COM - UBER	413.81	15,555,686	29,823,569	172,624
4	ABBVIE INC COM - ABBV	0.01	271,094,436	379,526,544	168,017
5	PELOTON INTERACTIVE INC COM CL A - PTON	603.42	8,625,865	8,798,442	140,098
6	ISHARES TRUST MSCI EAFE ETF - EFA	1.79	171,369,352	188,523,857	131,011
7	ACCELERATE DIAGNOSTICS INC COM - AXDX	2,773.08	1,783,577	1,823,509	127,949
8	DILLARDS INC CLASS'A' COM - DDS	1,378.87	3,524,852	3,832,458	126,827
9	CROWDSTRIKE HOLDINGS INC COM CL A - CRWD	1,141.64	4,134,073	4,824,581	124,340
10	BRISTOL-MYERS SQUIBB CO COM - BMY	0.44	189,902,666	295,502,755	106,567
11	TESLA INC COM - TSLA	12.29	135,788,090	143,744,136	102,405
12	ANHEUSER-BUSCH INBEV SA/NV ADR EA REP 1 ORD NPV - BUD	55.53	43,298,702	47,653,201	93,643
13	SPDR S&P500 ETF TRUST S&P 500 ETF USD DIS - SPY	0.03	116,736,625	147,409,093	87,700
14	GAMESTOP CORPORATION COM CLASS A - GME	1,787.47	1,811,609	1,825,116	83,985
15	MATCH GROUP INC COM -	237.50	12,286,495	12,544,224	82,120
16	BB&T CORP -	0.99	111,746,993	123,199,929	77,363
17	SPLUNK INC COM - SPLK	0.00	108,931,055	122,825,337	75,899
18	UNITED STATES OF AMER TREAS NOTES 2.25% SNR 31/12/23 -	-19.01	247,717,060	267,412,968	72,882
19	CLOVIS ONCOLOGY INC COM - CLVS	4,459.69	630,094	634,581	72,310
20	AMBU A/S SER'B' - AMBUB DC	195.63	12,160,317	13,219,933	71,929
Total		**18.80**	**2,452,291,251**	**3,273,068,152**	**2,856,363**

Lender 2

Security	Fees	Average On Loan	Average Lendable	Revenue
ZOOM VIDEO COMMUNICATIONS INC COM CL A - ZM	2,542.74	6,822,470	11,850,157	459,006
MATCH GROUP INC COM -	256.90	49,326,720	56,073,326	332,470
JUST EAT TAKEAWAY.COM N.V - TKWY NA	91.17	140,949,904	161,776,207	323,943
NIO INC SPON ADS EACH REP 1 ORD SHS - NIO	4,116.45	1,666,676	1,853,601	181,480
CASINO GUICHARD-PERRACHON - CO FP	1,539.44	3,794,789	5,436,727	154,420
CROWDSTRIKE HOLDINGS INC COM CL A - CRWD	1,134.04	3,722,733	5,200,846	111,705
TAIYO YUDEN CO LTD NPV - 6976 JP	218.53	18,886,952	28,805,317	104,180
UBER TECHNOLOGIES INC COM - UBER	599.08	6,482,099	52,708,338	103,030
BALLARD POWER SYSTEMS INC COM NPV - BLDP UN	3,202.39	1,190,149	1,397,029	100,814
ADT INC COM - ADT	1,128.93	3,372,390	4,058,681	100,642
THE REALREAL INC COM - REAL	4,488.42	854,934	860,502	96,721
AURELIUS EQUITY OPPORTUNITIES SE & NPV - AR4 GR	723.47	4,587,438	5,938,543	83,654
ANGANG STEEL CO LTD 'H' - 347 HK	459.57	6,753,692	13,659,888	79,733
SHOP APOTHEKE EUROPE NV NPV - SAE GF	720.44	4,377,238	9,282,099	79,486
DILLARDS INC CLASS'A' COM - DDS	1,371.17	2,033,261	2,352,611	73,710
UUUM CO LTD NPV - 3990 JP	2,213.14	1,221,497	1,282,307	68,139
STITCH FIX INC COM CL A - SFIX	979.61	2,520,409	3,095,435	65,267
EUROFINS SCIENTIFIC SE - ERF FP	79.46	32,424,651	32,492,154	64,944
CHINA LITERATURE LTD - 772 HK	523.34	4,001,259	4,018,630	52,781
OSRAM LICHT AG NPV - OSR GR	450.42	4,392,738	4,424,070	49,871
Total	**345.53**	**299,381,998**	**406,566,468**	**2,685,995**

Figure 5 Top earning securities by agent lender
Source: DataLend.

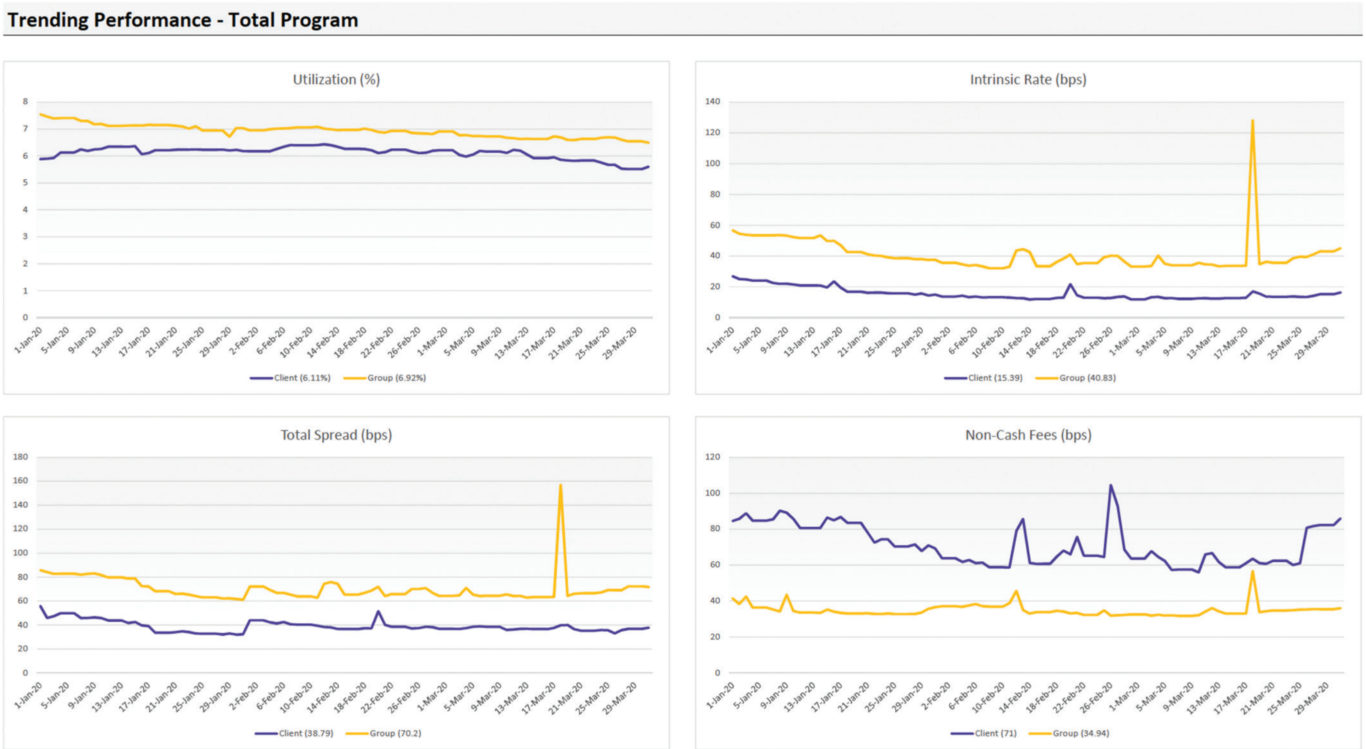

Figure 6 Performance metrics trending over time
Source: DataLend.

TRENDING PERFORMANCE — TOTAL PROGRAMME

Time series charts plotting both the beneficial owner and peer group figures for utilisation, intrinsic rate, total spread and noncash fees across the entire portfolio. Trending performance can also be shown by asset class, sector and at a security level (see Figure 6).

Recently, an even more detailed report was created at the request of our beneficial owner clients and agent lenders. The 'Performance and Revenue Overview' provides clients with a security-level analysis comparing performance to the wider agent lender programme and then to the industry (see Figure 7).

PITFALLS, CONSIDERATIONS AND MISSED OPPORTUNITIES

By now, the value performance measurement and revenue attribution analysis can bring to a lending programme should be evident. There are, however, many pitfalls of which to be aware. While there is a plethora of information that can be gained from securities lending data and performance measurement, there are many nuances in the securities lending market that make a true like-for-like benchmark comparison difficult. It is important not to fall prey to these pitfalls. For example, careful attention must be paid to concentration. If a beneficial owner owns an outsized position, revenue expectations can be blown out of proportion if average

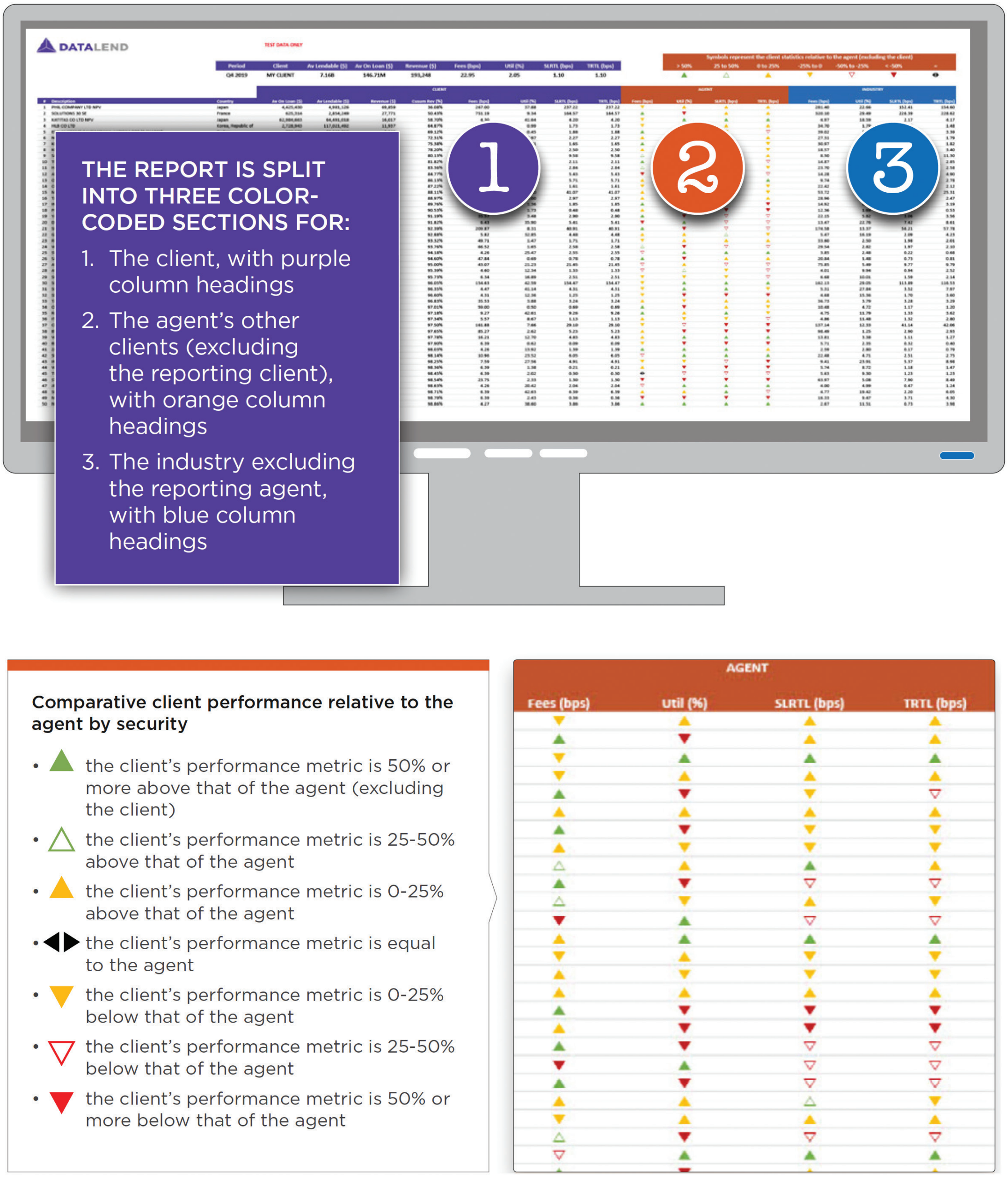

Figure 7 Security-level analysis versus agent lender and broader market
Source: DataLend.

market utilisation and fees are applied to the asset holder's position. Credit limits, buffers, approved counterparties, proxy voting restrictions and hurdle rates are all factors that could skew performance and are not always accounted for when looking at industry averages. This is why it is important for beneficial owners to have more detailed conversations with their agent lenders, third-party data providers or consultants.

While we saw in our recent survey that 81 per cent of beneficial owners are using securities lending data in some form or another, consequently nearly 19 per cent said they do not use lending data at all. Another 29 per cent said they do not or do not know if they look at their performance relative to the broader market.

Therefore, a sizeable group of beneficial owners is leaving value on the table by failing to apply market data and analytics to guide their lending strategies. By using performance measurement tools, beneficial owners can better identify missed opportunities and make more informed decisions about their lending programme and parameters.

ALTERNATIVE AND FUTURE USES OF SEC LENDING TOOLS AND DATA

The appetite for independent securities finance data continues to grow. Beneficial owners are accessing data directly, whether via a web interface, a file feed, an Excel add-in or an application programming interface (API). Many like the ability to access the data from multiple agents in one single log-on. Separately, agent lenders are incorporating market data into their trading algorithms, and more broadly speaking, the data is being used for collateral management purposes across business and products.

Data and automation are also being used to address operational efficiencies in the securities finance market and play a critical role in ensuring a more seamless trading and post-trade process. Across the EquiLend enterprise, the firm is working with the market to enhance inefficiencies and increase automation in the life cycle management process in an effort to prevent operational breaks.

Securities lending data has become an asset in its own right as it is used outside of the lending industry for a variety of reasons. We have worked with cash trading desks and transition management desks who are trying to gain insights into market liquidity, index providers who create specialised indices using the data, buy-side asset managers who use the data for portfolio construction, trading signals and liquidity, and global research teams. Long-only portfolio managers have also shown interest in securities lending activity because it can reveal valuable information on negative market sentiment, which may be difficult for these managers to otherwise ascertain.

Looking ahead, we believe there will be a rise in the application of artificial intelligence and machine learning, allowing users to apply predictive analytics to their lending strategies and add automation to their trading processes. Securities finance data and technology can unlock untapped value and free up internal resources to create greater efficiencies not only in the lending markets but also in the broader global markets.