

# GLOBAL INVESTOR | ISF FOW ISF Survey 2019

The International Securities Finance survey

celebrates the greatest contributions from

agent lenders and prime brokers as well as

the vendors of technology and data services

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# ISF Survey 2019

The International Securities Finance survey 2019 monitors how the world's top securities lenders and borrowers rate each other across different asset classes, regions and functions. The main body of the study covers equities lending and borrowing, breaking the constituent companies down into two groups, with group one (G1) comprising the 15 largest players and group two (G2) representing mid-tier financing firms. The survey also covers fixed income lending as well as technology vendors and data firms.

The survey publishes the leading six firms based on their counterparties' rankings across the different categories so the entire lists are not included.

The survey includes both weighted and unweighted scores. Weighted scores take into account the importance that the individual respondents give to that particular category while the unweighted scores are based on each category being given equal importance.

BNY Mellon took the top spot in the group one equity lenders table,

as well as in the fixed income lending rankings. Candriam came out on top among group two equity lenders, climbing up four places over 2018 in the global weighted and unweighted tables.

2019 has seen UBS take the lead in the global group one borrowers table. Scotiabank retained first place in the unweighted global table for group two borrowers, while Natixis moved to the top of the weighted table.

EquiLend and Pirum Systems were among the firms recognised in this year's technology vendor tables. ■

## LIFETIME ACHIEVEMENT AWARD:

### Roy Zimmerhansl

Roy Zimmerhansl is a recognised expert in securities finance and collateral management with a strong custody and clearing background. Roy has a track record of success, leading businesses at agent banks, in prime brokerage, collateral trading and fintech, both in start-up mode and revitalising stale enterprises.

Roy believes that education is critical to progress in securities finance and has led both in-house and open training sessions in 15 cities around the world. He regularly appears as conference chair, moderator or panellist in North America, Europe, and Asia.

He has been vice-chair of the International Securities Lending Association, a director of the Pan Asia Securities Lending Association, a member of the Bank of England's Securities Lending and Repo Committee and has acted as expert witness in securities finance legal cases in both the USA and UK.

Roy has worked for Nomura, Rabobank, Deutsche Bank, and ICAP during his career. From 2013-2018 he was global head of securities lending at HSBC Securities Services. ■





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## G1 EQUITY LENDERS

### BNY MELLON:

The New York-based group improved on last year's solid performance where it finished second in most of the top group one equity lenders main categories by taking top spot in the global weighted and unweighted categories. BNY Mellon also dramatically improved its score to 973.92 in the unweighted list compared to 784.17 last year, and to 812.96 in the weighted category in 2019 from 651.25 last year.

BNY Mellon came top in the Americas weighted category, improving on last year's second place by leap-frogging State Street. The firm came second to State Street in the Americas unweighted group and improved its score on last year.

BNY Mellon was also top-rated in both EMEA weighted and unweighted categories, improving on last year's second in the unweighted list and third in the weighted list.

In Asia Pacific, BNY Mellon maintained last year's third positions in both categories and managed to increase its scores to 190.17 in the unweighted list and 153.02 in the weighted group.

### STATE STREET:

State Street improved on last year's scores in both the unweighted and weighted sections increasing its total to 938 in the unweighted list from 800.33 last year, and to 790.53 in the weighted group from 675.33 last year.

The US group came top in the Americas unweighted category, beating BNY Mellon into second place while increasing its score to 455.17 from 433.17 in 2018. State Street was second in the Americas

weighted group and increased its score slightly to 379.50.

State Street was second in both categories in EMEA, increasing its score in both lists and moving up one place in the unweighted group. The firm also demonstrated solid performance in Asia Pacific where it retained last year's second places in both groups, and increased its scores to 213.17 in the unweighted group and to 179.4 in the weighted table.

### CITI:

Citi consolidated on last year's performance by coming third overall in the weighted and unweighted categories, the same results as last year. The US banking giant improved its scores from last year, to 693.33 in the unweighted list from 613.75 last year, and to 590.07 this year compared with 521.31 in 2018 (weighted).

In the Americas, Citi was fourth in the unweighted list, which was the same result as last year though the firm did increase its individual score. In the Americas weighted list, Citi increased one position to fourth after boosting its score to 162.57 from 129.98 last year.

Citi maintained its dominance in Asia Pacific, reflecting its hegemony in 2018. The firm came top in both categories this year with an unweighted score of 239.33 and a weighted total of 203.94.

Citi did well in the group one lenders rated by group one borrowers category, finishing third behind State Street and BNY Mellon in both the weighted and unweighted categories.

The US firm improved its scores in this section, to 490 from 390.83 in the unweighted section last year, and to 418.22 from 334.60 in the weighted group last year.

## RBC Investor & Treasury Services improved its rankings in Asia Pacific.

### RBC INVESTOR & TREASURY SERVICES:

The Canadian banking group returned better scores than last year. RBC Investor & Treasury Services came fourth in the global unweighted list with a score of 588.17 compared with 473 last year, and fourth in the weighted category with 480.56 versus 389.74 in 2018.

RBC Investor & Treasury Services came third in the Americas across both lists with 265.67 in the unweighted list, compared with 196.67 last year, and third in the weighted group, with 214.96 versus 162.2 in 2018.

RBC's custody unit was again fifth in EMEA and improved its totals in both the unweighted and weighted categories.

RBC Investor & Treasury Services improved its rankings in Asia Pacific where it came fourth this year, up from sixth last year. The Canadian custodian increased its score in the Asia-Pacific unweighted group to 107.83, up from 86.42 last year, and to 85.77 in the weighted table from 73.29 last year.

### UBS SWITZERLAND:

The Swiss arm of the banking group also performed consistently with last year. UBS Switzerland came fifth overall in the unweighted and weighted categories, increasing its scores in both lists. UBS was fourth in EMEA and fifth in Asia Pacific across the weighted and unweighted groups which was consistent with last year.

The Swiss business was fifth overall among group one lenders being scored by group one borrowers, increasing its score in the unweighted list to 302.33 from 235.83 last year, and to 246.06 in the weighted list from 195.51 last year.

### G1 LENDERS

**Most Innovative**

**BNY Mellon**

### LENDERS

**One to Watch**

**CACEIS**

**BLACKROCK:**

The US asset management giant came sixth in the overall unweighted and weighted lists which was consistent with last year, as its scores fell slightly in both groups.

BlackRock slipped a place to sixth in the Americas unweighted list and two places to sixth in the weighted category after Citi and JP Morgan made ground. BlackRock came sixth in the Americas weighted table of group one lenders as rated by group one borrowers, emulating its score last year. The firm was also sixth in the Americas when ranked by group two borrowers.

**JP MORGAN:**

The US banking group came fifth in the Americas across both measures, which was an improvement on last year when it failed to make the top six. JP Morgan scored 133.17 in the weighted category and 109.34 in the unweighted list.

JP Morgan was ranked sixth among global group one lenders as ranked by group two borrowers. The firm did particularly well in the Americas where it was ranked fourth by group two borrowers.

**BNP PARIBAS SECURITIES SERVICES:**

The French custody provider came sixth in the unweighted and weighted categories in EMEA with scores of 136.83 and 112.44 respectively. This represents an improvement on last year when BNP Paribas Securities Services failed to make the top six.

**HSBC SECURITIES SERVICES:**

HSBC's custody division came sixth in the Asia-Pacific unweighted and weighted categories with scores of 85.33 and 71.06 respectively. These were down on last year's Asian unweighted and weighted totals of 112.5 and 95.64, which saw HSBC Securities Services rank fourth in Asia.

HSBC Securities Services also came fifth in Asia Pacific among group one lenders ranked by group two borrowers, which was an improvement on its performance in this section last year.

G1 LENDERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	973.92
2	State Street	938.00
3	Citi	693.33
4	RBC Investor & Treasury Services	588.17
5	UBS Switzerland	454.83
6	BlackRock	300.50

G1 LENDERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	State Street	455.17
2	BNY Mellon	447.83
3	RBC Investor & Treasury Services	265.67
4	Citi	192.17
5	JPMorgan	133.17
6	BlackRock	118.33

G1 LENDERS: EMEA		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	335.92
2	State Street	269.67
3	Citi	261.83
4	UBS Switzerland	246.33
5	RBC Investor & Treasury Services	214.67
6	BNP Paribas Securities Services	136.83

G1 LENDERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Citi	239.33
2	State Street	213.17
3	BNY Mellon	190.17
4	RBC Investor & Treasury Services	107.83
5	UBS Switzerland	101.67
6	HSBC Securities Services	85.33

G1 LENDERS RATED BY G1 BORROWERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	State Street	681.17
2	BNY Mellon	672.33
3	Citi	490.00
4	RBC Investor & Treasury Services	352.00
5	UBS Switzerland	302.33
6	Brown Brothers Harriman	222.67

G1 LENDERS RATED BY G1 BORROWERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	State Street	338.67
2	BNY Mellon	315.67
3	RBC Investor & Treasury Services	195.00
4	Citi	136.00
5	UBS Switzerland	95.00
6	eSecLending	73.00

G1 LENDERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	812.96
2	State Street	790.53
3	Citi	590.07
4	RBC Investor & Treasury Services	480.56
5	UBS Switzerland	371.81
6	BlackRock	262.20

G1 LENDERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	381.24
2	State Street	379.50
3	RBC Investor & Treasury Services	214.96
4	Citi	162.57
5	JPMorgan	109.34
6	BlackRock	104.24

G1 LENDERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	278.70
2	State Street	231.64
3	Citi	223.55
4	UBS Switzerland	200.50
5	RBC Investor & Treasury Services	179.83
6	BNP Paribas Securities Services	112.44

G1 LENDERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Citi	203.94
2	State Street	179.40
3	BNY Mellon	153.02
4	RBC Investor & Treasury Services	85.77
5	UBS Switzerland	83.50
6	HSBC Securities Services	71.06

G1 LENDERS RATED BY G1 BORROWERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	State Street	573.51
2	BNY Mellon	560.36
3	Citi	418.22
4	RBC Investor & Treasury Services	287.58
5	UBS Switzerland	246.06
6	Brown Brothers Harriman	189.30

G1 LENDERS RATED BY G1 BORROWERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	State Street	281.38
2	BNY Mellon	268.94
3	RBC Investor & Treasury Services	159.35
4	Citi	115.38
5	UBS Switzerland	77.63
6	BlackRock	65.13

## G1 EQUITY LENDERS

G1 LENDERS RATED BY G1 BORROWERS: EMEA		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	222.33
2	State Street	194.00
3	Citi	187.33
4	UBS Switzerland	145.00
5	RBC Investor & Treasury Services	104.67
6	Brown Brothers Harriman	74.33

G1 LENDERS RATED BY G1 BORROWERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Citi	166.67
2	State Street	148.50
3	BNY Mellon	134.33
4	Brown Brothers Harriman	81.00
5	UBS Switzerland	62.33
6	RBC Investor & Treasury Services	52.33

G1 LENDERS RATED BY G2 BORROWERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	301.58
2	State Street	256.83
3	RBC Investor & Treasury Services	236.17
4	Citi	203.33
5	UBS Switzerland	152.50
6	JPMorgan	141.83

G1 LENDERS RATED BY G2 BORROWERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	132.17
2	State Street	116.50
3	RBC Investor & Treasury Services	70.67
4	JPMorgan	63.50
5	Citi	56.17
6	BlackRock	45.67

G1 LENDERS RATED BY G2 BORROWERS: EMEA		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	113.58
2	RBC Investor & Treasury Services	110.00
3	UBS Switzerland	101.33
4	State Street	75.67
5	Citi	74.50
6	Credit Suisse Zurich	73.83

G1 LENDERS RATED BY G2 BORROWERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Citi	72.67
2	State Street	64.67
3	BNY Mellon	55.83
4	RBC Investor & Treasury Services	55.50
5	HSBC Securities Services	41.67
6	UBS Switzerland	39.33

G1 LENDERS RATED BY G1 BORROWERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	183.55
2	State Street	166.42
3	Citi	160.67
4	UBS Switzerland	117.84
5	RBC Investor & Treasury Services	87.69
6	Brown Brothers Harriman	64.22

G1 LENDERS RATED BY G1 BORROWERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Citi	142.17
2	State Street	125.71
3	BNY Mellon	107.87
4	Brown Brothers Harriman	70.80
5	UBS Switzerland	50.59
6	eSecLending	42.88

G1 LENDERS RATED BY G2 BORROWERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	252.60
2	State Street	217.02
3	RBC Investor & Treasury Services	192.98
4	Citi	171.85
5	UBS Switzerland	125.74
6	JPMorgan	120.51

G1 LENDERS RATED BY G2 BORROWERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	112.30
2	State Street	98.12
3	RBC Investor & Treasury Services	55.61
4	JPMorgan	53.23
5	Citi	47.19
6	BlackRock	39.11

G1 LENDERS RATED BY G2 BORROWERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	95.15
2	RBC Investor & Treasury Services	92.14
3	UBS Switzerland	82.66
4	State Street	65.22
5	Citi	62.88
6	Credit Suisse Zurich	60.52

G1 LENDERS RATED BY G2 BORROWERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Citi	61.78
2	State Street	53.69
3	RBC Investor & Treasury Services	45.22
4	BNY Mellon	45.15
5	HSBC Securities Services	34.39
6	UBS Switzerland	32.91

The US bank improved its scores on last year with sixth place in both the unweighted and weighted categories.

### BROWN BROTHERS HARRIMAN:

The US bank improved its scores on last year with sixth place in both the unweighted and weighted categories of the group one lenders ranked by group one borrowers section. BBH scored 222.67 in the unweighted category and 189.3 in the weighted category.

BBH also came sixth in group one lenders rated by group one borrowers in EMEA with an unweighted score of 74.33 and a weighted score of 64.22. The firm did not make the top six last year.

Brown Brothers Harriman also came fourth in the group one lenders scored by group one borrowers for Asia, which was an improvement on last year's sixth place.

### ESECLENDING:

eSecLending came sixth in the unweighted table of group one lenders rated by group one borrowers with a score of 73. The firm did not make the top six in that category last year. The lending specialist also came sixth in the weighted category of the group one lenders rated by group one borrowers in Asia Pacific with a score of 42.88.

### CREDIT SUISSE ZURICH:

The Swiss-based division of the investment bank came sixth in the section that monitors group one lenders being ranked by group two borrowers in EMEA with 73.83 in the unweighted list and 60.52 in the weighted table. This is an improvement on last year when Credit Suisse failed to make the top six in this group.

# Leveraging new initiatives and innovation in securities finance



**Bill Kelly**, Global Head of Agency Securities Finance at BNY Mellon Markets, explains how a challenging year for securities lending has seen the company focus its energies into creating new distribution channels while improving operational efficiencies for clients.

## How has the last 12 months been for the securities finance market?

Securities lending has generally underperformed in 2019 due to a number of factors. These include falling interest rates which have made the investment landscape tougher for investors looking for yield, while lower spreads have made for a very challenging environment. Demand for securities with high intrinsic value has been dramatically depressed, probably to historic lows, coupled with an increase in supply as managers expand their lending participation in order to seek alpha.

This downturn follows 2018, which, despite being probably the strongest year for securities lending since the financial crisis, proved to be a tale of two halves. The first six months of the year were particularly strong in fixed income, but the second half was characterized by lower spreads, contributing to poorer earnings, setting the scene for 2019 which has continued on this lower trajectory.

Two green shoots this year have come in the form of lucrative exchange trades in the securities of Eli Lilly, the US American pharmaceutical company and Coty, the beauty and cosmetics business. In addition, activity has been buoyed by a strong pipeline of IPOs during the second quarter, which has included Beyond Meat, Lyft, Uber and new listings in the healthcare sector. But these have been isolated examples and have been unable to buck the trend of a poor year so far.

While volatility has ticked up somewhat in recent weeks, three things preoccupy markets currently. The first is Brexit, with most participants impatient for things to be concluded as quickly as possible. The second is the continuing ebb and flow of the current trade war between the US and China. The third is the beginning of a return to more accommodative monetary policy from central banks, which in the midterm should support risk assets and allow markets to climb a little higher, providing some volatility along the way. Currently, however, demand remains muted due to a lack of conviction in the deployment of capital.

## What new routes to market have repo participants seen in the last year?

Two new clearing initiatives have become available to beneficial owners recently, providing new distribution channels and the potential for improved trade economics for both beneficial owners and borrowers.

The first is sponsored cleared repo at FICC, the central counterparty. Recently introduced regulations have reduced the availability of dealer balance sheets, driving up costs for bilateral repos and constraining overall capacity in the marketplace.

We have focused considerable efforts, therefore, to facilitate the most efficient use of what are increasingly limited financial resources for both borrowers and lenders.

Centrally clearing repo trades at FICC has been

“ We have focused considerable efforts, therefore, to facilitate the most efficient use of what are increasingly limited financial resources for both borrowers and lenders. ”

“ Both BNY Mellon and the industry have focused their efforts in recent years on improving the technology underpinning both the repo and securities finance markets. ”

a valuable avenue to ameliorate these constraints, helping to increase capacity in the repo market.

The benefit of this initiative has been amply demonstrated by steadily climbing cleared balances this year, as clients have embraced cleared repo through BNY Mellon's Sponsored Repo program. The swift uptake is unsurprising, given that the program improves the management of a scarce resource, by bringing together those with high quality collateral on the one hand and those with cash on the other, in a highly efficient fashion.

The popularity of the new program represents the strongest indication yet that cleared repo transactions are a practical and appealing solution for participants on both sides of the trade.

#### **Have there been developments in central clearing for securities lending transactions?**

Yes. The market has been seeking a cleared securities lending model that works for the buy side for some time – especially one that allows buy-side firms to clear trades through their agent lender.

In June, BNY Mellon became the first agent lender to centrally clear a securities lending transaction on behalf of a buy-side client through Eurex Clearing's Lending CCP platform. The trade originally faced Morgan Stanley as counterparty, and ultimately cleared with Eurex.

This is a major new distribution channel for clients, offering operational efficiencies and potentially improved trade pricing. We are the first to bring such a solution to market and it means that our clients can now capitalize on growing market demand to undertake securities finance within a centrally cleared environment, without the obligations and responsibilities they would face with traditional clearing house membership.

With this solution borrowers are becoming increasingly focused on the capital treatment of lending clients. Clearing provides benefits to clients who may be disadvantaged by their capital treatment.

It is an important precedent and it has created a groundswell of interest from both borrowers and asset owners. If the solution is to grow quickly, however, we need to ease the path to its wider adoption by clients and agents, which, as an example, means focusing on making the documentation more streamlined. Devoting

time and effort to this area will be crucial if the industry is to harvest the full benefits in terms of scale and liquidity. But with the precedent now set, this is an exciting development.

#### **What progress is your company and the industry more widely making in applying technology to securities lending?**

Both BNY Mellon and the industry have focused their efforts in recent years on improving the technology underpinning both the repo and securities finance markets. The industry is ripe for the full application of technology: as the largest agent lender we see this potential clearly and have made a considerable move this year with the purchase of the agency securities finance software and associated intellectual property of Trading Apps.

While we've been a multi-year user of this technology which has allowed our agency lending program to achieve better pricing by feeding multiple sources of price inputs and other market information into a smart algorithm, providing the speed and responsiveness needed to handle high volumes of activity, and allowing prices to adjust more quickly to changes in demand in the market for securities, we look forward to the opportunity to accelerate our continued advancement in this area.

It has also provided us with an exclusive advantage to build on a vendor relationship that will ease our engagement with borrowers. In addition, it's our expectation that asset owners will benefit from our growing market share in terms of lending, which increases their lending opportunities.

#### **What future progress in this area can participants expect?**

I anticipate that the industry will see greater automation across the lifecycle of securities finance in the coming years as machine learning and smart automation – sophisticated technologies whose potential is still hard to evaluate – are increasingly brought to bear.

There remain huge inefficiencies in this process, including around reconciliation, dividends, interest and corporate actions. Progress leveraging new automation, alternative channels and new conventions will reduce expense, minimize operational risk and, in turn, mitigate financial risk. The willingness on the part of the industry is certainly now in place: by and large we all understand the importance of moving forward from what has been a voice-brokered and email mediated OTC market to better keep pace with the progress seen in other sectors. Clearly the more you automate, the more you release traders from dealing with lower volume, lower value cases to concentrate on exceptions and higher value cases. ■



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BNY MELLON

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[bnymellon.com/markets](http://bnymellon.com/markets)

## G2 EQUITY LENDERS

### CANDRIAM:

Candriam reached the top spot in this year's global tables, up from fifth place in 2018. It saw its unweighted global score improve from 266.67 in 2018 to 320.08 in 2019. As in 2018, Candriam was first when rated by group one borrowers globally.

Candriam was particularly strong in Asia Pacific, ranking in first place this year after failing to make the top six in 2018. It was also rated top in this region by group one borrowers.

Group one borrowers also ranked the firm highly in EMEA and the Americas, where it took second place across the weighted and unweighted categories.

### NATIXIS:

Natixis was selected as the top lender both globally and in EMEA by group two borrowers. This year it moved up from fourth to third place in the Americas when rated by group two borrowers.

In the overall tables, Natixis came in second globally and in EMEA on both a weighted and unweighted basis. Group one borrowers placed it in the top three globally.

### BMO GLOBAL ASSET MANAGEMENT:

BMO Global Asset Management was the winner in the Americas this year, up from second place in 2018. Both group one and group two borrowers placed it top of the tables for this region.

The firm performed well in Asia Pacific, ranking fifth overall and when rated by group one borrowers alone.

Globally, BMO Asset Management was ranked fifth in the overall tables, both weighted and unweighted.

## G2 LENDERS

### Most Innovative

**BNP Paribas  
Securities Services  
Principal Lending**

G2 LENDERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Candriam	320.08
2	Natixis	309.50
3	Amundi	283.67
4	Sumitomo Mitsui	256.33
5	BMO Global Asset Management	230.33
6	Nordea	220.83

G2 LENDERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	BMO Global Asset Management	160.00
2	Sumitomo Mitsui	75.50
3	National Bank Financial	63.67
4	Mitsubishi UFJ Trust Int	44.00
5	BNP Paribas Sec Services Principal Lending	43.00
6	Candriam	42.00

G2 LENDERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Amundi	262.67
2	Natixis	248.00
3	Nordea	190.83
4	CACEIS Bank	181.83
5	Candriam	176.08
6	Aviva	147.42

G2 LENDERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Candriam	102.00
2	Sumitomo Mitsui	67.00
3	Mitsubishi UFJ Trust Int	65.00
4	BNP Paribas Sec Services Principal Lending	50.83
5	BMO Global Asset Management	37.67
6	CACEIS Bank	37.00

G2 LENDERS RATED BY G1 BORROWERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Candriam	270.00
2	Amundi	178.00
3	Natixis	160.83
4	Nordea	155.67
5	BNP Paribas Sec Services Principal Lending	145.67
6	Sumitomo Mitsui	135.00

G2 LENDERS RATED BY G1 BORROWERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	BMO Global Asset Management	91.00
2	Candriam	42.00
3	BNP Paribas Sec Services Principal Lending	36.00
4	National Bank Financial	35.00
5 =	Mitsubishi UFJ Trust Int	30.00
5 =	Sumitomo Mitsui	30.00

G2 LENDERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Candriam	270.02
2	Natixis	258.46
3	Amundi	240.24
4	Sumitomo Mitsui	213.13
5	BMO Global Asset Management	194.03
6	CACEIS Bank	184.72

G2 LENDERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BMO Global Asset Management	134.43
2	Sumitomo Mitsui	61.64
3	National Bank Financial	55.87
4	Mitsubishi UFJ Trust Int	37.64
5	BNP Paribas Sec Services Principal Lending	36.77
6	Candriam	34.93

G2 LENDERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Amundi	222.78
2	Natixis	206.87
3	Nordea	156.60
4	CACEIS Bank	154.29
5	Candriam	150.26
6	Aviva	120.56

G2 LENDERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Candriam	84.83
2	Mitsubishi UFJ Trust Int	56.45
3	Sumitomo Mitsui	55.38
4	BNP Paribas Sec Services Principal Lending	43.63
5	BMO Global Asset Management	31.39
6	CACEIS Bank	30.43

G2 LENDERS RATED BY G1 BORROWERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Candriam	227.52
2	Amundi	151.31
3	Natixis	135.09
4	Nordea	128.98
5	BNP Paribas Sec Services Principal Lending	122.65
6	Sumitomo Mitsui	110.39

G2 LENDERS RATED BY G1 BORROWERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BMO Global Asset Management	77.39
2	Candriam	34.93
3	National Bank Financial	31.50
4	BNP Paribas Sec Services Principal Lending	29.94
5	Mitsubishi UFJ Trust Int	27.00
6	Zurcher Kantonalbank	24.95

# Discover a partnership for success on your terms

A man in a light-colored suit stands with his back to the camera, looking out of a large window. The view outside shows a modern cityscape with buildings and a street. The scene is bathed in warm, golden light, suggesting sunrise or sunset.

## WELLS FARGO PRIME SERVICES

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PRIME BROKERAGE

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CUSTODY AND CLEARING SERVICES

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CAPITAL INTRODUCTION

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BUSINESS CONSULTING

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SECURITIES LENDING

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## G2 EQUITY LENDERS

G2 LENDERS RATED BY G1 BORROWERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Amundi	178.00
2	Candriam	144.00
3	Natixis	136.83
4	Nordea	125.67
5	CACEIS Bank	85.00
6	Aviva	80.00

G2 LENDERS RATED BY G1 BORROWERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Amundi	151.31
2	Candriam	122.73
3	Natixis	115.13
4	Nordea	104.03
5	CACEIS Bank	73.52
6	Aviva	65.52

G2 LENDERS RATED BY G1 BORROWERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Candriam	84.00
2	Sumitomo Mitsui	67.00
3	Mitsubishi UFJ Trust Int	65.00
4	BNP Paribas Sec Services Principal Lending	40.33
5	BMO Global Asset Management	37.67
6	CACEIS Bank	37.00

G2 LENDERS RATED BY G1 BORROWERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Candriam	69.86
2	Mitsubishi UFJ Trust Int	56.45
3	Sumitomo Mitsui	55.38
4	BNP Paribas Sec Services Principal Lending	33.48
5	BMO Global Asset Management	31.39
6	CACEIS Bank	30.43

G2 LENDERS RATED BY G2 BORROWERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Natixis	148.67
2	Sumitomo Mitsui	121.33
3	Amundi	105.67
4	Societe Generale Agency Lending	101.42
5	BMO Global Asset Management	100.00
6	CACEIS Bank	96.83

G2 LENDERS RATED BY G2 BORROWERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Natixis	123.38
2	Sumitomo Mitsui	102.74
3	Amundi	88.93
4	Societe Generale Agency Lending	84.92
5	BMO Global Asset Management	84.44
6	CACEIS Bank	80.77

G2 LENDERS RATED BY G2 BORROWERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	BMO Global Asset Management	69.00
2	Sumitomo Mitsui	45.50
3	Natixis	37.50
4	National Bank Financial	28.67
5	NBC Global Finance	18.83
6	Mitsubishi UFJ Trust Int	14.00

G2 LENDERS RATED BY G2 BORROWERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BMO Global Asset Management	57.04
2	Sumitomo Mitsui	39.44
3	Natixis	31.63
4	National Bank Financial	24.37
5	NBC Global Finance	15.38
6	Mitsubishi UFJ Trust Int	10.64

G2 LENDERS RATED BY G2 BORROWERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Natixis	111.17
2	CACEIS Bank	96.83
3	Amundi	84.67
4	Sumitomo Mitsui	75.83
5	Societe Generale Agency Lending	74.42
6	Aviva	67.42

G2 LENDERS RATED BY G2 BORROWERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Natixis	91.75
2	CACEIS Bank	80.77
3	Amundi	71.47
4	Sumitomo Mitsui	63.29
5	Societe Generale Agency Lending	62.24
6	Aviva	55.04

G2 LENDERS RATED BY G2 BORROWERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Amundi	21.00
2	Candriam	18.00
3	Societe Generale Agency Lending	15.00
4	BNP Paribas Sec Services Principal Lending	10.50

G2 LENDERS RATED BY G2 BORROWERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Amundi	17.46
2	Candriam	14.97
3	Societe Generale Agency Lending	12.47
4	BNP Paribas Sec Services Principal Lending	10.15

## G2 LENDERS

**Most Improved**  
**BMO Global Asset Management**

**NATIONAL BANK FINANCIAL:**

National Bank Financial made the top six again this year in the Americas. In the 2019 tables, it came third in the overall weighted and unweighted categories. It also achieved this spot in the Americas weighted category when ranked by group one borrowers.

Among group two borrowers, National Bank Financial was placed fourth in the Americas region.

**CACEIS BANK:**

CACEIS jumped from fifth position in the EMEA tables in 2018 to fourth this year, bettering last year's scores in both the weighted and unweighted categories. When ranked by group two borrowers alone, it achieved second place in this region.

Group one borrowers placed the bank in the top six for EMEA and Asia Pacific. In the overall global tables, it came sixth in the weighted category.

CACEIS was also named the 'one to watch lender 2019'.

**AMUNDI:**

Amundi rose up to take first place in EMEA, moving to the top spot for the weighted and unweighted categories.

In the global tables, it ranked third overall, second among group one borrowers, and third among group two borrowers.

For group two borrowers, Amundi was seen as the top group two lender for Asia Pacific.

Amundi rose up to take first place in EMEA, moving to the top spot for the weighted and unweighted categories.

**NORDEA:**

Nordea made the list of top six group two lenders this year, ranking in sixth place in the unweighted category.

It did well in EMEA, coming in third place overall, and ranked fourth by group one borrowers.

Among group one borrowers, Nordea rose from sixth place in the global weighted category in 2018 to fourth place in 2019.

**SUMITOMO MITSUI:**

Sumitomo Mitsui broke into the top six global table this year to claim fourth place. It also demonstrated a strong performance in Asia Pacific and the Americas, where it was ranked in third and second place, respectively.

Group two borrowers catapulted Sumitomo Mitsui from fourth place globally in 2018 to second place, weighted and unweighted, this year.

**MITSUBISHI UFJ TRUST INTERNATIONAL:**

Mitsubishi UFJ Trust International achieved fourth place in the Americas overall. In Asia Pacific, group one lenders rated the firm in second place in a weighted basis, and in third place on an unweighted basis.

As in 2019, group two borrowers ranked Mitsubishi UFJ Trust International in sixth place in the Americas.

**BNP PARIBAS SECURITIES SERVICES PRINCIPAL LENDING:**

BNP Paribas Securities Services Principal Lending came fifth in the Americas and fourth in Asia Pacific after failing to reach the top six in 2018.

It was highly rated among group one borrowers, taking fifth place in the global tables and third (unweighted) in the Americas.

BNP Paribas Securities Services Principal Lending won the most in-

novative lender category among group two lenders.

**AVIVA:**

Aviva reached sixth place in EMEA in both the weighted and unweighted categories overall.

Although it did not place in the top six for EMEA when rated by group one borrowers last year, it came sixth in this year's tables. It also held this position when rated by group two borrowers, as it did in 2018.

**SOCIETE GENERALE AGENCY LENDING:**

Societe Generale Agency Lending was well rated among group two borrowers. It claimed fourth place when rated by this group for the global tables.

It also rose up to third place in Asia Pacific, and took the fifth spot in EMEA when ranked by group two borrowers.



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## G1 BORROWERS

### UBS:

UBS took the top spot overall among group one borrowers in this year's survey in both the weighted and unweighted category.

The Swiss banking giant, second overall to Morgan Stanley in the 2018 survey, topped the tables in 2019.

UBS once again scored highly in Asia Pacific, coming first place in the region across both the weighted and unweighted categories.

EMEA, however, was where the company gained the most ground, coming second (unweighted) and first (weighted) in 2019 compared to fourth in both tables last year.

When ranked by group one lenders alone, UBS was well ahead of rivals in Asia and Europe and finished third in the Americas.

### MORGAN STANLEY:

Morgan Stanley dominated the Americas tables in both the weighted and unweighted categories this year.

The US banking giant was well ahead of rivals in the region when rated by the largest (group one) lenders in the market.

Although second to UBS overall on a global basis, the US banking giant came in first place globally when ranked by group two lenders alone.

Morgan Stanley was first in EMEA and Asia Pacific when rated by group two lenders.

Group one lenders also placed the firm top of the tables in EMEA in the unweighted category.

Morgan Stanley has also been named most innovative group one borrower in 2019.

The US banking giant was well ahead of rivals in the region when rated by the largest (group one) lenders in the market.

G1 BORROWERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	UBS	696.50
2	Morgan Stanley	671.50
3	Citi	670.50
4	Bank of America Merrill Lynch	578.17
5	Goldman Sachs	459.42
6	JPMorgan	449.75

G1 BORROWERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	Morgan Stanley	215.33
2	Citi	204.83
3	UBS	174.67
4	Goldman Sachs	168.67
5	JPMorgan	163.75
6	Bank of America Merrill Lynch	162.50

G1 BORROWERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Morgan Stanley	289.83
2	UBS	282.17
3	Citi	256.83
4	Bank of America Merrill Lynch	245.67
5	Barclays	177.25
6	JPMorgan	156.83

G1 BORROWERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	UBS	239.67
2	Citi	208.83
3	Bank of America Merrill Lynch	170.00
4	Morgan Stanley	166.33
5	Goldman Sachs	160.42
6	Credit Suisse	147.17

G1 BORROWERS RATED BY G1 LENDERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	UBS	625.00
2	Citi	541.67
3	Morgan Stanley	500.67
4	Bank of America Merrill Lynch	461.00
5	Goldman Sachs	333.33
6	JPMorgan	330.67

G1 BORROWERS RATED BY G1 LENDERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	Morgan Stanley	179.33
2	Citi	160.33
3	UBS	156.67
4	Bank of America Merrill Lynch	129.33
5	Goldman Sachs	126.67
6	JPMorgan	118.67

G1 BORROWERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS	610.48
2	Morgan Stanley	570.09
3	Citi	565.20
4	Bank of America Merrill Lynch	487.63
5	Goldman Sachs	404.96
6	JPMorgan	395.70

G1 BORROWERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Morgan Stanley	187.98
2	Citi	176.43
3	Goldman Sachs	155.10
4	UBS	151.84
5	JPMorgan	147.09
6	Bank of America Merrill Lynch	144.63

G1 BORROWERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS	248.88
2	Morgan Stanley	244.72
3	Citi	215.50
4	Bank of America Merrill Lynch	202.12
5	Barclays	164.65
6	JPMorgan	134.27

G1 BORROWERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS	209.77
2	Citi	173.27
3	Goldman Sachs	141.39
4	Bank of America Merrill Lynch	140.88
5	Morgan Stanley	137.38
6	Credit Suisse	131.96

G1 BORROWERS RATED BY G1 LENDERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS	551.88
2	Citi	458.22
3	Morgan Stanley	422.03
4	Bank of America Merrill Lynch	391.57
5	Goldman Sachs	300.28
6	JPMorgan	294.57

G1 BORROWERS RATED BY G1 LENDERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Morgan Stanley	156.69
2	Citi	139.17
3	UBS	136.84
4	Bank of America Merrill Lynch	117.21
5	Goldman Sachs	117.16
6	JPMorgan	108.36

G1 BORROWERS RATED BY G1 LENDERS: EMEA		
UNWEIGHTED		
Rank		Score
1	UBS	228.67
2	Citi	197.33
3	Morgan Stanley	194.00
4	Bank of America Merrill Lynch	174.67
5	Barclays	111.00
6	JPMorgan	106.33

G1 BORROWERS RATED BY G1 LENDERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS	205.28
2	Citi	166.41
3	Morgan Stanley	160.45
4	Bank of America Merrill Lynch	144.13
5	Barclays	105.32
6	JPMorgan	91.89

G1 BORROWERS RATED BY G1 LENDERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	UBS	239.67
2	Citi	184.00
3	Bank of America Merrill Lynch	157.00
4	Morgan Stanley	127.33
5	Credit Suisse	122.67
6	Goldman Sachs	122.00

G1 BORROWERS RATED BY G1 LENDERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS	209.77
2	Citi	152.63
3	Bank of America Merrill Lynch	130.23
4	Credit Suisse	110.66
5	Goldman Sachs	109.32
6	Morgan Stanley	104.88

G1 BORROWERS RATED BY G2 LENDERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Morgan Stanley	170.83
2	Citi	128.83
3	Goldman Sachs	126.08
4	Barclays	120.83
5	JPMorgan	119.08
6	Bank of America Merrill Lynch	117.17

G1 BORROWERS RATED BY G2 LENDERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Morgan Stanley	148.06
2	Citi	106.98
3	Goldman Sachs	104.68
4	Barclays	103.62
5	JPMorgan	101.13
6	Bank of America Merrill Lynch	96.06

G1 BORROWERS RATED BY G2 LENDERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	JPMorgan	45.08
2	Citi	44.50
3	Goldman Sachs	42.00
4	Barclays	36.83
5	Morgan Stanley	36.00
6	Bank of America Merrill Lynch	33.17

G1 BORROWERS RATED BY G2 LENDERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	JPMorgan	38.73
2	Goldman Sachs	37.94
3	Citi	37.25
4	Morgan Stanley	31.29
5	Barclays	30.41
6	Bank of America Merrill Lynch	27.42

G1 BORROWERS RATED BY G2 LENDERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Morgan Stanley	95.83
2	Bank of America Merrill Lynch	71.00
3	Barclays	66.25
4	Citi	59.50
5	UBS	53.50
6	JPMorgan	50.50

G1 BORROWERS RATED BY G2 LENDERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Morgan Stanley	84.27
2	Barclays	59.33
3	Bank of America Merrill Lynch	57.99
4	Citi	49.08
5	UBS	43.60
6	JPMorgan	42.38

G1 BORROWERS RATED BY G2 LENDERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Morgan Stanley	39.00
2	Goldman Sachs	38.42
3	Citi	24.83
4	Credit Suisse	24.50
5	JPMorgan	23.50
6	HSBC Bank Plc	18.50

G1 BORROWERS RATED BY G2 LENDERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Morgan Stanley	32.50
2	Goldman Sachs	32.07
3	Credit Suisse	21.30
4	Citi	20.64
5	JPMorgan	20.02
6	HSBC Bank Plc	15.77

**CITI:**

Citi finished third place overall in the 2019 survey, moving into the top three after coming fourth last year.

In the Americas, its home market, Citi was second in the weighted and unweighted category.

Asia Pacific produced the same result for the firm while Citi was third overall in EMEA, matching its 2018 regional result.

When ranked by group one lenders alone, Citi was placed second in EMEA and second in the Americas (weighted and unweighted).

Globally, group two lenders placed Citi second overall.

**BANK OF AMERICA MERRILL LYNCH:**

Bank of America Merrill Lynch was ranked fourth across the unweighted and weighted sections by lenders in 2019.

The US bank fared particularly strongly in Asia Pacific, where it was third overall in the unweighted section and fourth in the weighted section.

In the Americas, the largest lenders placed the firm fourth – a position matching the 2018 result.

**GOLDMAN SACHS:**

Goldman Sachs took fifth place overall on a global basis, weighted and unweighted.

The US bank fared particularly well in the Americas, where it came third and fourth in the weighted and unweighted tables, respectively.

Group two lenders ranked Goldman Sachs in third place globally, and second in the Americas on a weighted basis. Asia Pacific was where the bank achieved its highest position (second, weighted and unweighted) when scored by group two lenders.

G1 Borrowers continues on page 16 >

**G1 BORROWERS**

**Most Innovative**  
**Morgan Stanley**

# Where next for blockchain in banking?



Blockchain and cryptocurrency are making their presence felt across capital markets. **Frédéric Dalibard**, Head of Digital at Corporate & Investment Banking and Global Blockchain Coordinator, and **Thierry Redon**, Blockchain Project Manager at Natixis, consider recent developments and where the technology might go from here.

The likely impact of blockchain across the banking sector has been widely discussed since the middle of this decade. However, now that real use cases have emerged and the more challenging applications have been put on hold the hype has given way to a more measured assessment of the technology's potential.

There is a clear trend among the regulatory community to make local regulations more crypto or token-friendly in order to facilitate the emergence of the tokenised economy.

We are seeing a high level of interest from originators and borrowers looking to see how they can tap into this market. There is also considerable interest from investors who want to know how they will be able to access the tokenised market more easily and with less friction – for example, asset managers wondering how they could maintain positions in their funds in a more efficient way.

This is particularly relevant for asset classes that are relatively illiquid, such as real estate, for which the tokenisation of assets could provide investors with greater ease of access.

For distributed ledger technology to be fully utilised, the monetary counterparts of these trades also have to be tokenised. To date, central banks have been reluctant to issue digital currencies, but this is changing and these institutions are now talking about the need for cryptocurrencies that are linked to fiat currencies.

The deputy director of the People's Bank of China's plan payments department told a China Finance 40 Forum in August that it had been working on a cryptocurrency since 2018 and that the new digital currency would replace cash in circulation as well as supporting the internationalisation of the yuan.

We believe Facebook's Libra project has been a

catalyst for this trend. Libra has made a concept that was previously hypothetical real and there is a sense from central banks and regulators that if they don't do something, they could lose their grasp on a large chunk of the money flows within their economies.

Loss of sovereignty is a huge concern for senior economists such as France's finance minister, who has raised concerns about a cryptocurrency with huge amounts of power but no governing rules or obligations and recently dismissed suggestions that Libra could become a sovereign currency.

In June, France revealed plans to establish a G7 taskforce on 'stable coin' projects led by European Central Bank board member Benoit Coeure (stable coins are cryptocurrencies that are pegged to a stable asset such as gold or the US dollar).

Bank of France Governor Francois Villeroy de Galhau said Libra would have to respect anti-money laundering regulations and seek banking licences if it were to offer banking services.

These moves by Facebook and the People's Bank of China point to the likelihood of an acceleration in the issuance and trading of assets in tokenised form. This will happen first in non-regulated markets because of regulations around central securities depositories and we can expect to see activity in areas such as private equity.

There are already a number of initiatives in the commercial paper market and the repo market, most notably HQLAX, a blockchain solution for collateral swaps in the securities lending market designed to facilitate more efficient collateral management of high quality liquid assets.

Under the HQLAX operating model there is no movement of securities between custodians. Instead, a

digital collateral registry is used to record ownership of baskets of securities, whilst the underlying securities remain static in the custody location of the collateral giver.

This model is designed to enable platform participants to seamlessly execute capital efficient securities lending transactions for enhanced balance sheet optimisation.

We also see crypto assets being looked at as alternative asset classes. The SEC has pushed back strongly against crypto-related funds but various attempts have been made to bring funds to market.

In July, VanEck CEO Jan van Eck and the firm's director of digital assets strategy Gabor Gurbacs wrote a post in which they suggested stable coins would strengthen the cryptocurrency ecosystem. They stated that Bitcoin and digital assets are already a part of many investor portfolios - just not in traditional brokerage accounts - and may play a bigger role with appropriately regulated, insured and liquid access vehicles, such as ETFs.

Earlier this month, VanEck and SolidX announced that the VanEck SolidX Bitcoin Trust would issue shares in accordance with Rule 144A under the Securities Act of 1933, as amended. These shares will provide institutional investors access to a physically-backed bitcoin product that is tradeable through traditional and prime brokerage accounts and are described as the first institutional quality, cleared product providing exposure to bitcoin and enabling a standard ETF creation-and-redemption process.

We also have projects in the trade finance space that are coming to production, such as Komgo. Natixis is one of the 15 institutions behind the Komgo blockchain platform for commodity trade finance which now facilitates standby letters of credit and receivables discounting as well as letter of credit and KYC.

Trade finance is the ideal use case for blockchain given the limited regulation of document exchange and the involvement of multiple counterparties.

Going to production has been challenging for many blockchain initiatives, but Komgo has progressed to this point successfully. Having a prototype is one thing, but going to production in a banking environment is difficult - there are IT security issues, decisions over where to host the solution, how to price the service, etc.

There remains work to do with all the parties involved in trade finance transactions, but we are confident that things are moving in the right direction.

Given that regulators are moving at different speeds, we are fortunate that the regulator in France has been

helpful. This has also been the case in countries such as Switzerland, where SIX has been building the SIX Digital Exchange (SDX), the world's first fully integrated infrastructure for the trading, settlement and custody of digital assets.

The plan in Switzerland is to port an entire portion of its market into a purely digital exchange, which is a game changer. We think this is where the market is going, although some regulators will have a lot of catching up to do.

Another interesting project in the blockchain space is Finastra's Fusion LenderComm syndicated lending market solution. Designed to streamline information exchange between agent banks and lenders, it enables financial institutions acting as agents to publish loan data to the ledger and extend self service capabilities to lenders.

Through their own portal, agents can define and then publish lender specific deal position data to Fusion LenderComm, so individual lenders can drill down into the data without needing to query positions by phone, fax or email, as is typical today.

By allowing the sharing of syndicated loan position data more efficiently between loan agents and participants, the project addresses a key pain point by automating the costly manual processes traditionally involved in such sharing of information.

Connecting the agents' recording systems to the blockchain provides a live view of what is going on with their loans.

This is just the beginning of how distributed ledger technology could be used. The process could easily be transferred to other markets where the lifecycle of assets and products can be complex in terms of initial margin requirements, computations and/or margin calls.

Our vision for the future is that transaction-based systems will become blockchain-based at the layer where all the transactions are recorded. Vendors are already looking at how they can synchronise the various counterparties of a trade using a blockchain backbone.

It is easy to envisage a future where the database where all these systems record their transactions is blockchain-based and the resulting automation in the lifecycle of these trades would produce considerable operational benefits.

Given that the cost of doing business is a major concern to the banking industry, this could underpin the future sustainability of banks. ■

**“ Our vision for the future is that transaction-based systems will become blockchain-based at the layer where all the transactions are recorded. ”**

## G1 BORROWERS

### JP MORGAN:

JP Morgan features in sixth place globally overall in this year's tier-one borrower survey.

The US bank comfortably beat its scores achieved in 2018 and came fifth overall in the Americas.

When rated by group two lenders alone, the bank achieved the top spot in the Americas region on a weighted and unweighted basis.

### BARCLAYS:

Barclays improved its overall standing in EMEA in this year's survey, coming fifth globally (weighted and unweighted), up from sixth in 2018.

Over the past two years, the bank has shown consistent improvement in the region.

Votes from group two lenders alone placed Barclays fourth globally and third (unweighted) and second (weighted) in EMEA.

Barclays also came fourth (unweighted) in the Americas when rated by group two lenders.

### CREDIT SUISSE:

Credit Suisse appears among the top six borrowers in Asia Pacific in this year's survey.

The Swiss bank's scores improved significantly across the region compared to last year, when it did not appear in the top six unweighted category.

Group two lenders alone placed Credit Suisse third (weighted) and fourth (unweighted) in Asia Pacific.

### HSBC BANK PLC:

HSBC made its way into the top six this year in Asia Pacific when rated by group two lenders alone. It gained this spot in both the weighted and unweighted rankings.

## BORROWERS

One to Watch

BCS

## G2 BORROWERS

### SCOTIABANK:

Scotiabank ranked top of the group two borrowers overall in the unweighted section with a score of 615.50.

The Canadian bank was very narrowly second to Natixis in the weighted global group two borrowers category.

Scotiabank was also top of the unweighted and weighted tables for the Americas, beating Wells Fargo by a narrow margin.

Scotia also won the group two borrowers rated by group one lenders both globally and in the Americas.

### NATIXIS:

The French bank scored well in 2019, taking the top spot from Scotiabank in the highly-prized global group two borrowers section (weighted). Natixis was second in the global unweighted table to Scotiabank and performed well in EMEA.

Natixis beat ABN Amro narrowly to take the EMEA unweighted category and lost to the Dutch bank by an even smaller margin in the EMEA weighted section.

Natixis was second globally, third in the Americas, and top in EMEA according to group one lenders.

Natixis was also third globally when scored by group two lenders.

### NOMURA:

The Japanese bank was rated third globally among group two borrowers, narrowly behind the second-placed borrower and way ahead of the fourth-placed firm.

Nomura dominated in Asia Pacific where it won the unweighted

Scotiabank ranked top of the group two borrowers overall in the unweighted section with a score of 615.50.

and weighted lists comfortably.

The firm was ranked third globally and first in Asia Pacific by group one lenders.

Nomura was also ranked top globally in the Americas and Asia Pacific by group two lenders, and second in EMEA by these smaller firms.

### ABN AMRO:

The Dutch borrower came fourth overall in the unweighted and weighted group two borrowers sections. ABN Amro was first in the EMEA weighted table and narrowly second to Natixis in the EMEA unweighted list. ABN was also fifth in Asia Pacific.

The company is particularly strong in Europe and when working with smaller lenders. The bank was placed second by group two lenders globally and in Asia Pacific, and top rated by group two lenders in EMEA.

### JEFFERIES:

The US bank came fifth in the global rankings overall. Jefferies performed solidly in Europe where it finished fourth in the unweighted rankings, which was consistent with last year, and third in the weighted list, which was one place higher than last year. The firm was fifth globally and third in EMEA when ranked by group one and two lenders.

ABN AMRO is particularly strong in Europe and when working with smaller lenders. The bank was placed second by group two lenders globally and in Asia Pacific, and top rated by group two lenders in EMEA.

**MACQUARIE:**

The Australian bank was sixth overall globally in 2019, which was consistent with its performance from last year, while its scores increased slightly on 2018.

Macquarie was second in the Asia-Pacific unweighted table, and third in Asia Pacific in the weighted category.

Macquarie was ranked fourth globally and third in Asia Pacific by group one lenders.

Macquarie came third in Asia Pacific according to group two lenders.

**WELLS FARGO:**

The US firm performed well in its home market. Wells Fargo was second overall behind Scotiabank in the Americas unweighted and weighted categories. The firm was also second in the Americas when ranked by group one lenders and fifth in the unweighted table when rated by group two lenders.

**FIDELITY PRIME SERVICES:**

Fidelity Prime Services came fourth among the group two borrowers in the Americas, which compares to its second place last year. The firm was fourth when ranked by group one lenders in the Americas.

Fidelity Prime Services was third in the Americas weighted list when ranked by group two lenders and sixth in the Americas unweighted list.

**STATE STREET PRINCIPAL:**

State Street's borrowing division was fifth among the group two borrowers in the Americas, which was an improvement of one place on last year, reflecting State Street Principal's higher scores this year.

State Street Principal also broke into the top six of group two borrowers as ranked by group one lenders, coming sixth.

The firm was fifth in Asia Pacific when rated by group one lenders and second in the Americas when ranked by group two lenders.

G2 Borrowers continues on page 22 >

G2 BORROWERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Scotiabank	615.50
2	Natixis	609.00
3	Nomura	601.67
4	ABN Amro	346.50
5	Jefferies	345.58
6	Macquarie	345.00

G2 BORROWERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	Scotiabank	211.17
2	Wells Fargo	201.33
3	Natixis	143.67
4	Fidelity Prime Services	135.17
5	State Street Principal	128.00
6	Nomura	120.00

G2 BORROWERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Natixis	269.33
2	ABN Amro	259.00
3	Nomura	203.83
4	Jefferies	202.25
5	Scotiabank	169.17
6	SEB	147.00

G2 BORROWERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Nomura	277.83
2	Macquarie	240.00
3	Scotiabank	235.17
4	Natixis	196.00
5	ABN Amro	77.83
6	State Street Principal	76.67

G2 BORROWERS RATED BY G1 LENDERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Scotiabank	541.00
2	Natixis	520.00
3	Nomura	449.50
4	Macquarie	312.33
5	Jefferies	276.00
6	State Street Principal	239.00

G2 BORROWERS RATED BY G1 LENDERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	Scotiabank	190.67
2	Wells Fargo	181.00
3	Natixis	119.67
4	Fidelity Prime Services	115.00
5	State Street Principal	100.67
6	National Bank Financial	97.33

G2 BORROWERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Natixis	532.08
2	Scotiabank	531.61
3	Nomura	502.37
4	ABN Amro	307.25
5	Jefferies	291.36
6	Macquarie	273.11

G2 BORROWERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Scotiabank	184.08
2	Wells Fargo	176.64
3	Natixis	131.61
4	Fidelity Prime Services	119.54
5	State Street Principal	115.88
6	Nomura	94.07

G2 BORROWERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	ABN Amro	234.81
2	Natixis	234.48
3	Jefferies	176.23
4	Nomura	170.39
5	Scotiabank	145.54
6	SEB	120.17

G2 BORROWERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Nomura	237.90
2	Scotiabank	201.99
3	Macquarie	196.25
4	Natixis	165.99
5	ABN Amro	67.32
6	State Street Principal	66.16

G2 BORROWERS RATED BY G1 LENDERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Scotiabank	466.08
2	Natixis	459.68
3	Nomura	375.73
4	Macquarie	246.05
5	Jefferies	230.30
6	State Street Principal	216.32

G2 BORROWERS RATED BY G1 LENDERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Scotiabank	164.32
2	Wells Fargo	159.47
3	Natixis	110.47
4	Fidelity Prime Services	97.26
5	State Street Principal	91.22
6	National Bank Financial	78.01

# Constant change in Prime Brokerage shines the spotlight on proven, trusted partners

In the midst of ongoing change in the prime brokerage industry, participants face a wide range of issues, from fluctuating financial resource availability to rising cost pressures. **Paul McGuigan**, Scotiabank's European Head of Securities Lending, describes how the Canadian bank's Prime Services business has continued to grow and differentiate itself, despite the trends impacting the industry.



Over a decade on from the Global Financial Crisis, the ongoing impact of regulation on the industry can still be felt. Whilst some Prime Brokers have rebased their businesses to operate more efficiently in light of the limitations banks have imposed on financial resource consumption, others have reached a point where exiting from the market was the ultimate conclusion. The number of committed participants continues to evolve and as such, hedge funds give thought to what makes a suitable long-term partner.

Across the industry, we have observed softer funding markets, revenue shortfalls across prime brokers and lenders, and a focus on cost reduction and regulatory compliance, as well as growing interest in Environmental and Social Governance (ESG) matters. All of this, alongside tightening spreads in the financing markets, Brexit uncertainty and global trade wars, have created a muted European deal space and a difficult year for many prime brokerage participants, prompting some to scale back their services.

#### **A Canadian view of dynamic global markets:**

I have been fortunate to observe this activity from the vantage point of Scotiabank, Canada's international bank and a leading financial services provider in the Americas. Scotiabank has been offering prime brokerage services for more than 15 years, initially in Canada and later launching a global offering. In that time, the prime brokerage industry has undergone much change, yet Scotiabank's commitment to servicing clients has

“ Whilst some Prime Brokers have rebased their businesses to operate more efficiently in light of the limitations banks have imposed on financial resource consumption, others have reached a point where exiting from the market was the ultimate conclusion. ”

been unwavering. Scotiabank has continued to invest in people and technology, with the goal of improving the client experience. The result: a multi-product, cross asset platform with a global team of vast experience. Our European prime services team, for example, has an average of 15 years market experience. Most of our team members joined Scotiabank from larger prime brokers, bringing invaluable expertise that enables us to apply best practices, while offering a high-touch service and better execution for our clients. This was highlighted in the recent global custodian prime brokerage report where one client commented on Scotiabank: ‘excellent improvements made in automation and tech in the stock loan space.’

Through our Global Banking and Markets division, we offer international prime services, with regional desks providing local expertise and coverage in Toronto, New York, London and Singapore. Over the last five years, we have greatly expanded our European and Asian offering and while our team’s core aim has been to service our Americas clients globally, we also offer access to European and Asian clients and provide local expertise on a regional basis. Scotiabank’s Prime Services international growth has been driven by leveraging our strength in the Americas where we are one of the leading wholesale banks.

The strength and diverse experience of the team has been advantageous when onboarding clients and integrating systems. As the regulatory landscape changes and client needs evolve, Scotiabank built a scalable offering from the outset, rather than solving for silos or having to re-engineer outdated systems and processes. For example, in Europe we recently launched our low-touch equity execution product, which significantly expands the breadth of clients we can service. Our disciplined institutional culture has enabled Scotiabank to grow in a sustainable and measured manner. We believe that our clients take comfort in the fact that they can depend on Scotiabank to service their needs long into the future.

The Bank’s ongoing commitment has also enabled us to expand our offerings. For example, we have focused on improving our securities lending capabilities within Europe, enhancing our local client offering while introducing new supply avenues and new trading opportunities for the global desks and our clients.

Scotiabank’s strong credit rating allows us to gain access to supply from beneficial owners who only

“ Through our Global Banking and Markets division, we offer international prime services, with regional desks providing local expertise and coverage in Toronto, New York, London and Singapore. ”

wish to have exposure to highly-rated Canadian banks. This is a notable differentiator for our international business. Additionally, we have successfully opened pockets of un-utilised European beneficial owner supply for the Americas and Asia, with significant success in the Canadian and Latin American markets. This has led to a material improvement in the breadth, size and stability of our supply and we continue to improve globally relative to the largest prime brokers.

In tandem, we have significantly improved our collateral management and operational efficiencies to ensure we provide a low touch, seamless and competitive execution for clients. We have upgraded our internal systems to manage inventory and risk and adopted external vendor solutions for client service optimization and efficiency. Scotiabank has partnered with several leading FinTech providers and is committed to improving our architecture and implementing new technologies to boost efficiency, enhance service delivery and ensure client scalability.

#### **An eye on securities lending market trends:**

We see several trends in the securities lending market that merit close attention:

**Reduced agency lending revenue:** It is well reported that revenues for many agency lending programs are down. Consequently, we are fielding more requests to add balances and trade flow. This can be difficult without significant improvement in levels, optimal risk weighting, beneficial collateral profiles or improved stability for our underlying clients. At the same time, we have seen increased rate pressure on securities trading special. As agency lending programs seek to extract more and more value from their underlying securities, they face the danger of having a negative longer-term

“ Scotiabank’s strong credit rating allows us to gain access to supply from beneficial owners who only wish to have exposure to highly-rated Canadian banks. ”

impact. Some clients have already moved away from trading securities with small or concentrated lending pools due to the increased risk of recalls or aggressive rate movements. Increasingly, clients need comfort when securing a loan that it will be stable in size and rate.

**Bottom line costs drive efficiency programs:** The recent revenue pressures have been industry-wide and led many firms to improve and streamline operational flows with the aim of reducing bottom line costs. As a result, we have seen an increase in the adoption of vendor solutions for straight through processing, a move away from bilateral collateralisation, firms exploring omnibus structures and a reduction in the facilitation of lower notional trade flows.

**Collateral expansion evident:** This continues to be a significant differentiator for beneficial owners and agency lending programs. We have witnessed further moves to non-cash collateral, and exploratory moves down the collateral curve. Those who moved have benefited from additional trade flow and revenue capture. As global lendable assets continue to grow, and competition increases with transparency, beneficial owners who differentiate themselves via their collateral will be well placed. In addition, with the ongoing roll out of the Standard Initial Margin Model; Phase V (September 2020) and Phase VI (September 2020), creating a further drain on resources, broad collateral acceptance and the ability to mobilise assets will be of greater importance. Consequently, the available tools and capabilities of a tri-party agent are paramount. The ability to be versatile, nimble and quick to implement will be essential and critical to the market's well-being.

**Continued regulatory demands:** Although the pending implementation of the Securities Financing Transaction Regulation (SFTR) and Central Securities Depositories Regulation (CSDR) results operational changes and technology investments, these regulations will greatly benefit the industry. Over time, they will ensure best practice, increased levels of standardization, improvements in market settlement and behaviour and, ultimately, improve the experience for all participants.

“ We have seen an increased number of ESG funds come to market, additional restrictions on securities lending, and related amendments to collateral profiles. ”

**ESG gains momentum:** ESG criteria are gaining influence within Prime Brokerage. We have seen an increased number of ESG funds come to market, additional restrictions on securities lending, and related amendments to collateral profiles. Scotiabank is supportive of this movement and recently boosted its sustainability commitment by closing our inaugural Green Bond issuance in Canada. In addition, Scotiabank London has implemented an ESG initiative, focused on delivering on clients' increasing focus in this space. We have an ESG-themed week planned in December 2019 which will incorporate a buy-side roundtable.

**Consolidation drives clients to elite providers:** Finally, as the securities lending market continues to evolve, automation improves, and transparency increases, there will likely be further amalgamation of businesses, operations and trading teams across the industry.

While these changes can be unsettling, significant upside remains. The flexibility and fluidity that securities lending offers will ensure that committed providers who have the support and capacity will continue to develop and broaden their businesses. Scotiabank continues to demonstrate commitment to the securities lending market, in recognition of the value it brings to our clients and shareholders. We continue to deepen our client relationships by applying our securities lending platform to deliver effective and innovative client solutions.

With this commitment, an exceptional team and a thoughtful and measured approach to growth, Scotiabank Prime Services is a solid, trusted partner in an ever-changing landscape. ■

“ The flexibility and fluidity that securities lending offers will ensure that committed providers who have the support and capacity will continue to develop and broaden their businesses. ”



MORE THAN  
A BANK.  
A PARTNER.

In today's market you need a stable and reliable prime broker who can help drive your business forward. With Prime Services teams in Europe, North America and Asia, Scotiabank provides comprehensive transaction experience, local market expertise and innovative ideas. Our extensive global footprint enables connectivity at home and around the world.

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## G2 BORROWERS

G2 BORROWERS RATED BY G1 LENDERS: EMEA		
UNWEIGHTED		
Rank		Score
1	Natixis	222.33
2	ABN Amro	187.67
3	Jefferies	148.67
4	Nomura	133.67
5	Scotiabank	130.67
6	SEB	129.17

G2 BORROWERS RATED BY G1 LENDERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Natixis	198.15
2	ABN Amro	173.18
3	Jefferies	128.06
4	Scotiabank	114.01
5	Nomura	112.07
6	SEB	107.70

G2 BORROWERS RATED BY G1 LENDERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Nomura	238.33
2	Scotiabank	219.67
3	Macquarie	219.33
4	Natixis	178.00
5	State Street Principal	76.67
6	ING	65.00

G2 BORROWERS RATED BY G1 LENDERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Nomura	204.05
2	Scotiabank	187.76
3	Macquarie	179.19
4	Natixis	151.06
5	State Street Principal	66.16
6	ING	55.90

G2 BORROWERS RATED BY G2 LENDERS: GLOBAL		
UNWEIGHTED		
Rank		Score
1	Nomura	152.17
2	ABN Amro	115.17
3	Natixis	89.00
4	Scotiabank	74.50
5	Jefferies	69.58
6	Credit Agricole CIB	68.17

G2 BORROWERS RATED BY G2 LENDERS: GLOBAL		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Nomura	126.64
2	ABN Amro	97.26
3	Natixis	72.40
4	Scotiabank	65.53
5	Jefferies	61.06
6	Credit Agricole CIB	55.49

G2 BORROWERS RATED BY G2 LENDERS: AMERICAS		
UNWEIGHTED		
Rank		Score
1	Nomura	42.50
2	State Street Principal	27.33
3	Natixis	24.00
4	Scotiabank	20.50
5	Wells Fargo	20.33
6	Fidelity Prime Services	20.17

G2 BORROWERS RATED BY G2 LENDERS: AMERICAS		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Nomura	34.46
2	State Street Principal	24.67
3	Fidelity Prime Services	22.28
4	Natixis	21.14
5	Scotiabank	19.76
6	Wells Fargo	17.17

G2 BORROWERS RATED BY G2 LENDERS: EMEA		
UNWEIGHTED		
Rank		Score
1	ABN Amro	71.33
2	Nomura	70.17
3	Jefferies	53.58
4	Credit Agricole CIB	50.00
5	Natixis	47.00
6	Scotiabank	38.50

G2 BORROWERS RATED BY G2 LENDERS: EMEA		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	ABN Amro	61.64
2	Nomura	58.33
3	Jefferies	48.17
4	Credit Agricole CIB	40.41
5	Natixis	36.33
6	Scotiabank	31.53

G2 BORROWERS RATED BY G2 LENDERS: ASIA-PACIFIC		
UNWEIGHTED		
Rank		Score
1	Nomura	39.50
2	ABN Amro	38.83
3	Macquarie	20.67
4	Natixis	18.00
5	Scotiabank	15.50
6	SEB	9.00

G2 BORROWERS RATED BY G2 LENDERS: ASIA-PACIFIC		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	Nomura	33.85
2	ABN Amro	32.79
3	Macquarie	17.06
4	Natixis	14.93
5	Scotiabank	14.23
6	SEB	7.50

Nomura dominated in Asia Pacific where it won the unweighted and weighted lists comfortably.

**SEB:**

SEB was ranked sixth in EMEA among the group two borrowers, which is consistent with its performance last year. The Swedish banking group was also sixth among the group two borrowers when rated by group one lenders in EMEA and group two lenders in Asia.

**NATIONAL BANK FINANCIAL:**

The Canadian bank was ranked sixth among group two borrowers as rated by group one lenders in the Americas, having improved its performance from last year and moved into the top six for that category.

**ING:**

The Dutch firm finished sixth in the table of group two borrowers as ranked by group one lenders in Asia Pacific, having broken in to the top six this year.

**CREDIT AGRICOLE CIB:**

The French institution came sixth in the global table of group two borrowers as scored by group two lenders, which was two places lower than last year. Credit Agricole CIB was fourth in the EMEA category of group two borrowers ranked by group two lenders.

**G2 BORROWERS**

**Most Innovative**  
Natixis

**G2 BORROWERS**

**Most Improved**  
Nomura

# BEYOND

## GLOBAL SECURITIES FINANCING

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Voted most innovative Global Equity Borrower\*, Natixis offers high quality solutions thanks to its in-depth knowledge of the Securities Financing market.

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\*Group 2 - Global Market Lenders and Borrowers were split into 2 groups based on the volume traded

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 GROUPE BPCE

 **NATIXIS**  
BEYOND BANKING

## FIXED INCOME LENDING

### BNY MELLON:

As in 2018, BNY Mellon was top of the leader board in the global weighted and unweighted categories where it clocked up improved scores of 1,100.15 and 1,210, respectively.

It also continued to hold the top spot in the Americas, and jumped up from sixth to second place in Asia Pacific.

BNY Mellon's ranking improved in EMEA too, rising from fifth place in the unweighted and weighted categories in 2018 to claim third place in both categories in 2019.

### STATE STREET:

State Street made the top three in the 2019 global rankings, and continued to perform well in the Americas. It placed second in the weighted and unweighted Americas table, as it did last year.

The bank's position improved in EMEA, rising from sixth place in 2018 to fourth place in 2019. Consistent with its performance last year, State Street was fifth in Asia Pacific.

### UBS SWITZERLAND:

UBS Switzerland continued to dominate in EMEA, coming top in both the weighted and unweighted tables. Globally, it moved from third to second place in the weighted category, as well as placing second in the unweighted category.

It took third place in Asia Pacific, and broke into the top six in this year's Americas weighted and unweighted rankings.

### CITI:

Citi placed fourth in the Asia Pacific fixed income lending tables weighted and unweighted tables – an improvement on 2018 when it did not break into the top six.

Citi continued to perform well in the Americas, ranking in fourth place on both a weighted and unweighted basis. The bank was among 2019's top fixed income lenders, coming in sixth place.

### CLEARSTREAM:

This year, as in 2018, Clearstream was ranked in second place in EMEA. Its scores improved from 406.5 to 449.5 in the unweighted table, and from 382 to 411.98 in the weighted table.

Clearstream also climbed up the global rankings, moving from fifth place in the 2018 tables to fourth place (weighted and unweighted) in 2019.

### JP MORGAN:

JP Morgan took first place in Asia Pacific on the back of improved scores, up from second place in 2018.

The bank also entered the top six in EMEA this year, where it was ranked fifth in both the weighted and unweighted categories.

JP Morgan rose from sixth place in the global tables in 2018 to fifth place (weighted and unweighted) in 2019.

## JP Morgan took first place in Asia Pacific on the back of improved scores, up from second place in 2018.

GLOBAL FIXED INCOME		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	1,210.00
2	UBS Switzerland	892.50
3	State Street	723.50
4	Clearstream	499.50
5	JPMorgan	468.50
6	Citi	429.50

AMERICAS FIXED INCOME		
UNWEIGHTED		
Rank		Score
1	BNY Mellon	738.00
2	State Street	393.00
3	RBC Investor & Treasury Services	250.00
4	Citi	170.50
5	Northern Trust	146.00
6	UBS Switzerland	129.00

EMEA FIXED INCOME		
UNWEIGHTED		
Rank		Score
1	UBS Switzerland	590.50
2	Clearstream	449.50
3	BNY Mellon	295.00
4	State Street	245.50
5	JPMorgan	192.50
6	Credit Suisse Zurich	172.50

ASIA-PACIFIC FIXED INCOME		
UNWEIGHTED		
Rank		Score
1	JPMorgan	193.00
2	BNY Mellon	177.00
3	UBS Switzerland	173.00
4	Citi	96.00
5	State Street	85.00
6	BlackRock	78.00

GLOBAL FIXED INCOME		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	1,100.15
2	UBS Switzerland	791.93
3	State Street	674.90
4	Clearstream	457.88
5	JPMorgan	423.54
6	Citi	396.13

AMERICAS FIXED INCOME		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	BNY Mellon	672.27
2	State Street	361.20
3	RBC Investor & Treasury Services	229.46
4	Citi	156.15
5	Northern Trust	133.49
6	UBS Switzerland	116.07

EMEA FIXED INCOME		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	UBS Switzerland	523.20
2	Clearstream	411.98
3	BNY Mellon	266.68
4	State Street	233.14
5	JPMorgan	170.85
6	Credit Suisse Zurich	156.35

ASIA-PACIFIC FIXED INCOME		
WEIGHTED BY IMPORTANCE		
Rank		Score
1	JPMorgan	175.97
2	BNY Mellon	161.20
3	UBS Switzerland	152.66
4	Citi	89.30
5	State Street	80.56
6	BlackRock	64.41



# A Partner You Can Trust

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**NORTHERN TRUST:**

Northern Trust demonstrated a strong performance in the Americas again this year, where it was ranked fifth in the weighted and unweighted categories.

This is a jump on 2018, when it was placed sixth in the region.

**CREDIT SUISSE ZURICH:**

Credit Suisse Zurich succeeded in breaking into the EMEA fixed income lending tables this year after

failing to do so in 2018. In the 2019 tables, it has been ranked sixth in both the weighted and unweighted categories.

**RBC INVESTOR & TREASURY SERVICES:**

RBC Investor & Treasury Services improved its position in the Americas, moving up to third place in both the weighted and unweighted categories. In 2018, it was ranked fifth (unweighted) and fourth (weighted)

in this region.

Between 2018 and 2019, its scores increased from 199 to 250 and from 184.52 to 229.46 on an unweighted and weighted basis, respectively.

**BLACKROCK:**

The asset manager continued to be featured among the top six fixed income lenders in Asia Pacific this year. It achieved sixth place in the weighted and unweighted categories for this region.

**TECHNOLOGY VENDORS**

All respondents to the equity and fixed income lending surveys were also invited to rate their technology and data vendors.

**PIRUM SYSTEMS:**

Pirum Systems was the winner for the third year of the global post-trade technology vendor category.

The fintech firm saw its global score improve to 6.46 in 2019 out of a maximum of seven, up from 6.43 last year.

Its highest regional score was an impressive 6.66 in Asia Pacific.

Pirum also secured the best EMEA software solution award for its Pirum CollateralConnect product.

Pirum has continued its expansion into the North American market in

2019 and made several key hires in London to support clients ahead of upcoming SFTR reporting rules.

**EQUILEND/BONDLEND:**

EquiLend/BondLend was voted best securities finance trading platform globally with a score of 5.95, up slightly on last year's 5.93 tally.

The firm topped the table in the Americas and Asia Pacific.

EquiLend has achieved significant milestones in 2019, including opening an office in Japan, Asia's largest securities finance market.

Outside of Asia, EquiLend's new Dublin-based entity can now operate as a multilateral trading facility (MTF) after winning approval from Ireland's central bank in March.

EquiLend also recently partnered

with US fintech Stonewain to offer banks, brokers and funds the ability to manage their securities finance business on a single platform.

The platform, EquiLend Spire, was voted Americas software solution of 2019.

**WEMATCH.LIVE:**

Wematch.live picked up the award for best EMEA securities finance trading platform for the first time, scoring 5.94. The platform – which helps traders match their interests – was second in the 2018 survey for this region.

Wematch.live clients can execute stock loan trades on Wematch.live and use Pirum to handle post-trade processes, after both firms agreed a deal in the first half of 2019.

POST-TRADE SERVICE - GLOBAL		
Rank		Score
1	Pirum Systems	6.46
2	EquiLend PTS	6.11

SBL TRADING PLATFORM - GLOBAL		
Rank		Score
1	EquiLend/BondLend	5.95

POST-TRADE SERVICE - AMERICAS		
Rank		Score
1	Pirum Systems	6.54
2	EquiLend PTS	6.27

SBL TRADING PLATFORM - AMERICAS		
Rank		Score
1	EquiLend/BondLend	6.40

SOFTWARE SOLUTIONS - AMERICAS		
Rank		Score
1	EquiLend Spire	6.08

POST-TRADE SERVICE - EMEA		
Rank		Score
1	Pirum Systems	6.33
2	EquiLend PTS	6.06

SBL TRADING PLATFORM - EMEA		
Rank		Score
1	Wematch.live	5.94
2	EquiLend/BondLend	5.68

SOFTWARE SOLUTIONS - EMEA		
Rank		Score
1	Pirum CollateralConnect	6.53

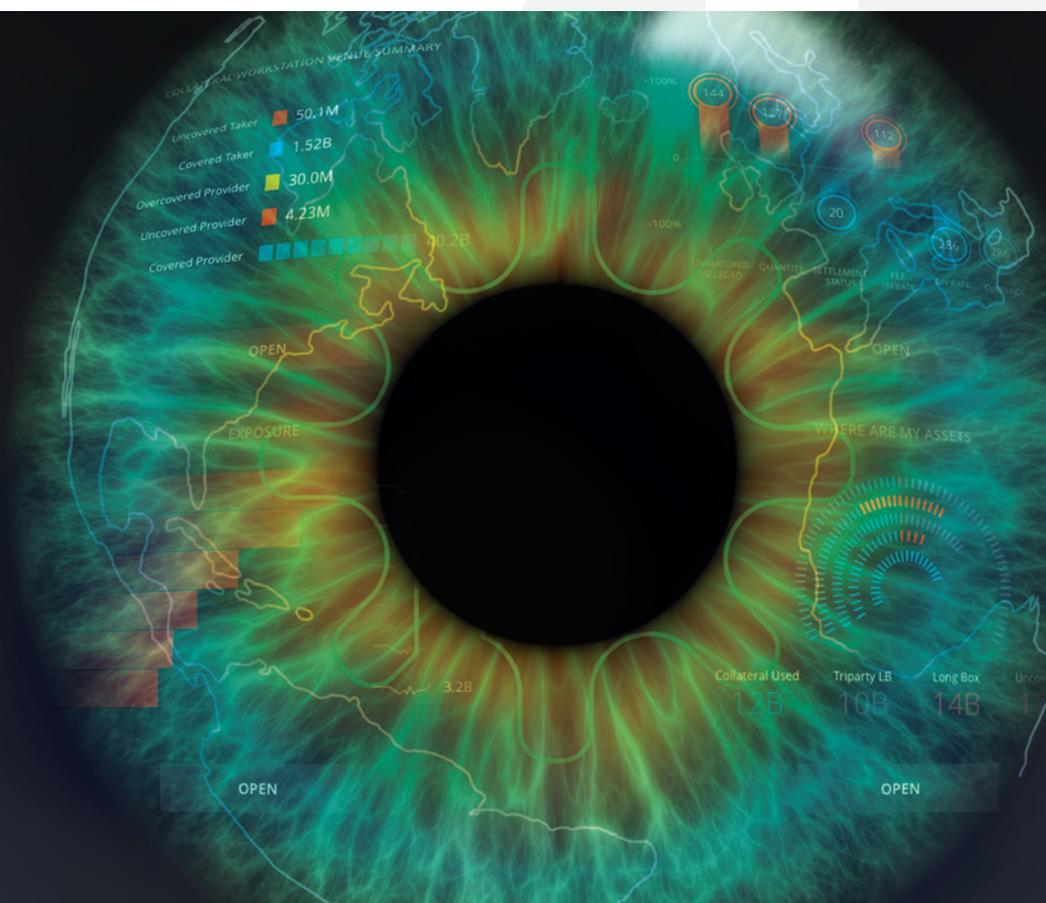
POST-TRADE SERVICE - ASIA-PACIFIC		
Rank		Score
1	Pirum Systems	6.66
2	EquiLend PTS	5.92

SBL TRADING PLATFORM - ASIA-PACIFIC		
Rank		Score
1	EquiLend/BondLend	5.83

# Get **Connected** Get **Collateralised**

## CollateralConnect & ExposureConnect

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efficiency and exposure management



### Control

Consolidated, real-time  
visibility across Repo,  
Stock Loan & OTC

### Connect

Turnkey, web-based  
connectivity to the  
collateral ecosystem

### Collaborate

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workflows supporting all  
market participants

### Cover

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best coverage and  
maximum efficiencies

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# A brave new world

As institutions look to overhaul and automate their sec finance operating models, **Pirum** is experiencing unprecedented demand for its services. With over 2 million trades and \$2.1 trillion worth of collateral processed and reconciled daily, Pirum has a unique vantage point into the global market and look to highlight some trends we have seen over the last year.

## GLOBAL TRENDS IN AUTOMATION

Below we explore per region the drivers for the trends we are observing in our post-trade services.

### North America

Increase in reconciliation and process automation

#### Driver

- Process globalisation
- Growth in counterparts
- Process automation in domestic & intl space
- Increased repo activity
- Non-cash collateral shift
- System (vendor) transfiguration

### EMEA

Increase in reconciliation and process automation

#### Driver

- Regs continue to wield significant influence - SFTR & CSDR
- Additional Brexit entities = complexity
- Process automation, such as returns and marks
- Increased repo activity

### Asia

Increase in reconciliation and process automation

#### Driver

- New entrants
- Increasing market maturity
- Increased CSD reconciliation to manage local market complexity
- Process automation such as returns and marks

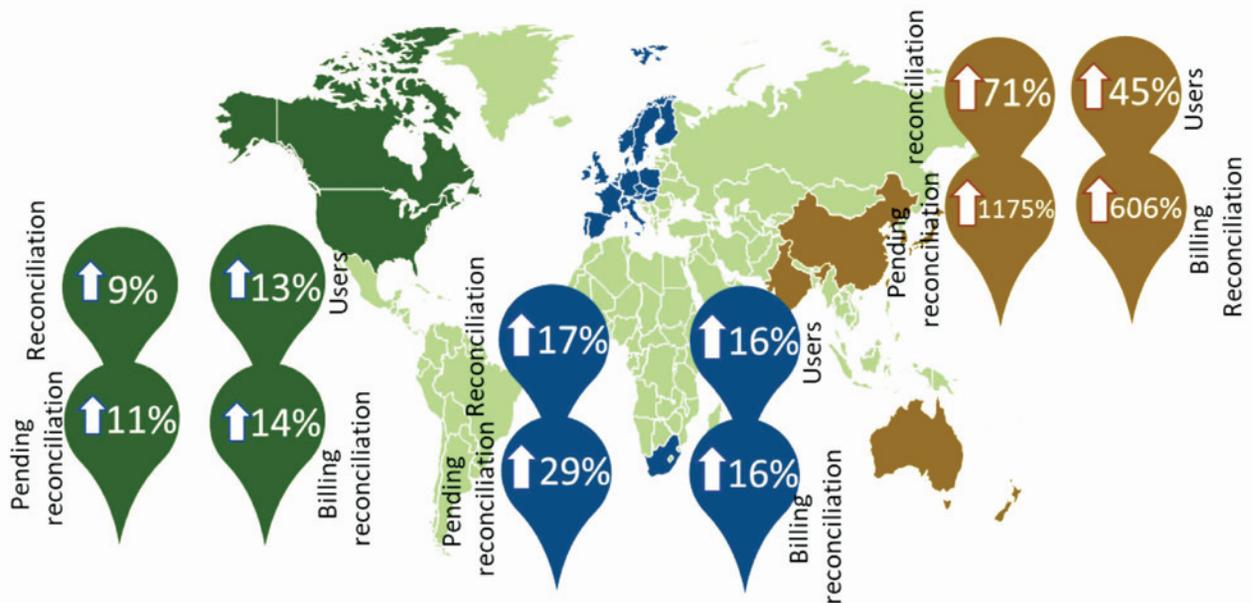
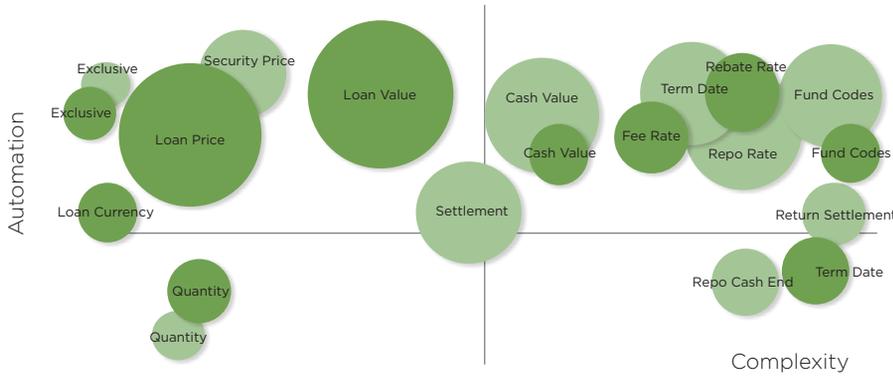


Fig 1. Regional trends across Pirum post-trade services (YoY)



**Fig 2.** Operational barriers to efficiency by product class (SBL & Repo) mapped against the ability and complexity to automate.

- Repo
- SBL

**ACHIEVING EFFICIENCY**

“Many process inefficiencies can be automated. Some are more complex to deal with than others. A full breakdown of the causes of breaks and how these can be prevented is available on our website”

– Simon Davies.

**\$1.5 tn RQV Collateral**

**↑25% YOY**

Collateral Tri-party RQV calculation, agreement and posting increased - driven by more use of tri-party for collateral settlement and the requirement for more STP automation.

Fails continue to cost the industry an estimated \$85 million annually, and with the run up to CSDR this will increase.



YoY Increasing automation, to drive efficiencies and manage regulation implementation. Firms automating processes achieve 99% STP rates.

**FUTURE TRENDS**



**Business**

- ↓ Margin compression
- ↑ Business convergence (SBL, Repo, OTC)
- + New markets –South America, Middle East and Asia
- New entrants – e.g. AM adopting securities lending
- ↑ Oversight and supervision (Regs & FOS)



**Operating model**

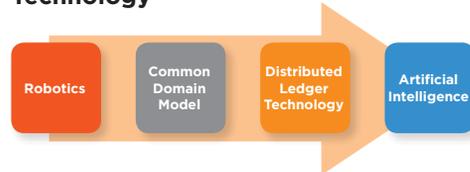
- ⚙️ Automation of processes – lifecycle events, corporate actions & clearing
- ⚠️ Additional controls due to regulation and costs
- 📱 Technology upgrades
- 🔄 Enhanced workflow for exceptions handling



**Regulation**



**Technology**



“It seems the industry is in the midst of a paradigm shift and we are seeing significant change across most organisations. Many firms are transitioning from the planning stage to the execution stage. In doing so, institutions are data gathering to ensure they make the right informed choices. Pirum, wherever possible, is looking to assist clients and the market in general, in effecting this change and transformation in global operating models. Pirum remains primed and ready for this mission, as we help firms adapt to the brave new world” – Scott Brown.

DATA VENDORS

**DATA VENDORS**

The Data Vendors Awards are divided into three sections and ask respondents to rank the various data firms based on the number of firms they use.

**DATALEND:**

Among respondents that use three data providers, DataLend picked up the global top spot overall, winning the Americas.

Where two data firms are used, DataLend also emerged as the winner, coming first in the Americas and Asia Pacific.

Where a firm is using a single data provider, DataLend was ranked as the top supplier globally.

**IHS MARKIT SECURITIES FINANCE:**

IHS Markit Securities Finance won in EMEA when firms were asked to rate their three data providers.

It also achieved the top scores in Asia Pacific from respondents only using one data firm.

IHS Markit announced upgrades to its securities finance platform in Q1 2019. The firm has added a peer comparison tool designed to enable lenders to analyse their performance and borrowers to compare rates.

The platform also now features a global data feed on corporate bond

lending and Japanese short interest statistics on over 2,000 securities.

**FIS ASTEC ANALYTICS:**

FIS Astec Analytics was second in the Americas when firms were asked to rate their three data providers, matching its position in last year's survey.

DATA VENDORS				
SINGLE VENDOR RESPONDENTS: RANKING (7 IS BEST)				
VENDOR	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL
DataLend	5.56	5.27	5.07	15.90
IHS Markit Securities Finance	5.23	5.07	5.50	15.80

DATA VENDORS				
TWO VENDOR RESPONDENTS: RANKING (1 IS BEST)				
VENDOR	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL
DataLend	1.52	1.26	1.32	4.10
FIS Astec Analytics	-	1.72	2.00	-
IHS Markit Securities Finance	1.48	1.67	1.58	4.73

DATA VENDORS				
THREE VENDOR RESPONDENTS: RANKING (1 IS BEST)				
VENDOR	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL
DataLend	1.78	1.62	1.50	4.90
FIS Astec Analytics	2.89	2.15	3.00	8.04
IHS Markit Securities Finance	1.33	2.23	1.50	5.06

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## CATEGORIES • G1 LENDERS

## Breadth of supply

GROUP 1		
BREADTH OF SUPPLY GLOBAL		
Rank		Score
1	State Street	176.50
2	BNY Mellon	159.00
3	Citi	139.50
4	RBC Investor & Treasury Services	87.00
5	UBS Switzerland	70.50

GROUP 1		
BREADTH OF SUPPLY AMERICAS		
Rank		Score
1	State Street	83.00
2	BNY Mellon	79.50

GROUP 1		
BREADTH OF SUPPLY ASIA		
Rank		Score
1	Citi	46.50
2	State Street	40.50

GROUP 1		
BREADTH OF SUPPLY EUROPE		
Rank		Score
1	Citi	54.50
2	BNY Mellon	54.00

## Relationship management

GROUP 1		
RELATIONSHIP MANAGEMENT GLOBAL		
Rank		Score
1	BNY Mellon	170.00
2	State Street	138.50
3	Citi	105.00
4	RBC Investor & Treasury Services	104.00
5	UBS Switzerland	88.50

GROUP 1		
RELATIONSHIP MANAGEMENT AMERICAS		
Rank		Score
1	BNY Mellon	76.00
2	State Street	71.00

GROUP 1		
RELATIONSHIP MANAGEMENT ASIA		
Rank		Score
1	BNY Mellon	38.00
2	Citi	34.50

GROUP 1		
RELATIONSHIP MANAGEMENT EUROPE		
Rank		Score
1	BNY Mellon	56.00
2	UBS Switzerland	49.50

## Trading capability

GROUP 1		
TRADING CAPABILITY GLOBAL		
Rank		Score
1	BNY Mellon	165.00
2	State Street	155.50
3	Citi	120.00
4	RBC Investor & Treasury Services	101.50
5	UBS Switzerland	76.50

GROUP 1		
TRADING CAPABILITY AMERICAS		
Rank		Score
1	State Street	79.00
2	BNY Mellon	67.50

GROUP 1		
TRADING CAPABILITY ASIA		
Rank		Score
1	BNY Mellon	40.50
2	Citi	35.50

GROUP 1		
TRADING CAPABILITY EUROPE		
Rank		Score
1	BNY Mellon	57.00
2	Citi	47.00

## Collateral funding

GROUP 1		
COLLATERAL FUNDING GLOBAL		
Rank		Score
1 =	BNY Mellon	168.00
1 =	State Street	168.00
3 =	Citi	105.00
3 =	RBC Investor & Treasury Services	105.00
5	UBS Switzerland	64.00

GROUP 1		
COLLATERAL FUNDING AMERICAS		
Rank		Score
1	State Street	76.50
2	BNY Mellon	72.00

GROUP 1		
COLLATERAL FUNDING ASIA		
Rank		Score
1	State Street	43.00
2	Citi	38.00

GROUP 1		
COLLATERAL FUNDING EUROPE		
Rank		Score
1	BNY Mellon	67.00
2	State Street	48.50

## Stability of supply

GROUP 1		
STABILITY OF SUPPLY GLOBAL		
Rank		Score
1	BNY Mellon	164.50
2	State Street	153.00
3	Citi	118.50
4	RBC Investor & Treasury Services	91.50
5	UBS Switzerland	73.50

GROUP 1		
STABILITY OF SUPPLY AMERICAS		
Rank		Score
1	BNY Mellon	84.00
2	State Street	71.50

GROUP 1		
STABILITY OF SUPPLY ASIA		
Rank		Score
1	Citi	43.50
2	State Street	33.00

GROUP 1		
STABILITY OF SUPPLY EUROPE		
Rank		Score
1	BNY Mellon	52.50
2	State Street	48.50

## Overall operations

GROUP 1		
OVERALL OPERATIONS GLOBAL		
Rank		Score
1	BNY Mellon	442.25
2	State Street	439.50
3	Citi	316.00
4	RBC Investor & Treasury Services	297.50
5	UBS Switzerland	245.50

GROUP 1		
OVERALL OPERATIONS AMERICAS		
Rank		Score
1	State Street	222.50
2	BNY Mellon	206.50

GROUP 1		
OVERALL OPERATIONS ASIA		
Rank		Score
1	Citi	124.00
2	State Street	98.00

GROUP 1		
OVERALL OPERATIONS EUROPE		
Rank		Score
1	BNY Mellon	148.25
2	UBS Switzerland	140.50

**Operation efficiency dividend collection**

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION GLOBAL		
Rank		Score
1	State Street	148.50
2	BNY Mellon	141.00
3	Citi	107.00
4	RBC Investor & Treasury Services	100.00
5	UBS Switzerland	75.00

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION AMERICA		
Rank		Score
1	State Street	71.50
2	BNY Mellon	68.50

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION ASIA		
Rank		Score
1	Citi	42.00
2	State Street	38.50

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION EUROPE		
Rank		Score
1	BNY Mellon	46.00
2	UBS Switzerland	43.00

**Operation efficiency trade matching**

GROUP 1		
OP EFFICIENCY TRADE MATCHING GLOBAL		
Rank		Score
1	BNY Mellon	143.50
2	State Street	138.50
3	Citi	108.50
4	RBC Investor & Treasury Services	98.00
5	UBS Switzerland	86.50

GROUP 1		
OP EFFICIENCY TRADE MATCHING AMERICAS		
Rank		Score
1	State Street	72.50
2	BNY Mellon	70.00

GROUP 1		
OP EFFICIENCY TRADE MATCHING ASIA		
Rank		Score
1	Citi	42.50
2	State Street	28.00

GROUP 1		
OP EFFICIENCY TRADE MATCHING EUROPE		
Rank		Score
1	UBS Switzerland	49.00
2	BNY Mellon	48.50

**Operation efficiency trading connectivity**

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY GLOBAL		
Rank		Score
1	BNY Mellon	157.75
2	State Street	152.50
3	Citi	100.50
4	RBC Investor & Treasury Services	99.50
5	UBS Switzerland	84.00

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY AMERICAS		
Rank		Score
1	State Street	78.50
2	BNY Mellon	68.00

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY ASIA		
Rank		Score
1	Citi	39.50
2	BNY Mellon	36.00

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY EUROPE		
Rank		Score
1	BNY Mellon	53.75
2	UBS Switzerland	48.50

**CATEGORIES • G2 LENDERS**

**Breadth of supply**

GROUP 2		
BREADTH OF SUPPLY GLOBAL		
Rank		Score
1	Candriam	56.50
2	Amundi	55.00
3	Natixis	50.50
4	Sumitomo Mitsui	44.50
5	BMO Global Asset Management	41.00

GROUP 2		
BREADTH OF SUPPLY AMERICAS		
Rank		Score
1	BMO Global Asset Management	27.50
2	Sumitomo Mitsui	13.00

GROUP 2		
BREADTH OF SUPPLY ASIA		
Rank		Score
1	Candriam	17.00
2	Mitsubishi UFJ Trust Int	12.00

GROUP 2		
BREADTH OF SUPPLY EUROPE		
Rank		Score
1	Amundi	51.50
2	Natixis	39.50

**Collateral funding**

GROUP 2		
COLLATERAL FUNDING GLOBAL		
Rank		Score
1	Candriam	56.50
2	Natixis	53.00
3	Sumitomo Mitsui	43.50
4	Amundi	41.50
5	Nordea	41.00

GROUP 2		
COLLATERAL FUNDING AMERICAS		
Rank		Score
1	BMO Global Asset Management	25.50
2	Sumitomo Mitsui	13.00

GROUP 2		
COLLATERAL FUNDING ASIA		
Rank		Score
1	Candriam	17.00
2	Mitsubishi UFJ Trust Int	12.00

GROUP 2		
COLLATERAL FUNDING EUROPE		
Rank		Score
1	Natixis	45.50
2	Amundi	38.00

**Relationship management**

GROUP 2		
RELATIONSHIP MANAGEMENT GLOBAL		
Rank		Score
1	Candriam	54.00
2	Natixis	49.00
3	Amundi	42.50
4	Sumitomo Mitsui	41.00
5	BMO Global Asset Management	38.50

GROUP 2		
RELATIONSHIP MANAGEMENT AMERICAS		
Rank		Score
1	BMO Global Asset Management	29.00
2	Sumitomo Mitsui	13.00

GROUP 2		
RELATIONSHIP MANAGEMENT ASIA		
Rank		Score
1	Candriam	17.00
2	Mitsubishi UFJ Trust Int	12.00

GROUP 2		
RELATIONSHIP MANAGEMENT EUROPE		
Rank		Score
1	Amundi	39.00
2	Natixis	38.50

**Stability of supply**

GROUP 2		
STABILITY OF SUPPLY GLOBAL		
Rank		Score
1	Candriam	54.75
2	Natixis	54.00
3	Amundi	49.50
4	Sumitomo Mitsui	42.00
5	BNP Paribas Sec Services Principal Lending	41.50

GROUP 2		
STABILITY OF SUPPLY AMERICAS		
Rank		Score
1	BMO Global Asset Management	27.50
2	National Bank Financial	12.50

GROUP 2		
STABILITY OF SUPPLY ASIA		
Rank		Score
1	Candriam	17.00
2	Mitsubishi UFJ Trust Int	12.00

GROUP 2		
STABILITY OF SUPPLY EUROPE		
Rank		Score
1	Amundi	46.00
2	Natixis	43.00

**Trading capability**

GROUP 2		
TRADING CAPABILITY GLOBAL		
Rank		Score
1	Candriam	51.50
2	Natixis	50.50
3	Amundi	48.00
4	Nordea	45.50
5	CACEIS Bank	43.00

GROUP 2		
TRADING CAPABILITY AMERICAS		
Rank		Score
1	BMO Global Asset Management	27.50
2	Sumitomo Mitsui	13.00

GROUP 2		
TRADING CAPABILITY ASIA		
Rank		Score
1	Candriam	17.00
2	Mitsubishi UFJ Trust Int	12.00

GROUP 2		
TRADING CAPABILITY EUROPE		
Rank		Score
1	Amundi	44.50
2	Nordea	40.50

**Overall operations**

GROUP 2		
OVERALL OPERATIONS GLOBAL		
Rank		Score
1	Natixis	157.50
2	Amundi	141.50
3	Candriam	140.50
4	Sumitomo Mitsui	137.50
5	Aviva	113.00

GROUP 2		
OVERALL OPERATIONS AMERICAS		
Rank		Score
1	BMO Global Asset Management	69.00
2	Sumitomo Mitsui	39.00

GROUP 2		
OVERALL OPERATIONS ASIA		
Rank		Score
1	Candriam	51.00
2	Sumitomo Mitsui	36.00

GROUP 2		
OVERALL OPERATIONS EUROPE		
Rank		Score
1	Amundi	131.00
2	Natixis	126.00

**Operation efficiency dividend collection**

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION GLOBAL		
Rank		Score
1	Natixis	51.50
2	Amundi	48.00
3	Sumitomo Mitsui	45.00
4	Candriam	44.00
5	BNP Paribas Sec Services Principal Lending	37.00

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION AMERICAS		
Rank		Score
1	BMO Global Asset Management	23.00
2	Sumitomo Mitsui	13.00

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION ASIA		
Rank		Score
1	Candriam	17.00
2	Sumitomo Mitsui	12.00

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION EUROPE		
Rank		Score
1	Amundi	44.50
2	Natixis	41.00

**Operation efficiency trade matching**

GROUP 2		
OP EFFICIENCY TRADE MATCHING GLOBAL		
Rank		Score
1	Natixis	54.00
2	Candriam	50.50
3	Amundi	49.50
4	Sumitomo Mitsui	45.00
5	BMO Global Asset Management	37.50

GROUP 2		
OP EFFICIENCY TRADE MATCHING AMERICAS		
Rank		Score
1	BMO Global Asset Management	23.00
2	Sumitomo Mitsui	13.00

GROUP 2		
OP EFFICIENCY TRADE MATCHING ASIA		
Rank		Score
1	Candriam	17.00
2	Sumitomo Mitsui	12.00

GROUP 2		
OP EFFICIENCY TRADE MATCHING EUROPE		
Rank		Score
1	Amundi	46.00
2	Natixis	43.50

**Operation efficiency trading connectivity**

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY GLOBAL		
Rank		Score
1	Natixis	52.00
2	Sumitomo Mitsui	47.50
3	Candriam	46.00
4	Amundi	44.00
5	Aviva	42.50

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY AMERICAS		
Rank		Score
1	BMO Global Asset Management	23.00
2	Sumitomo Mitsui	13.00

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY ASIA		
Rank		Score
1	Candriam	17.00
2	Sumitomo Mitsui	12.00

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY EUROPE		
Rank		Score
1	Natixis	41.50
2	Amundi	40.50

**CATEGORIES • G1 BORROWERS**

**Breadth of supply**

GROUP 1		
BREADTH OF DEMAND GLOBAL		
Rank		Score
1	UBS	132.00
2	Morgan Stanley	122.50
3	Citi	115.00
4	Bank of America Merrill Lynch	100.50
5	Goldman Sachs	94.50

GROUP 1		
BREADTH OF DEMAND AMERICAS		
Rank		Score
1	Morgan Stanley	42.50
2	Citi	39.50

GROUP 1		
BREADTH OF DEMAND ASIA		
Rank		Score
1	UBS	46.00
2	Citi	31.50

GROUP 1		
BREADTH OF DEMAND EUROPE		
Rank		Score
1	UBS	54.00
2	Morgan Stanley	49.50

**Collateral funding**

GROUP 1		
COLLATERAL FUNDING GLOBAL		
Rank		Score
1	Citi	102.50
2	UBS	101.00
3	Bank of America Merrill Lynch	84.50
4	Morgan Stanley	79.50
5	Goldman Sachs	70.00

GROUP 1		
COLLATERAL FUNDING AMERICAS		
Rank		Score
1	BMO Capital Markets	29.50
2	UBS	28.00

GROUP 1		
COLLATERAL FUNDING ASIA		
Rank		Score
1	UBS	32.00
2 =	Bank of America Merrill Lynch	31.00
2 =	Citi	31.00

GROUP 1		
COLLATERAL FUNDING EUROPE		
Rank		Score
1	Citi	44.00
2	UBS	41.00

**Relationship management**

GROUP 1		
RELATIONSHIP MANAGEMENT GLOBAL		
Rank		Score
1	Morgan Stanley	119.00
2	UBS	115.00
3	Citi	103.50
4	Bank of America Merrill Lynch	90.50
5	Barclays	87.75

GROUP 1		
RELATIONSHIP MANAGEMENT AMERICAS		
Rank		Score
1	Morgan Stanley	42.00
2	UBS	30.00

GROUP 1		
RELATIONSHIP MANAGEMENT ASIA		
Rank		Score
1	UBS	40.00
2	Citi	36.50

GROUP 1		
RELATIONSHIP MANAGEMENT EUROPE		
Rank		Score
1	Morgan Stanley	51.50
2	UBS	45.00

**Stability of supply**

GROUP 1		
STABILITY OF DEMAND GLOBAL		
Rank		Score
1	UBS	129.00
2	Citi	120.50
3	Bank of America Merrill Lynch	98.00
4	Morgan Stanley	97.50
5	Goldman Sachs	86.00

GROUP 1		
STABILITY OF DEMAND AMERICAS		
Rank		Score
1	Citi	37.50
2 =	Goldman Sachs	35.00
2 =	JPMorgan	35.00

GROUP 1		
STABILITY OF DEMAND ASIA		
Rank		Score
1	UBS	43.00
2	Citi	35.50

GROUP 1		
STABILITY OF DEMAND EUROPE		
Rank		Score
1	UBS	53.00
2	Citi	47.50

**Trading capability**

GROUP 1		
TRADING CAPABILITY GLOBAL		
Rank		Score
1	Morgan Stanley	131.00
2	UBS	129.50
3	Citi	104.00
4	Bank of America Merrill Lynch	99.00
5	Goldman Sachs	86.25

GROUP 1		
TRADING CAPABILITY AMERICAS		
Rank		Score
1	Morgan Stanley	41.50
2	Citi	32.50

GROUP 1		
TRADING CAPABILITY ASIA		
Rank		Score
1	UBS	44.00
2	Morgan Stanley	35.50

GROUP 1		
TRADING CAPABILITY EUROPE		
Rank		Score
1	UBS	55.50
2	Morgan Stanley	54.00

**Overall operations**

GROUP 1		
OVERALL OPERATIONS GLOBAL		
Rank		Score
1	Citi	375.00
2	Morgan Stanley	366.00
3	Bank of America Merrill Lynch	317.00
4	UBS	270.00
5	JPMorgan	216.00

GROUP 1		
OVERALL OPERATIONS AMERICAS		
Rank		Score
1	Morgan Stanley	121.00
2	Citi	118.00

GROUP 1		
OVERALL OPERATIONS ASIA		
Rank		Score
1	Citi	121.00
2	UBS	104.00

GROUP 1		
OVERALL OPERATIONS EUROPE		
Rank		Score
1	Morgan Stanley	149.50
2	Bank of America Merrill Lynch	143.00

## CATEGORIES • G1 BORROWERS / G2 BORROWERS

Operation efficiency  
dividend collection

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION GLOBAL		
Rank		Score
1	Citi	130.00
2	Morgan Stanley	114.00
3	Bank of America Merrill Lynch	100.50
4	UBS	85.00
5	HSBC Bank Plc	72.50

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION AMERICAS		
Rank		Score
1	Morgan Stanley	41.50
2	Citi	40.50

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION ASIA		
Rank		Score
1	Citi	38.50
2	Morgan Stanley	29.50

GROUP 1		
OP EFFICIENCY DIVIDEND COLLECTION EUROPE		
Rank		Score
1	Citi	51.00
2	HSBC Bank Plc	44.00

Operation efficiency  
trade matching

GROUP 1		
OP EFFICIENCY TRADE MATCHING GLOBAL		
Rank		Score
1	Morgan Stanley	134.00
2	Citi	122.00
3	Bank of America Merrill Lynch	108.00
4	UBS	91.00
5	Goldman Sachs	73.50

GROUP 1		
OP EFFICIENCY TRADE MATCHING AMERICAS		
Rank		Score
1	Morgan Stanley	41.00
2	Citi	38.00

GROUP 1		
OP EFFICIENCY TRADE MATCHING ASIA		
Rank		Score
1	Citi	43.00
2	UBS	38.00

GROUP 1		
OP EFFICIENCY TRADE MATCHING EUROPE		
Rank		Score
1	Morgan Stanley	56.50
2	Bank of America Merrill Lynch	47.00

Operation efficiency  
trading connectivity

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY GLOBAL		
Rank		Score
1	Citi	123.00
2	Morgan Stanley	118.00
3	Bank of America Merrill Lynch	108.50
4	UBS	94.00
5	JPMorgan	79.00

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY AMERICAS		
Rank		Score
1	Citi	39.50
2	Morgan Stanley	38.50

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY ASIA		
Rank		Score
1	Citi	39.50
2	UBS	39.00

GROUP 1		
OP EFFICIENCY TRADING CONNECTIVITY EUROPE		
Rank		Score
1	Bank of America Merrill Lynch	53.00
2	Morgan Stanley	50.00

## CATEGORIES • G2 BORROWERS

## Breadth of demand

GROUP 2		
BREADTH OF DEMAND GLOBAL		
Rank		Score
1	Scotiabank	114.00
2	Natixis	113.50
3	Nomura	105.00
4	ABN Amro	67.50
5	Jefferies	60.50

GROUP 2		
BREADTH OF DEMAND AMERICAS		
Rank		Score
1	Scotiabank	39.50
2	Wells Fargo	37.50

GROUP 2		
BREADTH OF DEMAND ASIA		
Rank		Score
1	Nomura	48.50
2	Scotiabank	45.50

GROUP 2		
BREADTH OF DEMAND EUROPE		
Rank		Score
1	ABN Amro	54.00
2	Natixis	51.50

## Collateral funding

GROUP 2		
COLLATERAL FUNDING GLOBAL		
Rank		Score
1	Nomura	100.00
2	Scotiabank	90.50
3	Natixis	87.00
4	Macquarie	62.50
5	Jefferies	55.00

GROUP 2		
COLLATERAL FUNDING AMERICAS		
Rank		Score
1	Scotiabank	32.00
2	Wells Fargo	26.50

GROUP 2		
COLLATERAL FUNDING ASIA		
Rank		Score
1	Nomura	44.00
2	Macquarie	41.50

GROUP 2		
COLLATERAL FUNDING EUROPE		
Rank		Score
1	Natixis	37.50
2	Nomura	30.50

## Relationship management

GROUP 2		
RELATIONSHIP MANAGEMENT GLOBAL		
Rank		Score
1	Scotiabank	108.00
2	Nomura	104.50
3	Natixis	96.50
4	ABN Amro	64.50
5	Jefferies	59.00

GROUP 2		
RELATIONSHIP MANAGEMENT AMERICAS		
Rank		Score
1	Wells Fargo	39.50
2	Scotiabank	36.00

GROUP 2		
RELATIONSHIP MANAGEMENT ASIA		
Rank		Score
1	Nomura	48.50
2 =	Macquarie	39.00
2 =	Scotiabank	39.00

GROUP 2		
RELATIONSHIP MANAGEMENT EUROPE		
Rank		Score
1	ABN Amro	50.00
2	Natixis	37.00

**Stability of demand**

GROUP 2		
STABILITY OF DEMAND GLOBAL		
Rank		Score
1	Natixis	112.50
2	Scotiabank	111.50
3	Nomura	97.00
4	ABN Amro	64.00
5	Jefferies	58.50

GROUP 2		
STABILITY OF DEMAND AMERICAS		
Rank		Score
1	Scotiabank	40.00
2	Wells Fargo	37.50

GROUP 2		
STABILITY OF DEMAND ASIA		
Rank		Score
1	Nomura	50.00
2	Scotiabank	41.00

GROUP 2		
STABILITY OF DEMAND EUROPE		
Rank		Score
1	ABN Amro	50.00
2	Natixis	49.50

**Trading capability**

GROUP 2		
TRADING CAPABILITY GLOBAL		
Rank		Score
1	Natixis	116.00
2	Scotiabank	98.50
3	Nomura	97.50
4	Macquarie	63.50
5	Jefferies	56.25

GROUP 2		
TRADING CAPABILITY AMERICAS		
Rank		Score
1	Scotiabank	35.00
2	Wells Fargo	31.50

GROUP 2		
TRADING CAPABILITY ASIA		
Rank		Score
1	Nomura	47.50
2	Macquarie	42.50

GROUP 2		
TRADING CAPABILITY EUROPE		
Rank		Score
1	Natixis	51.50
2	ABN Amro	41.50

**Overall operations**

GROUP 2		
OVERALL OPERATIONS GLOBAL		
Rank		Score
1	Nomura	293.00
2	Scotiabank	279.00
3	Natixis	250.50
4	Macquarie	213.00
5	ABN Amro	186.00

GROUP 2		
OVERALL OPERATIONS AMERICAS		
Rank		Score
1	Wells Fargo	86.50
2	Scotiabank	86.00

GROUP 2		
OVERALL OPERATIONS ASIA		
Rank		Score
1	Scotiabank	128.00
2	Macquarie	123.00

GROUP 2		
OVERALL OPERATIONS EUROPE		
Rank		Score
1	Natixis	127.00
2	ABN Amro	115.50

**Operation efficiency dividend collection**

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION GLOBAL		
Rank		Score
1	Nomura	88.50
2	Natixis	78.50
3	Macquarie	72.50
4 =	ABN Amro	71.50
4 =	Scotiabank	71.50

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION AMERICAS		
Rank		Score
1	Wells Fargo	27.50
2	Nomura	23.50

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION ASIA		
Rank		Score
1	Macquarie	39.50
2	Nomura	36.00

GROUP 2		
OP EFFICIENCY DIVIDEND COLLECTION EUROPE		
Rank		Score
1	ABN Amro	42.50
2	Natixis	39.00

**Operation efficiency trade matching**

GROUP 2		
OP EFFICIENCY TRADE MATCHING GLOBAL		
Rank		Score
1	Scotiabank	109.00
2	Nomura	93.50
3	Natixis	85.50
4	Macquarie	73.00
5	ABN Amro	71.50

GROUP 2		
OP EFFICIENCY TRADE MATCHING AMERICAS		
Rank		Score
1	Scotiabank	34.00
2	Wells Fargo	30.50

GROUP 2		
OP EFFICIENCY TRADE MATCHING ASIA		
Rank		Score
1	Scotiabank	51.00
2	Macquarie	44.00

GROUP 2		
OP EFFICIENCY TRADE MATCHING EUROPE		
Rank		Score
1	ABN Amro	42.50
2	Natixis	42.00

**Operation efficiency trading connectivity**

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY GLOBAL		
Rank		Score
1	Nomura	111.00
2	Scotiabank	98.50
3	Natixis	86.50
4	Macquarie	67.50
5	Jefferies	59.00

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY AMERICAS		
Rank		Score
1	Scotiabank	30.00
2	Wells Fargo	28.50

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY ASIA		
Rank		Score
1	Scotiabank	43.00
2	Nomura	42.50

GROUP 2		
OP EFFICIENCY TRADING CONNECTIVITY EUROPE		
Rank		Score
1	Natixis	46.00
2	Nomura	44.50

## CATEGORIES • FIXED INCOME

## Breadth of supply corporates

FIXED INCOME		
BREADTH OF SUPPLY CORPORATES GLOBAL		
Rank		Score
1	UBS Switzerland	133.00
2	BNY Mellon	131.00
3	Blackrock	74.00
4	State Street	60.00
5	Clearstream	58.00

FIXED INCOME		
BREADTH OF SUPPLY CORPORATES AMERICAS		
Rank		Score
1	BNY Mellon	81.00
2	State Street	37.00

FIXED INCOME		
BREADTH OF SUPPLY CORPORATES ASIA		
Rank		Score
1	UBS Switzerland	29.00
2	Blackrock	25.00

FIXED INCOME		
BREADTH OF SUPPLY CORPORATES EUROPE		
Rank		Score
1	UBS Switzerland	81.00
2	Clearstream	48.00

## Breadth of supply DM

FIXED INCOME		
BREADTH OF SUPPLY DM GLOBAL		
Rank		Score
1	BNY Mellon	179.00
2	State Street	123.00
3	UBS Switzerland	96.00
4	JPMorgan	80.00
5	Clearstream	75.00

FIXED INCOME		
BREADTH OF SUPPLY DM AMERICAS		
Rank		Score
1	BNY Mellon	115.00
2	State Street	69.00

FIXED INCOME		
BREADTH OF SUPPLY DM ASIA		
Rank		Score
1	JPMorgan	37.00
2	BNY Mellon	26.00

FIXED INCOME		
BREADTH OF SUPPLY DM EUROPE		
Rank		Score
1	Clearstream	73.00
2	UBS Switzerland	63.00

## Breadth of supply EM

FIXED INCOME		
BREADTH OF SUPPLY EM GLOBAL		
Rank		Score
1	UBS Switzerland	119.00
2	BNY Mellon	106.00
3	JPMorgan	61.00
4	State Street	60.00
5	Citi	49.00

FIXED INCOME		
BREADTH OF SUPPLY EM AMERICAS		
Rank		Score
1	BNY Mellon	61.00
2	State Street	37.00

FIXED INCOME		
BREADTH OF SUPPLY EM ASIA		
Rank		Score
1	JPMorgan	29.00
2	UBS Switzerland	23.00

FIXED INCOME		
BREADTH OF SUPPLY EM EUROPE		
Rank		Score
1	UBS Switzerland	85.00
2	Clearstream	40.00

## Collateral trading

FIXED INCOME		
COLLATERAL TRADING GLOBAL		
Rank		Score
1	BNY Mellon	139.00
2	State Street	110.00
3	UBS Switzerland	103.50
4	Citi	68.50
5	Clearstream	60.50

FIXED INCOME		
COLLATERAL TRADING AMERICAS		
Rank		Score
1	BNY Mellon	79.00
2	State Street	47.00

FIXED INCOME		
COLLATERAL TRADING ASIA		
Rank		Score
1 =	BNY Mellon	27.00
1 =	State Street	27.00

FIXED INCOME		
COLLATERAL TRADING EUROPE		
Rank		Score
1	UBS Switzerland	71.50
2	Clearstream	50.50

## Operation efficiency

FIXED INCOME		
OP EFFICIENCY GLOBAL		
Rank		Score
1	BNY Mellon	167.00
2	UBS Switzerland	124.50
3	State Street	94.00
4	Clearstream	68.50
5	Citi	61.00

FIXED INCOME		
OP EFFICIENCY AMERICAS		
Rank		Score
1	BNY Mellon	101.00
2	State Street	42.00

FIXED INCOME		
OP EFFICIENCY ASIA		
Rank		Score
1	JPMorgan	27.00
2	UBS Switzerland	26.00

FIXED INCOME		
OP EFFICIENCY EUROPE		
Rank		Score
1	UBS Switzerland	81.50
2	Clearstream	61.50

## Relationship management

FIXED INCOME		
RELATIONSHIP MANAGEMENT GLOBAL		
Rank		Score
1	BNY Mellon	179.00
2	UBS Switzerland	110.00
3	State Street	104.00
4	Clearstream	60.00
5	Citi	51.00

FIXED INCOME		
RELATIONSHIP MANAGEMENT AMERICAS		
Rank		Score
1	BNY Mellon	102.00
2	State Street	60.00

FIXED INCOME		
RELATIONSHIP MANAGEMENT ASIA		
Rank		Score
1	BNY Mellon	33.00
2	UBS Switzerland	21.00

FIXED INCOME		
RELATIONSHIP MANAGEMENT EUROPE		
Rank		Score
1	UBS Switzerland	76.00
2	Clearstream	60.00

## CATEGORIES • FIXED INCOME

### Stability of borrows

FIXED INCOME		
STABILITY OF BORROWS GLOBAL		
Rank		Score
1	BNY Mellon	148.00
2	State Street	102.00
3	UBS Switzerland	81.50
4	Clearstream	72.50
5	JPMorgan	71.50

FIXED INCOME		
STABILITY OF BORROWS AMERICAS		
Rank		Score
1	BNY Mellon	99.00
2	State Street	60.00

FIXED INCOME		
STABILITY OF BORROWS ASIA		
Rank		Score
1	JPMorgan	29.00
2	UBS Switzerland	21.00

FIXED INCOME		
STABILITY OF BORROWS EUROPE		
Rank		Score
1	Clearstream	63.50
2	UBS Switzerland	51.50

### Trading connectivity

FIXED INCOME		
TRADING CONNECTIVITY GLOBAL		
Rank		Score
1	BNY Mellon	161.00
2	UBS Switzerland	125.00
3	State Street	70.50
4	Blackrock	69.00
5	Clearstream	59.00

FIXED INCOME		
TRADING CONNECTIVITY AMERICAS		
Rank		Score
1	BNY Mellon	100.00
2	State Street	41.00

FIXED INCOME		
TRADING CONNECTIVITY ASIA		
Rank		Score
1	JPMorgan	25.00
2	UBS Switzerland	22.00

FIXED INCOME		
TRADING CONNECTIVITY EUROPE		
Rank		Score
1	UBS Switzerland	81.00
2	Clearstream	53.00

## CATEGORIES • TECHNOLOGY

### Post trade service

TECHNOLOGY - POST TRADE SERVICE		
CLIENT SERVICE		
Rank		Score
1	Pirum Systems	6.62
2	EquiLend PTS	6.38

TECHNOLOGY - POST TRADE SERVICE		
EASE OF INTEGRATION		
Rank		Score
1	Pirum Systems	6.50
2	EquiLend PTS	5.97

TECHNOLOGY - POST TRADE SERVICE		
INNOVATION		
Rank		Score
1	Pirum Systems	6.62
2	EquiLend PTS	6.18

TECHNOLOGY - POST TRADE SERVICE		
MARKET CONNECTIVITY		
Rank		Score
1	Pirum Systems	6.45
2	EquiLend PTS	6.29

TECHNOLOGY - POST TRADE SERVICE		
PROPORTION OF STP		
Rank		Score
1	Pirum Systems	6.47
2	EquiLend PTS	6.09

TECHNOLOGY - POST TRADE SERVICE		
RECONCILIATION ABILITY		
Rank		Score
1	Pirum Systems	6.46
2	EquiLend PTS	6.14

TECHNOLOGY - POST TRADE SERVICE		
ROI / VALUE		
Rank		Score
1	Pirum Systems	6.26
2	EquiLend PTS	5.82

TECHNOLOGY - POST TRADE SERVICE		
USER INTERFACE		
Rank		Score
1	Pirum Systems	6.44
2	EquiLend PTS	5.97

### Securities finance trading platform

TECHNOLOGY - SBL TRADING PLATFORM		
CLIENT SERVICE		
Rank		Score
1	EquiLend/BondLend	6.35
2	Wematch.live	6.20

TECHNOLOGY - SBL TRADING PLATFORM		
EASE OF INTEGRATION		
Rank		Score
1	EquiLend/BondLend	6.00
2	Wematch.live	5.93

TECHNOLOGY - SBL TRADING PLATFORM		
FOOTPRINT		
Rank		Score
1	EquiLend/BondLend	5.95
2	Wematch.live	5.40

TECHNOLOGY - SBL TRADING PLATFORM		
INNOVATION		
Rank		Score
1	Wematch.live	6.27
2	EquiLend/BondLend	5.86

TECHNOLOGY - SBL TRADING PLATFORM		
ORDER MANAGEMENT		
Rank		Score
1	EquiLend/BondLend	6.07
2	Wematch.live	5.57

TECHNOLOGY - SBL TRADING PLATFORM		
RELIABILITY OF PLATFORM		
Rank		Score
1	Wematch.live	6.20
2	EquiLend/BondLend	6.07

TECHNOLOGY - SBL TRADING PLATFORM		
POST TRADE LIFECYCLE MANAGEMENT		
Rank		Score
1	EquiLend/BondLend	5.95
2	Wematch.live	5.82

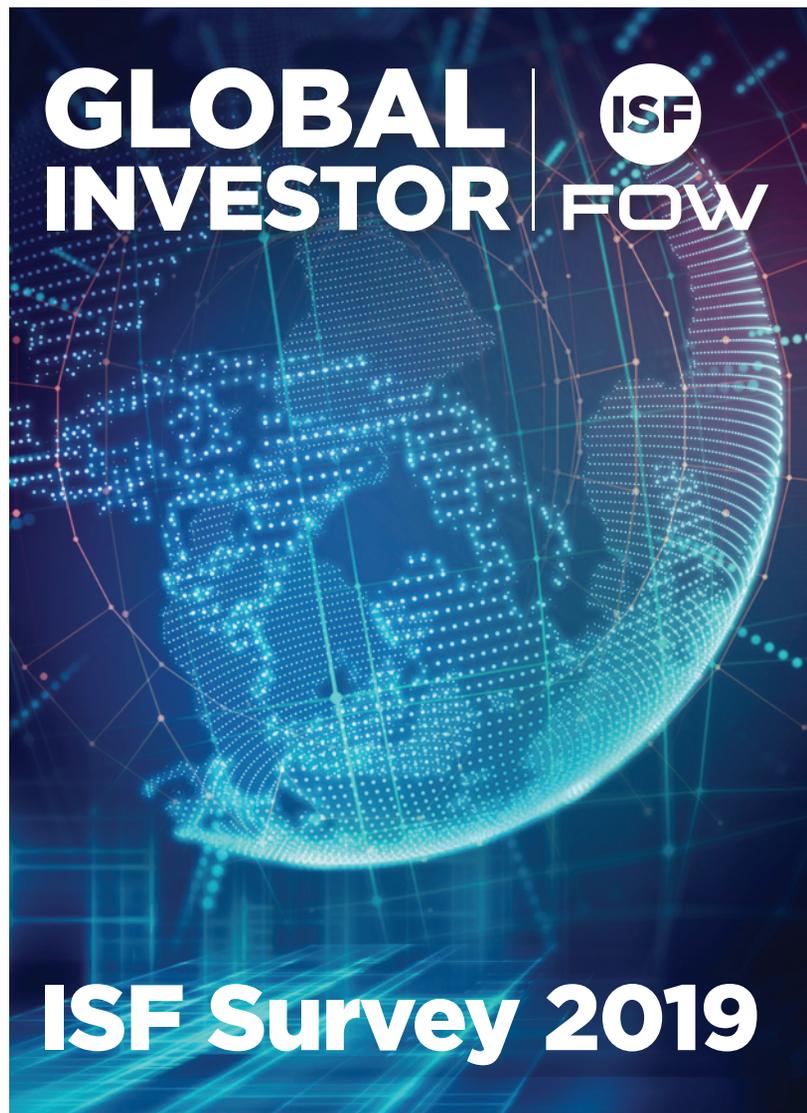
TECHNOLOGY - SBL TRADING PLATFORM		
ROI / VALUE		
Rank		Score
1	Wematch.live	6.00
2	EquiLend/BondLend	5.55

TECHNOLOGY - SBL TRADING PLATFORM		
USER INTERFACE		
Rank		Score
1	Wematch.live	6.00
2	EquiLend/BondLend	5.90

## CATEGORIES • TECHNOLOGY

## Software solutions

TECHNOLOGY - SOFTWARE SOLUTIONS		
CLIENT SERVICE		
Rank		Score
1	Pirum CollateralConnect	7.00
TECHNOLOGY - SOFTWARE SOLUTIONS		
COLLATERAL OPTIMISATION		
Rank		Score
1	EquiLend Spire	6.78
TECHNOLOGY - SOFTWARE SOLUTIONS		
CONNECTIVITY		
Rank		Score
1	EquiLend Spire	6.56
TECHNOLOGY - SOFTWARE SOLUTIONS		
EASE OF INTEGRATION		
Rank		Score
1 =	EquiLend Spire	6.44
1 =	Pirum CollateralConnect	6.44
TECHNOLOGY - SOFTWARE SOLUTIONS		
FRONT TO BACK LIFECYCLE SUPPORT		
Rank		Score
1	EquiLend Spire	6.56
TECHNOLOGY - SOFTWARE SOLUTIONS		
INNOVATION		
Rank		Score
1 =	EquiLend Spire	6.67
1 =	Pirum CollateralConnect	6.67
TECHNOLOGY - SOFTWARE SOLUTIONS		
ROI / VALUE		
Rank		Score
1	EquiLend Spire	6.56
TECHNOLOGY - SOFTWARE SOLUTIONS		
USER INTERFACE		
Rank		Score
1	Pirum CollateralConnect	6.56



## CATEGORIES • DATA VENDORS

DATA VENDORS - SINGLE VENDOR SERVICE CATEGORIES						
	BREADTH COVERAGE	CLIENT SERVICE	INNOVATION	RELIABILITY OF DATA	SPEED FREQUENCY	USABILITY AND INTERACTION
DataLend	5.35	5.56	5.35	5.09	5.47	5.24
IHS Markit Securities Finance	5.45	5.53	5.20	5.15	4.95	5.50
DATA VENDORS - TWO VENDOR SERVICE CATEGORIES						
	BREADTH COVERAGE	CLIENT SERVICE	INNOVATION	RELIABILITY OF DATA	SPEED FREQUENCY	USABILITY AND INTERACTION
DataLend	1.44	1.40	1.40	1.34	1.35	1.35
FIS Astec Analytics	1.75	1.92			1.58	
IHS Markit Securities Finance	1.50	1.50	1.52	1.64	1.64	1.57
DATA VENDORS - THREE VENDOR SERVICE CATEGORIES						
	BREADTH COVERAGE	CLIENT SERVICE	INNOVATION	RELIABILITY OF DATA	SPEED FREQUENCY	USABILITY AND INTERACTION
DataLend	1.80	1.60	1.47	1.53	1.80	1.60
FIS Astec Analytics	2.60	2.47	2.47	2.40	2.07	2.47
IHS Markit Securities Finance	1.60	1.93	2.07	2.07	2.13	1.93