

Financial Market Infrastructure Players Are Greedy For Growth Yet Leverage Appetite Remains Restrained

August 29, 2018

(Editor's Note: In this commentary, originally published on Aug. 29, 2018, some figures for the 2018 forecast for Cboe Global Markets Inc. in Table 3 were misstated. A corrected version follows.)

Key Takeaways

- The financial market infrastructure (FMI) sector has seen a slight increase in leverage in recent years. But it remains lightly levered, despite the low cost of debt and the acquisitive nature of many key players.
- While acquisitions will continue, we expect them to be bolt-on in nature and for low leverage to persist, so continuing to support the high creditworthiness of many rated FMI players.
- Most FMI companies have only modest refinancing needs over the next 18 months.
- The sector generally appears to have substantial capacity to absorb an eventual increase in interest costs.

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Despite the financial market infrastructure (FMI) sector's well-deserved reputation for being acquisitive and its increasing distributions to shareholders, we expect it to remain lightly leveraged over the coming 18 months. This will support the industry's generally strong creditworthiness. We estimate the average debt to EBITDA of the FMI players that we rate to sit at about 1.1x by end-2018, in line with end-2017. If so, this would follow the trend of recent years of flat-to-slightly increasing leverage. We project slightly lower debt metrics through 2019, but these are more vulnerable to upward revisions given greater uncertainty about event risk from unannounced M&A activity or possible changes to capital policy.

Within our projections, we assume that some groups, such as Deutsche Boerse AG (DBAG), could take on more debt in 2018 to pursue bolt-on acquisitions, as its U.S. peers CME Group Inc. (CME) and Intercontinental Exchange Inc (ICE) already have this year. We also saw Euroclear group use debt issuances to bolster the bail-in buffer and liquidity resources of Euroclear Bank S.A./N.V., its bank-licensed international securities depository. However, in all cases, the rated FMIs appear unlikely to stretch their leverage metrics beyond the bounds that we already factor into their

financial risk profiles. Furthermore, while our ratings are underpinned by our assumption that CME will quite rapidly reduce leverage by end-2019, after its debt-financed acquisition of NEX Group PLC in June 2018, its excellent year-to-date performance has led to EBITDA growth beyond our initial expectations. This will likely mean that debt to EBITDA now peaks at only 1.7x at end-2018.

Looking further ahead, a gradually rising but ultimately benign interest rate environment--together with the associated low cost of debt that the sector has locked in in recent years--will also support debt servicing. Upcoming debt maturities are also quite well spread and manageable, in our view.

We already assume that tax reform in the U.S. will generally lead American FMIs to undertake larger buybacks and dividends, rather than to more rapidly pay down debt or engage in outsized acquisitions. PayPal Holdings Inc. is one group that we expect to be highly active in both spheres, but it has the capacity to do this not only from the windfall gains of tax reform but also from its loan book divestment to Synchrony. If earnings remain solid and acquisition targets fail to materialize, we consider that some European FMI groups could similarly expand their share buyback activity, though not to the same extent.

Our positive outlook on Cboe Global Markets, Inc. acknowledges that we could raise our ratings if the company improves earnings and leverage metrics in 2018/2019 by realizing synergies from new acquisitions and retaining cash. While we expect Liquidnet Holdings, Inc. to reduce leverage through 2019, our positive outlook primarily reflects its improving performance and increasing diversification. In time, this could improve the level and stability of Liquidnet's earnings and therefore lead to an upgrade. We have positive outlooks also on Visa Inc., Mastercard Inc., London Stock Exchange Group PLC (LSEG) and its LCH subsidiaries, though these are not linked to leverage trends.

With still only modest cyclical tailwinds, even in the U.S., FMIs continue to seek a secular shift to their revenue mix, including toward higher-growth segments such as data services (including proprietary indices) that are less correlated with trading volumes. The largest FMIs benefit from sizable cash flow generation, so have deep pockets. However, target assets tend to have lofty price tags. Although not in our base case, one or more FMI companies could take on significant additional debt in 2018 or 2019 to finance a larger, more transformational acquisition. If so, a firm's willingness and ability to reduce leverage fairly rapidly in such circumstances could help it to avoid a downgrade. However, persistent, strained leverage would likely lead to downgrades, not least because most FMIs' business risk profiles have limited scope for upward revision.

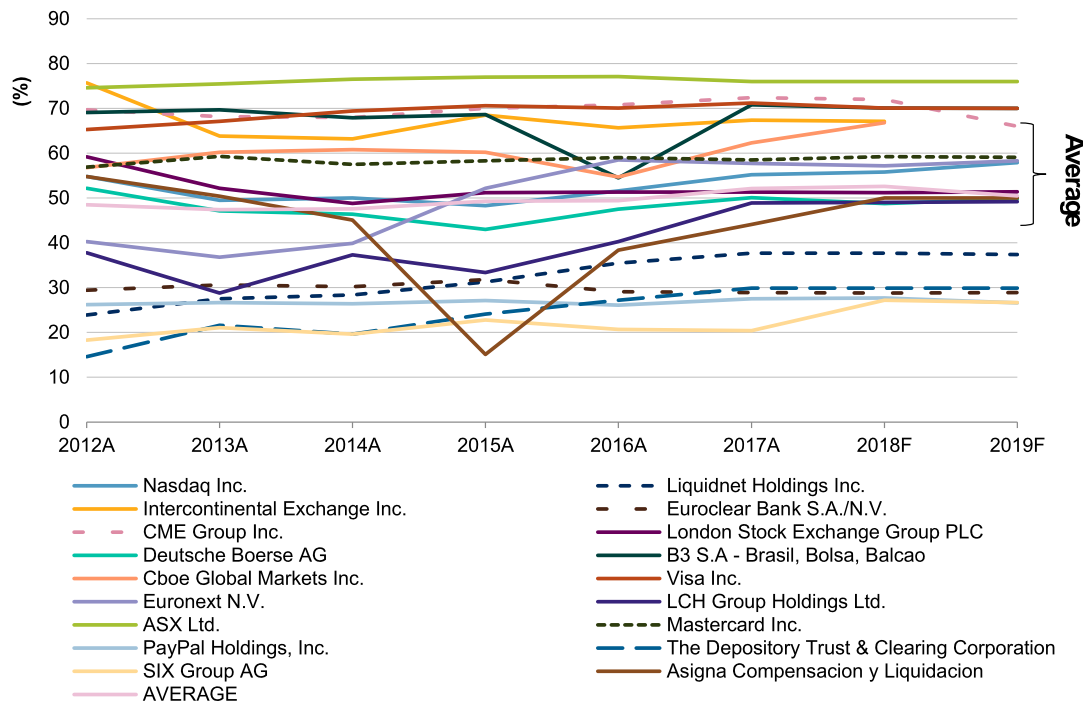
Sector leverage has remained steady

Member-owned operators aside, FMIs typically operate high-margin, highly cashflow-generative business models with relatively low demands on liquidity from capital investment and working capital needs. Despite the sustained period of low market volatility and somewhat depressed trading activity in recent years, EBITDA margins have been consistently firm at around 50% on average. This is well inside the 43%-66% range that we regard as the long-term average for the sector. There are consistent outperformers and underperformers around the average, and some FMIs have seen a slight shift as they have moved into new activities, for example CME following its NEX acquisition. Notably, Euronext and LCH have positively transformed their margins in recent years.

We assume U.S. tax reform will lead some American FMIs to make larger shareholder distributions.

Chart 1

S&P Global Ratings-Adjusted EBITDA Margin



Source: S&P Global Ratings. Data as of Dec. 31 of each year except VISA (Sept. 30) and ASX (June 30). Cboe forecast for 2019 no yet available.

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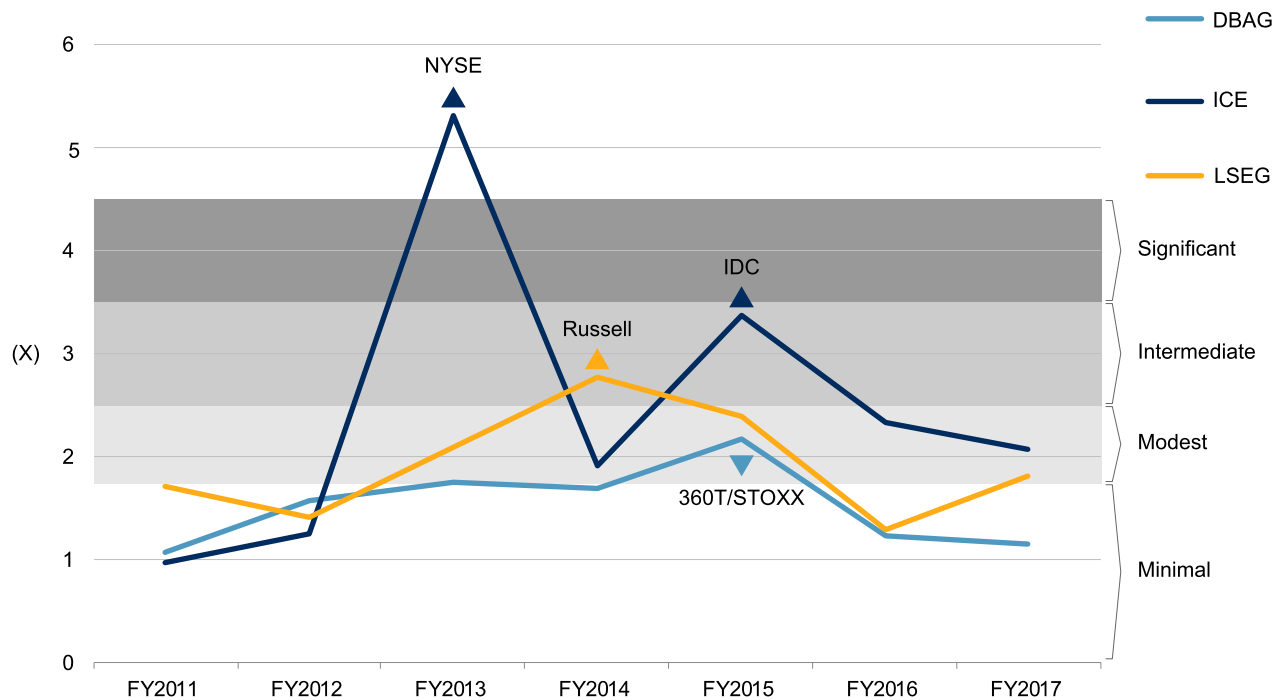
While the sector goes through bouts of making outsized, ad hoc shareholder returns, these tend to occur when groups have limited other uses for their accumulated cash. The result is that developments in sector leverage tend to be closely correlated with acquisition activity.

Ultra-low interest rates have made acquisitions economically more attractive in the past few years, and indeed several FMI players (ICE, London Stock Exchange Group PLC [LSEG], and DBAG being the most active) have between them made a string of acquisitions financed by new debt (and also existing cash). On occasion, these have strained leverage metrics, and some FMIs (including Euronext and B3) appear likely to run with more leverage during 2018 and 2019 than previously.

However, this has not led to a hike in sector leverage. What we see instead is fairly restrained risk appetite, with some FMIs (such as ASX Ltd, SIX Group AG, and Asigna) remaining resolutely debt-free, and others posting zero S&P Global Ratings-adjusted debt after we net off free cash (Mastercard, PayPal). We see that FMIs are generally keen to slash leverage quite rapidly when their metrics are initially strained by an acquisition (for example DBAG, ICE, LSEG; see chart 1). Notably, these FMIs also raised new equity for these larger deals--LSEG for Frank Russell Co. in 2014; ICE for Interactive Data Corp (IDC) in 2015; and DBAG for 360T and STOXX in the same year. Similarly, CME will issue new shares to partially finance its impending NEX Group acquisition, assuming that the regulators approve the deal. Visa, on the other hand, has reduced net debt through strong cash flow generation.

Chart 2

S&P Global Ratings-Adjusted Debt To EBITDA



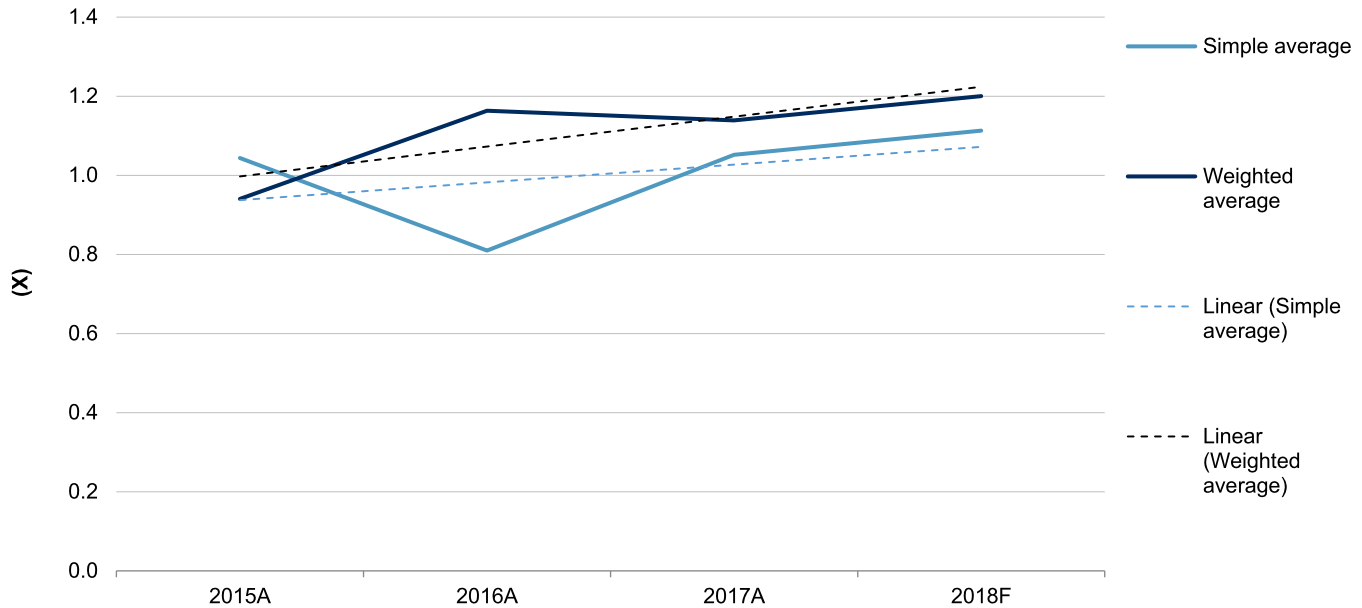
Source: S&P Global Ratings. LSEG figures do not reflect our previous deconsolidation approach to LCH. Labels to the right of the chart reflect the financial risk profile assessment categories consistent with the medial volatility table. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

So, far from rising, sector leverage has held, on average, quite steady in the past couple of years (see chart 3). In the 2015-2018 period we revised the financial risk profiles (FRP) of only a few firms:

- We revised downward B3 and Euroclear Group's FRPs to modest from minimal as they took on more leverage; and
- We revised upward the FRP of Liquidnet, historically the most highly leveraged player, as it cut leverage in the past two years--a change that we expect Liquidnet to sustain.

Chart 3

Average Debt To EBITDA For Rated FMI Companies

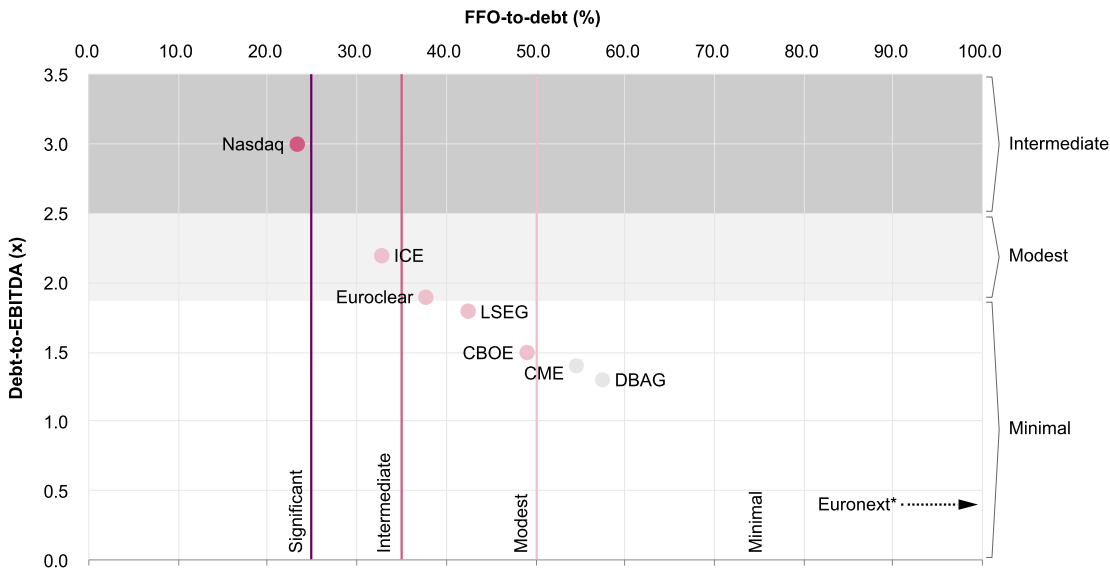


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Our leverage analysis for FMIs focuses on two key ratios: funds from operations (FFO) to debt, and debt to EBITDA. Looking at the individual companies, those that have some leverage typically remain within the minimal and modest FRP categories--the two strongest categories of the six available under our criteria. Only Nasdaq and Liquidnet have weaker assessments (see charts 4 and 5). This analysis takes into account that Nasdaq and ICE currently have average FFO-to-debt ratios that are slightly worse than those we normally tolerate for their FRP category. However, this is offset by the fact that Nasdaq's and ICE's other leverage and debt servicing metrics (notably debt-to-EBITDA, and EBITDA coverage of interest expense) all point to the more favorable assessment.

Chart 4

Key Leverage Metrics For Leveraged FMIs: Medial Volatility

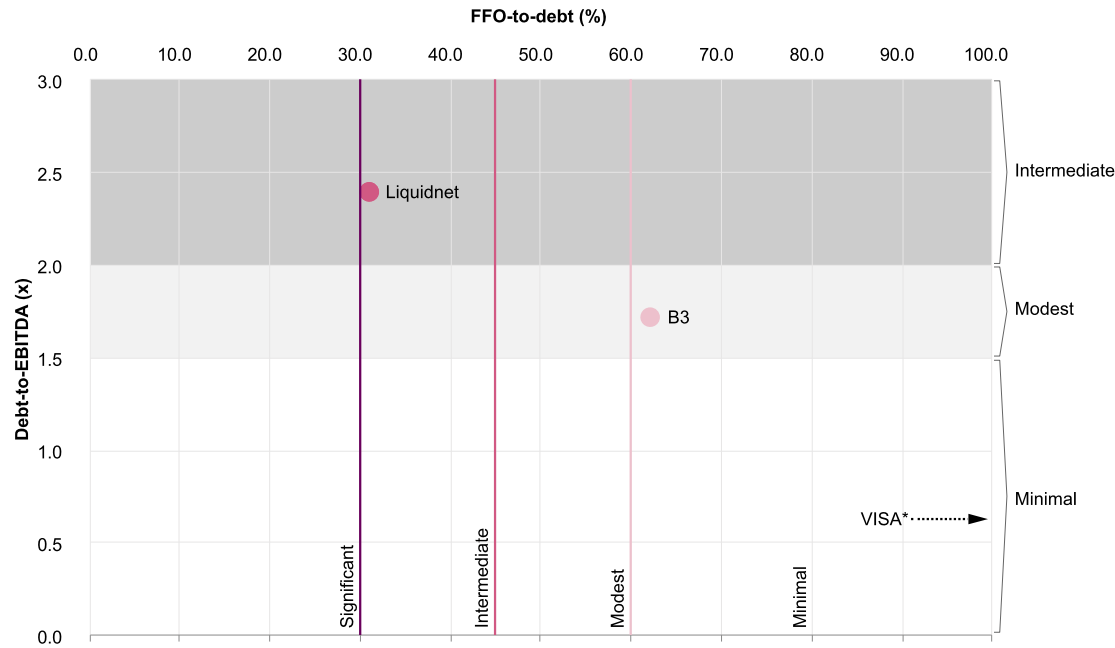


Source: S&P Global Ratings. Data as of July 31, 2018. Data is for leveraged FMIs for which we use the medial volatility table (see Appendix). It reflects average S&P-adjusted ratios for FY2017 to FY2019, weighted 20%/40%/40%, except Cboe and ICE 50%/2017 / 50% 2018, and Euroclear 50% 2018 / 50% 2019 following the significant, sustained step-up in leverage this year. *Euronext weighted FFO-to-debt is 198x.

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Chart 5

Key Leverage Metrics For Leveraged FMIs: Standard Volatility



Source: S&P Global Ratings. Data as of July 31, 2018. Data is for leveraged FMIs for which we use the standard volatility table (see Appendix). It reflects average S&P Global Ratings-adjusted ratios for FY2017 to FY2019, weighted 20%/40%/40%, except B3 50% 2017 / 50% 2018 following its transformational acquisition of Cetip. *VISA weighted FFO-to-debt is 120x.
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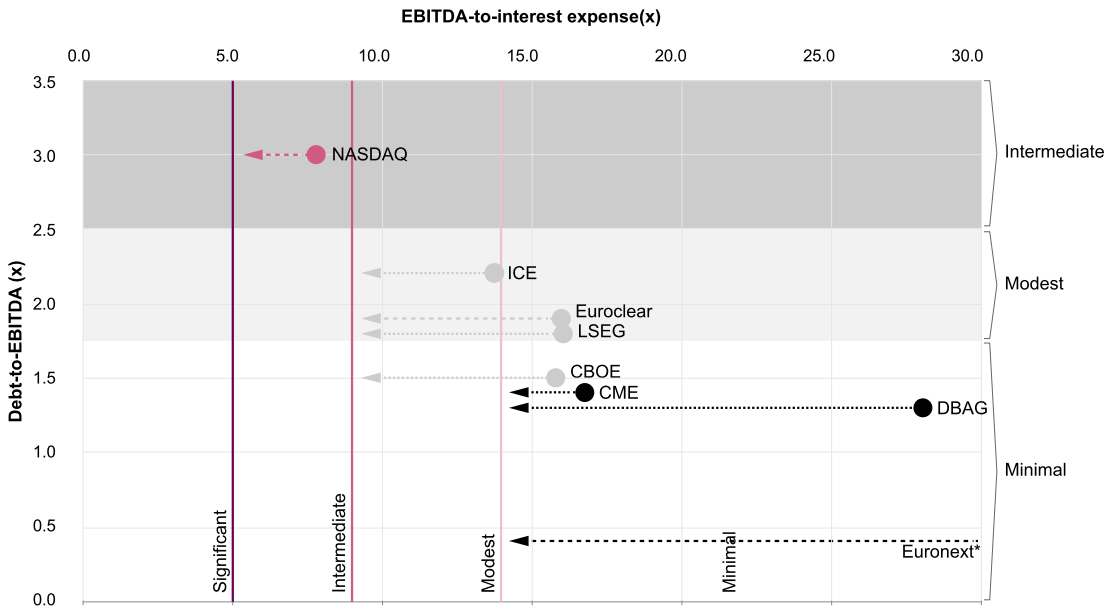
FMIs have capacity to absorb higher financing costs

Some FMIs continue to have a little relatively expensive legacy long-term debt that is still to mature, but their debt servicing metrics are typically buoyed by debt that is cheap by historical standards. While the cycle has started to turn, certainly in the U.S., even as recently as March, DBAG issued a 1.125% coupon 10-year euro-denominated bond, and CME issued a 4.15% coupon 30-year U.S. dollar-denominated bond in June.

The sector's typically comfortable debt servicing capacity is seen in charts 6 and 7. While there could be some exceptions, in our view it is reasonable to draw parallels from the 2008-2009 period and assume that a sizable portion of sector EBITDA remains firm even in a downturn. This is primarily because greater volatility would spur higher trading and clearing revenues that help to offset pressure elsewhere. Furthermore, while various clearinghouses and international central securities depositories saw a sharp contraction in interest income after 2008, this income stream remains rather depressed due to the low interest rate environment and would not repeat the same pattern--indeed, quite the opposite in a rising rate environment.

Chart 6

Leverage And Debt Servicing Metrics For Leveraged FMIs: Medial Volatility

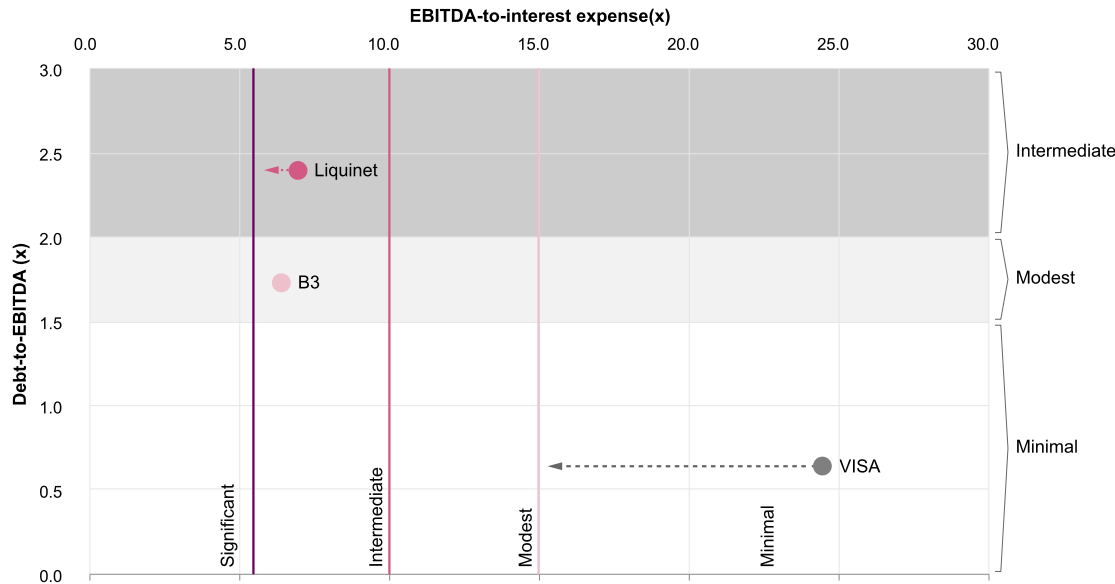


Source: S&P Global Ratings. Data as of July 31, 2018. Data is for leveraged FMIs for which we use the medial volatility table (see Appendix). It reflects average S&P-adjusted ratios for FY2017 to FY2019, weighted 20%/40%/40%, except Cboe and ICE 50% 2017 / 50% 2018, and Euroclear 50% 2018 / 50% 2019 following the significant, sustained step-up in leverage this year. *Euronext weighted EBITDA-to-interest expense is 44x.

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Chart 7

Leverage And Debt Servicing Metrics For Leveraged FMIs: Standard Volatility



Source: S&P Global Ratings. Data as of July 31, 2018. Data is for leveraged FMIs for which we use the standard volatility table (see Appendix). It reflects average S&P Global Ratings-adjusted ratios for FY2017 to FY2019, weighted 20%/40%/40%, except B3 50% 2017 / 50% 2018 following its transformational acquisition of Cetip.
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Acquisitions will remain a feature

Over the past months, the slight improvement in trade activity volumes and rise in U.S. interest rates has offered some cyclical assistance to sector revenues, although mainly for those exposed to U.S. asset classes. However, a broader cyclical uplift in trading volumes remains a medium-term prospect in our view, certainly while periods of higher market volatility remain at best episodic. While many FMIs have now at least partially completed a secular pivot toward diversified revenues from faster expanding segments, pressure remains on them to seek out secular growth. Furthermore, in most cases they continue to have access to additional financial resources--for example, recent U.S. tax law changes mean that a number of U.S. FMIs are sitting on a pile of cash that could be repatriated and deployed more flexibly if opportunities arise. Debt remains relatively cheap, and much of the sector has further capacity to increase debt without risking a change in the FRP assessment.

Taking these factors together, we do not expect the pace of sector deal-making to relent. Rather, where there is some let-up in activity, this may be rather better explained by a lack of attractive, affordable targets. This would be true in particular of transformational deals, for several reasons:

- In some faster-expanding markets (for example in Asia-Pacific) the acquisition of local incumbents is politically off-limits.
- The failure of previous marquee M&A deals between leading players, such as DBAG/LSEG in 2017 and ASX Ltd./Singapore Exchange in 2011, and LSEG/TMX Group Inc. a few months later, have left a chill on such grand aspirations.

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- The growth of players such as ICE, CME, and LSEG in the past years means that their pockets are now very deep and, as such, most targets--even those costing several hundred million dollars--become bolt-on in nature.

Aside from the yet-to-be approved NEX Group acquisition by CME, the last mega-deals in the FMI sector were:

- Visa's acquisition of Visa Europe, way back in 2015, for roughly €17.5 billion upfront cash and preferred stock, plus an additional €1.0 billion and 4% compound interest to be paid in 2019; and
- ICE's \$5.2 billion acquisition of IDC in the same year.

While transformational M&A remains a possibility, we consider it far more likely that rated FMIs will continue to announce a stream of bolt-on deals.

Debt repayment and issuance activity was strong in the first half of 2018

FMIs have been active issuers so far in 2018. Significant debt issuances included:

- Mastercard issued \$1 billion in 10-year and 30-year senior notes for general corporate purposes.
- DBAG issued a 10-year senior note to refinance a maturing €600 million senior note.
- Euroclear Investments, the treasury vehicle of the Euroclear group, issued €700 million of senior and subordinated notes, primarily to bolster the loss-absorbing capacity available to its subsidiary Euroclear Bank SA. The bank then activated its own medium-term note (MTN) program and in July, issued €1 billion senior notes to bolster its liquidity resources to improve resilience in a severe, member default stress scenario.
- Euronext issued a €500 million senior note to refinance existing drawdowns under its revolving credit facility (RCF) and to finance possible future acquisitions. Euronext had drawn on its RCF to fund its €175 million Irish Stock Exchange acquisition earlier in the year.
- CME issued \$1.2 billion senior notes to help finance its acquisition of NEX Group.
- ICE issued \$2.25 billion callable senior notes, split across a range of maturities. It will use the proceeds to finance the \$600 million notes due in October 2018, as well as some of the outstanding commercial paper.

Table 1

FMI Sector Issue Credit Rating Actions 2018 Year-To-Date

Issuer	Instrument	Date	Rating Action
Mastercard Inc.	US\$500 mil 3.50% nts due 02/26/2028	21/02/2018	New Issue
Mastercard Inc.	US\$500 mil 3.95% nts due 02/26/2048	16/03/2018	New Issue
Deutsche Boerse AG	EUR600 mil 1.125% callable nts due 03/26/2028	19/03/2018	New Issue
Deutsche Boerse AG	EUR600 mil 1.125% nts due 03/26/2018	27/03/2018	Maturity

Table 1

FMI Sector Issue Credit Rating Actions 2018 Year-To-Date (cont.)

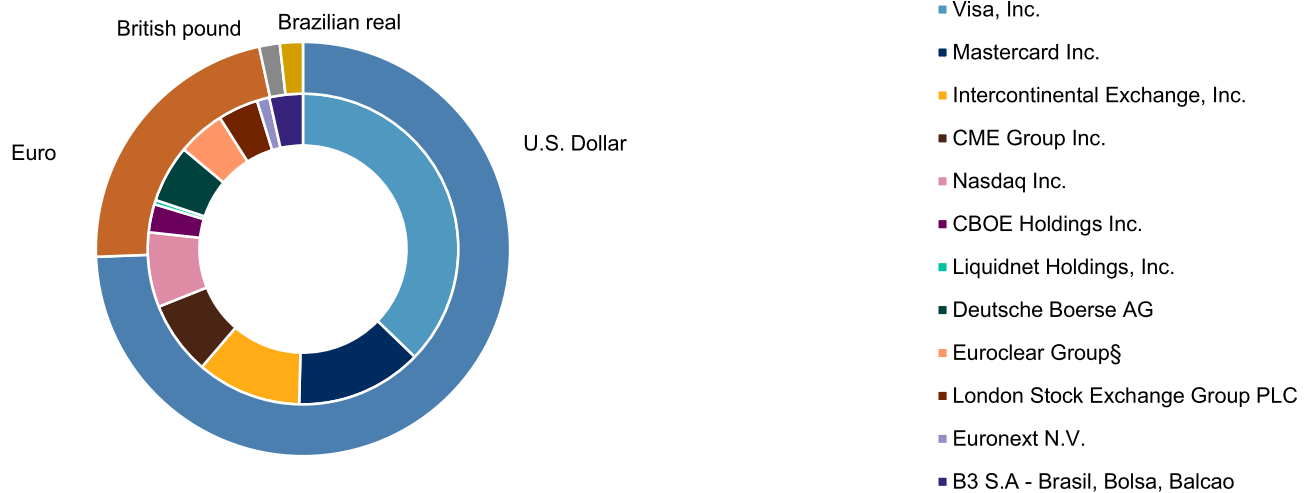
Issuer	Instrument	Date	Rating Action
Euroclear Investments S.A.	EUR400 mil var/fixed rate callable hybrid due 04/11/2048	22/03/2018	New Issue
Euroclear Investments S.A.	EUR300 mil 1.50% nts due 04/11/2030	22/03/2018	New Issue
Euronext N.V.	EUR500 mil 1.00% nts due 04/18/2025	11/04/2018	New Issue
CME Group Inc.	US\$500 mil 3.75% nts due 06/15/2028	15/06/2018	New Issue
CME Group Inc.	US\$700 mil 4.15% nts due 06/15/2048	15/06/2018	New Issue
Euroclear Bank S.A/N.V.	EUR500 mil fltg rate med-term nts due 07/10/2020	13/07/2018	New Issue
Euroclear Bank S.A/N.V.	EUR500 mil 0.50% med-term nts due 07/10/2023	13/07/2018	New Issue
Intercontinental Exchange Inc.	US\$400 mil 3.45% callable nts due 09/21/2023	06/08/2018	New Issue
Intercontinental Exchange Inc.	US\$600 mil 3.75% callable nts due 09/21/2028	06/08/2018	New Issue
Intercontinental Exchange Inc.	US\$1.25 bil 4.25% callable nts due 09/21/2048	06/08/2018	New Issue

In addition, PayPal drew \$2 billion on its RCF in the first quarter, repaying \$1 billion of this in the second quarter. The draw was used to fund the planned share buyback as it received the proceeds from the Synchrony transaction only in early July.

As chart 8 shows, total sector rated debt is dominated by U.S. issuers, with Visa alone accounting for more than one-third of total issuance. Sector debt is almost entirely issued in U.S. dollars and euro.

Chart 8

FMI Sector Rated Debt Issuances: By Issuer (inner ring), By Currency (outer ring)



Note: Data is as of June 30, 2018. Revolving credit facilities are not included in this table. *FX rate as of July 31, 2018 -- US\$1 = €0.856 = £0.762 = Brazilian real 3.715.
 §Euroclear Bank S.A./N.V. and Euroclear Investments S.A.

2019 will be a busy refinancing year

Looking through the rest of 2018, ICE and B3 are the only rated FMIs with an upcoming maturity of term debt. For ICE, it has already refinanced its \$600 million notes due in October. For B3, the repayment of its Brazilian real 1.5 billion debenture due in December would represent a further step to deleverage after its 2017 acquisition of local rival Cetip.

By contrast, 2019 appears set to be busy with repayment or refinancing activity; B3, CBOE, LSEG, Nasdaq, and Mastercard all have senior notes falling due.

Having renegotiated their RCFs in 2017, DBAG and Euronext have no debt or facilities due to mature in 2019.

Table 2

Bond Maturity Schedule

(Mil.)	Currency	2018	2019	2020	2021	2022	2023	Thereafter	Total (LC)	FX rate*	Total (USD)
B3 S.A - Brasil, Bolsa, Balcao	BRL	1,500	1,500						3,000	3.715	808
	USD		50	712					762	1.000	762
CME Group Inc.	USD					750		2,700	3,450	1.000	3,450
CBOE Holdings Inc.	USD		300			370		650	1,320	1.000	1,320

Table 2

Bond Maturity Schedule (cont.)

(Mil.)	Currency	2018	2019	2020	2021	2022	2023	Thereafter	Total (LC)	FX rate*	Total (USD)
Deutsche Boerse AG	EUR					600		1,700	2,300	0.856	2,687
Euroclear Group\$	EUR			500			500	900	1,900	0.856	2,220
Euronext N.V.	EUR							500	500	0.856	584
Intercontinental Exchange, Inc.	USD	600		1,250		500	800	1,750	4,900	1.000	4,900
Liquidnet Holdings, Inc.	USD							200	200	1.000	200
London Stock Exchange Group PLC	GBP		250		300				550	0.762	722
	EUR							1,000	1,000	0.856	1,168
Nasdaq Inc.	USD		500	600				1,000	2,100	1.000	2,100
	EUR				600		600		1,200	0.856	1,402
Visa, Inc.	USD			3,000		3,250		10,500	16,750	1.000	16,750
Mastercard Inc.	USD		500		650			2,850	4,000	1.000	4,000
	EUR					700		950	1,650	0.856	1,928
											45,175

Note: Data as of June 30, 2018. The table shows maturity schedules based on principal outstanding, not on carrying value. Revolving credit facilities are not included in this table. *FX rate as of July 31, 2018--USD1 = EUR0.856 = GBP 0.762 = BRL 3.715 \$Euroclear Bank S.A./N.V. and Euroclear Investments S.A.

Appendix

Table 3

Key Credit Metrics For Global Financial Market Infrastructure Companies

Company	--Funds from operations to adjusted debt (%)--			--Debt to adjusted EBITDA (x)--			--EBITDA interest coverage (x)--		
	2017A	2018F	2019F	2017A	2018F	2019F	2017A	2018F	2019F
Nasdaq Inc.	24.2	23.4	24.0	3.2	3.0	2.9	7.9	7.9	7.7
Liquidnet Holdings Inc.	28.3	30.7	33.2	2.7	2.4	2.2	6.0	7.0	7.5
Intercontinental Exchange Inc.	34.6	30.7	N.A.	2.1	2.4	N.A.	13.7	13.6	N.A.
Euroclear Bank S.A./N.V.	91.5	37.4	37.4	1.1	2.0	1.9	43.9	18.2	13.7
CME Group Inc.	85.3	41.3	52.2	0.7	1.7	1.4	17.7	17.8	15.0
London Stock Exchange Group PLC	42.4	41.6	43.8	1.8	1.9	1.8	12.4	16.6	17.4
Deutsche Boerse AG	58.3	55.5	59.0	1.1	1.3	1.2	21.2	29.1	30.7
B3 S.A - Brasil, Bolsa, Balcão	52.2	72.3	142.1	2.1	1.3	0.7	5.4	7.6	14.0

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Table 3

Key Credit Metrics For Global Financial Market Infrastructure Companies (cont.)

Cboe Global Markets Inc.	34.9	62.6	N.A.	1.9	1.2	N.A.	14.7	16.7	N.A.
Visa Inc.	103.3	122.6	125.2	0.7	0.6	0.6	21.9	23.6	26.8
Euronext N.V.	363.3	155.5	158.0	0.2	0.5	0.5	44.7	48.7	38.8
LCH Group Holdings Ltd.	349.7	N.M.	N.M.	0.2	0.1	0.1	31.6	N.M.	N.M.
ASX Ltd.	N.M.	N.M.	N.M.	0.1	0.1	0.1	6.5	6.8	7.0
Mastercard Inc.	N.M.	N.M.	N.M.	0.1	0.0	0.0	41.7	55.9	62.5
PayPal Holdings, Inc.	N.M.	N.M.	N.M.	0.0	0.0	0.0	115.6	53.9	44.5
The Depository Trust & Clearing Corporation	N.M.	N.M.	N.M.	0.1	0.0	0.0	6.7	13.1	13.4
SIX Group AG	N.M.	N.M.	N.M.	0.0	0.0	0.0	24.6	37.3	52.2
Asigna Compensacion y Liquidacion	N.M.	N.M.	N.M.	0.0	0.0	0.0	N.M.	N.M.	N.M.
--Free operating cash flow/debt									
--EBITDA margin (%)--									
Company	2017A	2018F	2019F	2017A	2018F	2019F			
Nasdaq Inc.	19.1	19.8	20.4	55.0	56.0	58.0			
Liquidnet Holdings Inc.	18.6	13.0	23.0	38.0	38.0	37.0			
Intercontinental Exchange Inc.	29.0	28.3	N.A.	67.0	67.0	N.A.			
Euroclear Bank S.A./N.V.	83.0	29.3	29.3	29.0	29.0	29.0			
CME Group Inc.	100.5	40.3	49.3	72.0	72.0	66.0			
London Stock Exchange Group PLC	21.7	22.8	24.7	51.0	51.0	51.0			
Deutsche Boerse AG	62.2	47.4	51.5	50.0	49.0	50.0			
B3 S.A - Brasil, Bolsa, Balcão	196.7	64.0	131.0	71.0	70.0	70.0			
Cboe Global Markets Inc.	29.0	54.9	N.A.	62.0	72.3	N.A.			
Visa Inc.	97.0	96.7	113.6	71.0	70.0	70.0			
Euronext N.V.	341.8	159.1	161.2	58.0	57.0	58.0			
LCH Group Holdings Ltd.	206.5	N.M.	N.M.	49.0	49.0	49.0			
ASX Ltd.	N.M.	N.M.	N.M.	76.0	76.0	76.0			
Mastercard Inc.	N.M.	N.M.	N.M.	58.0	59.0	59.0			
PayPal Holdings, Inc.	N.M.	N.M.	N.M.	27.0	28.0	27.0			
The Depository Trust & Clearing Corporation	N.M.	N.M.	N.M.	30.0	30.0	30.0			
SIX Group AG	N.M.	N.M.	N.M.	20.0	27.0	27.0			
Asigna Compensacion y Liquidacion	N.M.	N.M.	N.M.	48.0	50.0	50.0			

Source: S&P Global Ratings. Data as of Dec. 31 of each year, except VISA (Sept. 30) and ASX (June 30). N.A.--Updated Cboe and ICE forecasts for 2019 are not yet available. Data for Euroclear Bank is that of Euroclear group. N.M.--Not meaningful.

Table 4

Cash Flow/Leverage Analysis Ratios--Medial Volatility

	--Core ratios--		--Supplementary coverage ratios--		--Supplementary payback ratios--		
	FFO/debt (%)	Debt/EBITDA (x)	FFO/cash interest (x)	EBITDA/interest (x)	CFO/debt (%)	FOCF/debt (%)	DCF/debt (%)
Minimal	50	less than 1.75	10.5	14	40	30	18
Modest	35-50	1.75-2.5	7.5-10.5	9-14	27.5-40	17.5-30	11-18
Intermediate	23-35	2.5-3.5	5-7.5	5-9	18.5-27.5	9.5-17.5	6.5-11
Significant	13-23	3.5-4.5	3-5	2.75-5	10.5-18.5	5-9.5	2.5-6.5
Aggressive	9-13	4.5-5.5	1.75-3	1.75-2.75	7-10.5	0-5	(11)-2.5
Highly leveraged	Less than 9	Greater than 5.5	Less than 1.75	Less than 1.75	Less than 7	Less than 0	Less than (11)

This is a reproduction of Table 18 from Corporate Methodology, published Nov. 19, 2013.

Table 5

Cash Flow/Leverage Analysis Ratios--Standard Volatility

	--Core ratios--		--Supplementary coverage ratios--		--Supplementary payback ratios--		
	FFO/debt (%)	Debt/EBITDA (x)	FFO/cash interest(x)	EBITDA/interest (x)	CFO/debt (%)	FOCF/debt (%)	DCF/debt (%)
Minimal	60	Less than 1.5	More than 13	More than 15	More than 50	40	25
Modest	45-60	1.5-2	9-13	10-15	35-50	25-40	15-25
Intermediate	30-45	2-3	6-9	6-10	25-35	15-25	10-15
Significant	20-30	3-4	4-6	3-6	15-25	10-15	5-10
Aggressive	12-20	4-5	2-4	2-3	10-15	5-10	2-5
Highly leveraged	Less than 12	Greater than 5	Less than 2	Less than 2	Less than 10	Less than 5	Less than 2

This is a reproduction of Table 17 from Corporate Methodology, published Nov. 19, 2013.

Table 6

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Table 6

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Related Criteria

- Key Credit Factors for Financial Market Infrastructure Companies, Dec. 9, 2014
- Corporate Methodology, Nov. 19, 2013
- Corporate Methodology: Ratios And Adjustments, Nov. 19, 2013

Related Research

- PayPal Holdings Inc. 'BBB+/A-2' Ratings Affirmed On Still Very Low Leverage; Outlook Remains Stable, Aug. 16, 2018
- Rating Factor Assessments For Global Financial Market Infrastructure Companies (July 2018), July 31, 2018
- With A Strong Start To The Year, U.S. Financial Market Infrastructure Firms Are Well-Positioned In 2018, July 19, 2018
- Global Financial Market Infrastructure Operators To Focus On Data And OTC Products Amid Flatlined Volatility In 2018, Jan. 10, 2018
- MiFID II: Disruptive Regulatory Change For European Financial Markets, Winners And Losers To Emerge Over Time, Jan. 2, 2018

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