INVESTMENT

IPE SURVEY EMERGING MARKET DEBT MANAGERS

Company	Aberdeen	AllianceBernstei		Amundi	Ashmore	AXA Inv.	Baillie	Barings	BayernInvest	BlackRock	BlueBay	BMO Global	BNP Paribas	Candriam	CBL	CIBC	Colchester	Columbia
Total accept in an amino manifest data (Con)	Standard Inv.	21 720	Global Inv.	Asset Mngt.	Group	Managers	Gifford & Co.	E 207.27	Kapital.	/2.0/E	Asset Mngt.	Asset Mngt.	Asset Mngt.	E 001	AM 202	AM	Global Inv.	Threadneedle Inv.
Total assets in emerging market debt (€m)	14,117 30/06/18	21,739 30/06/18	4,300 30/06/18	29,200 ⁽¹⁾ 30/06/18	51,900 30/06/18	7,470 30/06/18	1,629 30/06/18	5,387.24 30/06/18	4,610.38 31/07/18	43,965 30/06/18	9,472 30/06/18	3,477 ⁽³⁾ 29/06/18	3,210 30/06/18	5,001 31/07/18	202 30/06/18	23.2 30/06/18	7,968 31/08/18	1,962 30/06/18
As at																		
Total group AUM worldwide (€m)	630,010	462,297	524,000	1,466,000 657,000	62,800 51,900	758,595 452,270	218,123 7,369	262,250.58	84,320.6	5,395,663	50,988	219,875	559,691	120,358	692	110,310.8 45,345.9	35,751	413,489
Total assets in fixed income worldwide (€m)	156,882	220,610	189,000	657,000	51,900	452,270	7,367	191,685.98	54,549.44	1,591,887	50,988	62,688	296,791	60,289	462	40,340.9	35,751	
Emerging market debt assets invested for (€m)	0.550	/ /05	4.000		4 / 000	0.050	4.500	FF0.0	/ //0.00	/ 000	2.2/2	0.0(0[6]	F40	0.450	100		/ 550	252
Europe-based institutional clients	9,553	4,485	4,300	4,614	16,800	3,858	1,589	773.3	4,610.38	6,893	2,360	3,363 (4)	710	2,659	128	U	6,553	252
Pension fund clients	2,204	376		520	10,700	136		523.45	NA NA	5,504	934	689	89	753	119	0	1,958	101
Insurance company clients	643	3,982		673	2,700	2,551		132.83	NA	212	1,401	2,332	179	453		U	46	181
_All other institutional clients	6,706		4,300	3,421	3,400	1,171		117.02	4,610.38	1,177	25	342	442	1,453	0	0	4,549	71
Through segregated accounts mandates	6,072	8,657	2,500	2,500		5,010	11	4,098.34	4,412.73	7,969	3,716	3,363	1,387	1,207	102	0.19	6,091	
Through investment/mutual fund vehicles	8,045	13,082	1,800	26,700		2,460	1,618	1,289.08	197.65	35,996	5,756	114	1,823	3,794	100	23.01	1,877	
In emerging market hard currency sovereign debt	1,686	7,488	2,000	15,300	24,100		216	1,036.33	2,799.26		3,127	3,139	2,250	3,194	79	0	0	
In emerging market local currency sovereign debt	1,223	4,930	300	2,100	18,400		1,355	1,747.95	499.02		880	49	613	648	2	0	7,968	
In emerging market hard currency corporate debt	1,348	8,504	2,000	8,300	9,400		48	2,345.92	1,256.11		1,711	181		1,152	121	0	U	
<u>Other</u>	4,816	817		3,500			10	257.02	55.99		39	108	347	7				
Regions invested in within emerging market debt portfolios								400										
Emerging Europe		T	P	P	S/T		P	(2)	P		T	P	P	P	P	S	S	
Turkey	P	T	T	P	S/T		P		S		T	S	T	S	P	S	S	
Russia	P	T	P	P	S/T		P		S		T	S	T	S	P	S	S	
Poland	P	T	P	P	S/T		P		S		T	S	T	S	P	S	S	
<u>Hungary</u>	P	T	Р	S	S/T		Р		S		T	S	T	S	P	S	S	
Czech Republic	N	T	P	S	S/T		P		S		T	S	T	S	S	S	S	
The Balkans	P	T	T	T	S/T		P		S		T	S/T	T	S	P	N	N	
The Baltics	P	T	T	T	S/T		P		S		T	S	T	S	P	N	N	
_Asia	P	T	Р	Р	S/T		P		P		T	P	P	Р	P	S	S	
China	P	T	Р	Р	S/T		T		S		T	S	T	S	S	S	N	
South Korea	S	T	Р	P	S/T		T		S		T	S	S	T	T	S	S	
_Taiwan	N	T	T	Р	S/T		T		S		T	N	S	N	T	S	S	
India	P	T	Р	Р	S/T		S		S		T	S	T	S	Р	S	N	
Thailand	P	T	Р	S	S/T		Р		S		Т	S	T	T	T	S	S	
Malaysia	P	T	Р	S	S/T		Р		S		T	S	T	S	T	S	S	
Indonesia	Р	T	Р	Р	S/T		P		S		Т	S	T	S	S	S	S	
Latin America	Р	S	Р	Р	S/T		Р		Р		Т	Р	Р	Р	Р	S	S	
Brazil	Р	S	Р	Р	S/T		Р		S		Т	S	T	S	Р	S	S	_
Mexico	P	S	Р	Р	S/T		Р		S		Т	S	T	S	Р	S	S	
Argentina	S	S	T	Р	S/T		Р		S		T	S	T	S	T	N	S	
Chile	P	S	Р	Р	S/T		Р		S		Т	S	T	S	Р	S	S	
Middle East and Africa	P	T	T	Р	S/T		Р		Р		Т	Р	Р	S	Р	S	S	
Nigeria	P	T	T	S	S/T		T		S		T	S	T		T	N	N	
South Africa	P	T	Р	P	S/T		Р		S		Т	S	T	S	Р	S	S	
Egypt	S	T	T	T	S/T		T		S		T	S	T	S	N	N	N	
	N	T	T	T	S/T		N		S		Т	S	T		T	N	N	
Morocco	S	T	T	T	S/T		N		S		T	S	T	S	T	N	N	
Frontier markets	P	T	T	T	S/T		T		T		T	T	P	S	Р	N	N	
No. of countries in benchmark(s), invested in only T and N	T: 0; N: 1		T: 15	T: 20: N: 0			T & N: 0				T: 54	T: 9: N: 4		T & N: 0	T: 30-35; N: 25-30	NA	T: 0: N: 2	
No. of countries not included in benchmark(s) invested in P. S or T	P: 1: S: 4		T: 15	P: 1: S: 0: T: 7			P: 0: S: 2: T: 7				P: 0: S: 0: T: 5	S: 1: T: 4		P: 0: S: 15: T: 0	P, S & T: 0	NA	S: 4	
Acceptable tracking error for emerging market debt	2-6%		450bps	≤5%			2-8%	100-300bps	0.5-1.0%		0-6%	1-3%	1-6%	Max. 5%	[6]	NA	3.5%	
Average S&P/Moody's rating for emerging market debt	BBB-		BB+	BBB-BB+ (8)	BBB		BBB	BBB-BB+ (8)	BBB - BBB-		BBB-	BB+	BBB	BB+	BBB-/BB+	1471	BBB	
% weighting given in running emerging market debt	555				222		555	200 00.	222 230				555		222,22.		555	
Top down			70	50	30		10	15	90		10	20	33	20	10	50	35	
Bottom up			0	20	30		40	20	10		90	60	67	30	25	0	35	
Technical price/spread analysis	10		20	5	5		0	0	0		10	0	50	10	5	0	0	
Fundamental credit analysis	75			15	30		n	n	<u> </u>		65	20	50	10	30	n	n n	
Quantitative	, , , , , , , , , , , , , , , , , , ,		n	5	5		20	25	n		25	n Zu	25	10	20	50	n	
Currency views	15		10	5	30		30	<u>25</u> 40	<u> </u>			0	25	20	10	n n	30	
Number of analysts/investment professionals in emerging market debt tea		27	9	44	31	8	7	79	//		33	10	18 (5)	7	5	5	10	
- 1. a a. a	10	<u> </u>	/	44	U I		/	1.1			00	10	10		J	J	10	

Company	Danske Bank		DWS	Eaton	Erste	Fidelity	First State	Fisch	Franklin	Global	Goldman Sachs			HSBC Global	Insight	Investec	Irish	Janus
1 7	Asset Mngt.	Asset Mngt.		Vance	AM	International	Investments	AM	Resources	Evolution	AM Int.	Van Otterloo & Co.	Kapital.	Asset Mngt.		AM	Life IM	Henderson Inv.
Total assets in emerging market debt (€m)	2,697	1,337	6,265	8,404	6,100 ⁽³⁾	4,812	3,849	1,679	28,803.5	7,645	41,081.37	5,745	1,180	74,004.3	5,544	30,044	393	367.39
As at	30/09/18	31/08/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	31/08/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	31/07/18	30/09/18	30/06/18
Total group AUM worldwide (€m)	109,005	33,016	687,209	381,227	61,100	265,692	134,747	9,146	619,772.1	7,645	1,120,230.58	54,302	61,000	401,120.9	680,103	126,402	70,500	316,971.55
Total assets in fixed income worldwide (€m)	57,961	9,525	278,541	101,461	23,100	65,805		8,186	228,308.6	7,645	496,570.84	5,662	27,000	162,180.5	294,375	32,421		66,549.08
Emerging market debt assets invested for (€m)																		
Europe-based institutional clients	514	1,335	3,975		1,360	991	2,295	1,382	4,226.57	7,093	18,761.26	1,843	1,180	4,798.4	3,430	8,776	393	365.89
Pension fund clients	0	125	1,626		555	747	1,462	257	2,984.89	4,969 [11]	4,205.22	674	NA	1,848.1	1,596	4,322	309	0
Insurance company clients	1	9	644		130	2	•	674	73.23	535 (11)	9,733.63	150	NA	288.1	1,408	2,793		0
All other institutional clients	513	1,203	1.705		675	242		451	1.168.45	2.141 [11]	4,822,41	1.019	NA	2.662.2	426	1.661		365.89
Through segregated accounts mandates	514	0	4,296	0	830			883	9.694.1	5,161	26,014.42	0	440	55,161.2	2,056	14,547		0
Through investment/mutual fund vehicles	2.183	1.337	1.969	8,404	5.270			796	19.109.4	2,484	15.066.95	5.745	740	18.843.1	3,488	15.497		367.39
In emerging market hard currency sovereign debt	1,993	n	4,155	3,042	810	1,667		15	4,685.3	4,472	17,573.59	4,612	590	10,040.1	511	1,536		73.48
In emerging market local currency sovereign debt	150	1,337	610	4,978	790	1,044		n	12,784.4	3,173	3,018.19	1,133	070		2,887	13,723		
In emerging market hard currency corporate debt	533	n	900	259	1,740	1,488		1.664	2,982.9	0,170	4.327.87	n .,,tee	590		2,146	2,722		293.91
Other	21	0	600	125	2,760	613		1,004	8,350.9		13,162.42	n	370		2,140	12,063		
Regions invested in within emerging market debt portfolios			000	120	2,700	013			0,000.7		15,102.42					12,000		
Emerging Europe	P	P/S	P	Т	S/T	D		P	S	D	C	S	D	D (14)		P		S/T/N
	- C		D D	Ť	S/T	D		T		c			D D			C		S/T
Turkey		N N		<u> </u>	2/ I C /T				<u>S</u>		<u>5</u>	<u>S</u>				<u>S</u>		S/T
Russia		T IN		I	S/T					<u>S</u>	<u>5</u>							N
Poland	5	<u> </u>	P P	<u> </u>	S/T	5		5	5	5	3	5	P P	P P		5		N N
Hungary	<u>5</u>	<u> </u>	P N	<u> </u>		<u>5</u>			5	5	<u>S</u>	<u> </u>	P	P		<u> </u>		N N
Czech Republic		<u> </u>	N T	<u> </u>	S/T	I		<u> 5</u>	5	5	<u> </u>	5	P	N .		<u> </u>		
_The Balkans					S/T					5		5	P					S/T
The Baltics	<u> </u>		P		S/T					N	<u>S</u>	<u> </u>	S					N N
Asia	P	P/S	<u> </u>		S/T	<u>Р</u>		P		<u> </u>	<u>S</u>	<u> </u>		<u>Р</u>		P		P/S/T
China	TT	N	P	T	S/T	P		P	S	T	S	S	P	P		S/T		P/S/T
South Korea	T	T	T	T	S/T	T		P	S	T	S	S	T	T		S/T		S/T
Taiwan	T	T	N	T	S/T	T		T	S	T	S	S	T	N		S/T		S/T
India	S	T	T	T	S/T	P		S	S	S	S	S	T	T		S/T		S/T
Thailand	T	T	N	T	S/T	T		S	S	S	S	S	T	T		S		S/T
Malaysia	S	T	Р	T	S/T	S		S	S	S	S	S	S	S		S		S/T
Indonesia	S	T	P	T	S/T	P		S	S	S	S	S	Р	P		S		S/T
Latin America	Р	P/S	Р	T	S/T	Р		Р	S	Р	S	S	S	Р		Р		S/T
Brazil	S	T	Р	T	S/T	Р		S	S	S	S	S	Р	Р		S		S/T
Mexico	S	T	P	T	S/T	Р		P	S	S	S	S	Р	P		S		S/T
Argentina	S	Ť	Ť	Ť	S/T	P		Ť	S	S	S	S	S	P		Ť		S/T
Chile	S	T	P	Ť	S/T	P		S	S	S	S	S	S	P		S		S/T
Middle East and Africa	P	P/S	P	T	S/T	P		P	S	P	ς .	S	S	P		P		S/T
Nigeria	Ś	T T	T T	Ť	S/T	Ś		Ť	Š	T	Š	Š	ς	T T		T T		S/T
South Africa	<u> </u>	Ť	P	Ť	S/T	P		Ť	<u> </u>	Ġ		<u> </u>	<u> </u>	P		Ġ		S/T
Egypt	<u>c</u>	Ť		Ť	S/T			÷	- c	<u>c</u>	C	<u>S</u>						S/T
		T	NI	<u>'</u>	S/T	<u> </u>		<u> </u>	- C			c	<u> </u>	<u> </u>		Ť		S/T
			T			<u> </u>		<u> </u>										
Morocco Frontier markets	<u>5</u>	P/S/T	I	<u>I</u>	S/T S/T	- I		<u></u>	<u> </u>	I	5	<u>S</u>	5			I		S/T N
	T 9 N. 0	P/S/ I	T: 14: N: 3	T: All	5/ I	T. 17. N. 0		T: 15: N: 0	5	<u> </u>	5	T 9 NL 0	T. 10. N. 0	T. / 2/. N. 0		T 9 NL O		T: 10; N: 3
No. of countries in benchmark(s), invested in only T and N No. of countries not included in benchmark(s) invested in P. S or T	T & N: 0	(7)	1: 14; N: 3 S: 3: T: 7	T: All		T: 17; N: 0		1: 15; N: U T· 2	(10)			T & N: 0	T: 10; N: 0	T: 4-24; N: 0 P: 10-22: S: 3-21: T: 4-	٥,/	T & N: 0 T: 15		
	P: 0; S: 5; T: 2				./0/	S: 2; T: 20			(0)	NIA.	150 (00) (0)				[8]			P: 0; S: 3; T: 3
Acceptable tracking error for emerging market debt	NA NA	NA NA	3%	300-600bps (8)	<u> </u>	250bps		3%	100	NA NA	150-400bps ⁽⁸⁾ BB+ - BBB- ⁽⁸⁾	NA NA	2%	150-400bps		0-5%		2-5%
Average S&P/Moody's rating for emerging market debt	BB/BB-	BBB+	BB+	BB	BB-BBB	BBB		A BBB- ⁽⁸	BB+	BB BBB+ (8)	RR+ - BBB- (s)	BB-BBB (8)	BB+/Ba1	BB	BBB	BBB		BB
% weighting given in running emerging market debt																		
Top down	20	20	20	5		10		30	10	60		20-50	30	80	20	20		25
Bottom up	30	30	10	30		40		30	90	10		50-80	30	20	15	80		45
Technical price/spread analysis	30	5	20	15		10		20	0	10		0	5		10	15		10
Fundamental credit analysis	10	5	40	30		20		20	90	5		(13)	15		40	20		(15)
Quantitative	10	0		5		15		0	10	5		0	15		5	35		10
Currency views	0	40		15		5		0	10	10		0-40	5		10	45		10
Number of analysts/investment professionals in emerging market debt tean	n 4	2	19	32	16	12		21	79	10		6	5	43	55	19		5

IN SUMMARY

Survey overview

Total number of managers in survey	64
	€m
Total emerging market debt assets	757,915
Total European institutional assets*	219,482
Total pension fund assets*	87,441
Total insurance company assets*	42,921
Total other institutional assets*	73,115
Total in segregated accounts*	348,797
Total in investment/mutual fund vehicles*	321 380

Where disclosed

Top 10: Emerging market debt assets

Company	€m	As at
1 HSBC Global Asset Management	74,004	30/06/18
2 Ashmore Group	51,900	30/06/18
3 PGIM	47,924	30/06/18
4 BlackRock	43,965	30/06/18
5 Goldman Sachs Asset Management. Int.	41,081	30/06/18
6 Western Asset Management Co.	36,626	30/06/18
7 Investec Asset Management	30,044	31/07/18
8 Amundi Asset Management	29,200	30/06/18
9 Franklin Resources	28,804	30/06/18
10 AllianceBernstein	21,739	30/06/18
11 Mirae Asset Global Investments	21,613	30/06/17
12 Stone Harbor Investment Partners	19,122	31/08/18
13 State Street Global Advisors	18,940	30/06/18
14 Neuberger Berman	15,672	31/08/18
15 Aberdeen Standard Investments	14,117	30/06/18
16 Lazard Asset Management	14,092	30/09/18
17 Pictet Asset Management	13,717	31/08/18
18 UBS Asset Management	13,367	30/06/18
19 MEAG	13,000	30/06/18
20 PineBridge Investments	11,881	30/06/18

Top 10: European institutional assets

_			
	Company	€m	As at
1	Goldman Sachs Asset Management Int.	18,761	30/06/18
2	Ashmore Group	16,800	30/06/18
3	MEAG	12,800	30/06/18
4	State Street Global Advisors	9,663	30/06/18
5	Aberdeen Standard Investments	9,553	30/06/18
6	Investec Asset Management	8,776	31/07/18
7	Stone Harbor Investment Partners	8,640	31/08/18
8	Union Investment	7,500	31/07/18
9	Legal & General Investment Management	7,186	30/06/18
10	Global Evolution	7,093	31/08/18
_11	BlackRock	6,893	30/06/18
12	Colchester Global Investors	6,553	31/08/18
_13	Lazard Asset Management	6,173	30/09/18
14	PGIM	5,868	30/06/18
	Western Asset Management Co.	4,816	30/06/18
16	HSBC Global Asset Management	4,798	30/06/18
_17	Amundi Asset Management	4,614	30/06/18
18	BayernInvest Kapital.	4,610	31/07/18
_19	AllianceBernstein	4,485	30/06/18
20	Allianz Global Investors	4,300	30/06/18

Top 10: European pension fund assets

	Company	€m	As at
1	Ashmore Group	10,700	30/06/18
2	State Street Global Advisors	9,257	30/06/18
3	Stone Harbor Investment Partners	7,900	31/08/18
4	BlackRock	5,504	30/06/18
5	PGIM	5,114	30/06/18
6	Global Evolution	4,969	31/08/18
7	Investec Asset Management	4,322	31/07/18
8	Goldman Sachs Asset Management Int.	4,205	30/06/18
9	Lazard Asset Management	4,109	30/09/18
10	Legal & General Investment Management	3,429	30/06/18
11	Franklin Resources	2,985	30/06/18
12	Aberdeen Standard Investments	2,204	30/06/18
13	Colchester Global Investors	1,958	31/08/18
14	HSBC Global Asset Management	1,848	30/06/18
15	DWS	1,626	30/06/18
16	Insight	1,596	30/06/18
17	NN Investment Partners	1,545	30/06/18
18	First State Investments	1,462	30/06/18
19	TKP Investments	1,316	31/08/18
20	BlueBay Asset Management	934	30/06/18

INVESTMENT INVESTMENT

IPE SURVEY EMERGING MARKET DEBT MANAGERS

Company	Lazard Asset Mngt.	Legal & General Investment Mngt.	Logan Circle Partners	Lord, Abbett & Co.	M&G Investments	Man GLG	MEAG	MFS IM	Mirae Asset Global Inv.
Total assets in emerging market debt (€m)	14,092	10,379	3,133	4,202.1	7,099	5,346	13,000	8,836 (3)	21,613
<u>As at</u>	30/09/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/18	30/06/17
Total group AUM worldwide (€m)	183,259	1,113,645	32,870	144,495.9	323,125	97,301	251,139	405,219	92,510
Total assets in fixed income worldwide (€m)	26,231	418,113	32,870	114,331.3	200,250	8,310	185,118	68,388	24,016
Emerging market debt assets invested for (€m)		(0)							
Europe-based institutional clients	6,173	7,186 (3)	82	0		2,683	12,800	962	
Pension fund clients	4,109	3,429	0	0		748		929	
Insurance company clients	520	103	0	0		886		0	
All other institutional clients	1,544	3,654	82	0		1,049		33	
Through segregated accounts mandates	9,463	5,894	1,996	00		1,592	11,208	1,038	15,599
Through investment/mutual fund vehicles	4,629	4,485	1,137	198.9 [18]		3,754	1,792	7,798	6,014
In emerging market hard currency sovereign debt	7,235.7	1,460	1,281	557			7,500	6,317	
In emerging market local currency sovereign debt	7,803.8	7,655	924	20.1			4,900	457	
In emerging market hard currency corporate debt	1,413.7	315	928	3,467.3			600	1,344	
Other		949		19.1				718	
Regions invested in within emerging market debt portfolios									
Emerging Europe	T	4.4	P/S	S	T		Р		S
Turkey	T	S (16)		S	T		P		
Russia	T	S		S	T		Р		
Poland	T	S		S	T		Р		
Hungary	T	S		S	T		P		
Czech Republic	T	T		S	T		P		
The Balkans	T	S/T		T	T		P		
The Baltics	T	S/T		T			Р		
Asia	Т		P/S	S	T		Р		S
China	Т	S		S	T		S		
South Korea	Т	S		S	T		S		
Taiwan	T	S		S	T		T		
India	T	S		S	T		Р		
Thailand	T	S		S	T		S		
Malaysia	Т	S		S	T		S		
Indonesia	Т	S		S	T		Р		
Latin America	T		Р	S	T		Р		S
Brazil	T	S		S	T		Р		
Mexico	T	S		S	T		Р		
Argentina	T	S		S	T		T		
Chile	Ť	S		S	Ť		P		
Middle East and Africa	Ť		P/S	S	Ť		P		S
Nigeria	T	S		S	T		P		
South Africa	Ť	S		S	Ť		P		
Egypt	Ť	S		S	T		P		
Jordan	Ť	T		T	T		T		
Morocco	Ť	Ť		Ť	Ť		Ś		
Frontier markets	Ť	Ť	S/T	Š	Ť		Ť		Т
No. of countries in benchmark(s), invested in only T and N	T: 8: N: 0	N: 0	[17]	T: 10-15: N: 0	[19]		T: 5: N: 2	[20]	
No. of countries not included in benchmark(s) invested in P. S or T	P: 0: S: 0: T: 6	T: 3	[17]	T: 3-5	[19]		P: 0: S: 1: T: 3	[21]	
Acceptable tracking error for emerging market debt	1.5-4% (8)	3.5%	100-150bps	200bps	[19]		0, 5. 1, 1. 5	1-2%	2%
Average S&P/Moody's rating for emerging market debt	A-BB (8)	BB	Ba1	BB-BBB (8)	BB+		BBB	BB+	BBB-
% weighting given in running emerging market debt	A-DD	00	Dai	00-000	DD+		000	00+	000-
Top down	40	70	20	60	90		25	30	50
Bottom up	20	10	50	40	10		10	10	50
Technical price/spread analysis		10	JU	10	10		20	0-10	25
Fundamental credit analysis	20	10	[16]	100			30	20-50	50
			11-9						50 5
Quantitative Currency views	20	0	30	25 10			5 10	5 5-25	20

Company	Mondrian Inv. Partners	Morgan Stanley Inv. Mngt.	Berman	NN Inv. Partners	Ostrum Asset Mngt.	Payden & Rygel	PGIM	Pictet AM	PineBridge Inv.
Total assets in emerging market debt (€m)	1,128	4,394 (3)	15,672	8,021	2,269	9,157	47,924	13,717 [24]	11,881
As at	30/06/18	30/06/18	31/08/18	30/06/18	30/06/18	30/06/18	30/06/18	31/08/18	30/06/18
Total group AUM worldwide (€m)	47,797	406,185	260,780	239,888	315,686	96,099	990,221	167,353	74,396
Total assets in fixed income worldwide (€m)	2,898	65,744	113,228	174,585	222,590	93,808	778,712	33,831	45,554
Emerging market debt assets invested for (€m)									
Europe-based institutional clients	0	2,952		3,601	1,850	1,685	5,868		985
Pension fund clients	0	483		1,545	15	541	5,114		4
Insurance company clients	0	97		891	1,547	833	58		974
All other institutional clients	0	2,372		1,165	288	311	696		7
Through segregated accounts mandates	673	1,688	7,275	2,376	2,129	7,259	39,400		10,090
Through investment/mutual fund vehicles	455	2,706	8,397	5,645	140	1,895	8,524		1,791
In emerging market hard currency sovereign debt	4	1,740	7,080	5,586	1,175	5,387	38,643		554
In emerging market local currency sovereign debt	1,124	1,207	5,843	1,640	11	2,099	4,137		212
In emerging market hard currency corporate debt	0	1,052	2,749	543	180	1,643	5,143		5,846
Other		395		252	903	28	1		5,269
Regions invested in within emerging market debt portfolios									
Emerging Europe	S	Р	Р	Р		S			Р
Turkey	S	Р	S	S	P	S	S (23)		S
Russia	S	P	S	S	P	S	S		S
Poland	S	Р	S	S	Р	S	S		S
Hungary	S	P	S	S	P	S	S		T
Czech Republic	S	T	S	S	P	T	T		T
The Balkans	S	T	S	T	P	S	S		T
The Baltics	T	T	S	T	T	T	T		T
Asia	S	P	P	Р		S			P
China	Т	T	S	S	Р	S	S		S
South Korea	Т	T	S	S	Р	T	S		T
Taiwan	T	T	S	S	N	T	T		N
India	T	T	S	S	T	S	S		T
Thailand	S	Р	S	S	Р	T	S		S
Malaysia	S	Р	S	S	Р	S	S		T
Indonesia	S	P	S	S	P	S	S		S
Latin America	S	P	P	P		S			P
Brazil	S	P	S	S	P	S	S		P
Mexico	S	P	S	S	P	S	S		P
Argentina	S	P	Š	S	P	Š	S		Ť
Chile	Š	P	S	S	P	Š	S		Ť
Middle East and Africa	S	P	S	P		Š			P
Nigeria	Ť	P	S	T T	Т	T	S		Ť
South Africa	Ġ	P	S	Š	P	Ġ	S		P
Egypt	Ť	T T	S	T		T	<u> </u>		<u> </u>
Jordan	÷	÷ ÷	S	÷	T T	Ś	Ť		Ť
Morocco	÷	- t	S	÷ ÷	'	<u> </u>	Š		÷
Frontier markets	- i	'	S	S	P	<u> </u>	<u>S</u>		÷
No. of countries in benchmark(s), invested in only T and N	T & N: 0	T: 20; N: 0	T: 35	[22]	T: 17: N: 4	T: 20; N: 5	T: 0-5		T: 38; N: 9
No. of countries not included in benchmark(s) invested in P, S or T	P: 0; S: 0; T: 1	P: 0: S: 0: T: 10	T: 13	(22)	P: 1: S: 0: T: 1		P: 0; S: 2-3; T: 5-1	n	P: 0: S: 2: T:
Acceptable tracking error for emerging market debt	2-6%	250bps	2-6%	0-6% (8)	2-5%	2.5-3.5%	150-350bps	U	200-400bps
Average S&P/Moody's rating for emerging market debt	BBB	BB+/BBB-	BB	BB BBB+ (8)	BB+/BB	2.5-3.5% BB	BB/Ba2		NA
% weighting given in running emerging market debt	DDD	DD+/DDD-	DD	∩nppp+(e)	DD+/DD	DD	DD/Dd2		INA
Top down	100	E0	20	20	25	45	EO		20
	100	50	20 80	30 70	35	45 10	50		30 30
Bottom up		50			30		50		
Technical price/spread analysis		20	10	10	10	10	20		0
		80	50	70	10	15	60		20
Fundamental credit analysis									
Quantitative			15	15	5	5	20		20
	8	12	15 25 33	15 50-70 21	5 10 27	15 24	20 23		0 22

IPE SURVEY EMERGING MARKET DEBT MANAGERS

Company	Principal Global Inv.	Schroder Inv. Mngt.	State Street Global Advisors	Stone Harbor Inv. Partners	Sydbank
Total assets in emerging market debt (€m)	5.454 (3)	2.795	18.940	19.122	2.534.27
As at	30/06/18	30/06/18	30/06/18	31/08/18	29/06/18
Total group AUM worldwide (€m)	386.420	492.737	2.130.331	24.606	12,984,27
Total assets in fixed income worldwide (€m)	164,670	86,114	378.047	24,606	5.905.45
Emerging market debt assets invested for (€m)	10-1,07-0	00,114	0.0,0-1.	2-1,000	0,700.40
Europe-based institutional clients	568	318	9,663	8.640	1.214.12
Pension fund clients	153	72	9,257	7.900	637.83
Insurance company clients	123	NA	7,207	457	007.00
All other institutional clients	292	246	406	337	576.29
Through segregated accounts mandates	3,240	1,116	10.938	11.261	739.59
Through investment/mutual fund vehicles	2.214	1,679	8.002	7.861	1.794.68
In emerging market hard currency sovereign debt	2,214	1,246	200	7,980	1.251.03
In emerging market hard currency sovereign debt In emerging market local currency sovereign debt		273	16.522	9,197	722.57
	0.000				
In emerging market hard currency corporate debt	2,900	1,248	1,162	1,795	0
Other	2,554	28	1,056	150	560.67
Regions invested in within emerging market debt portfolios					
Emerging Europe	S	P	P	S	P
Turkey	<u>S</u>	<u>S</u>	<u>P</u>	S	P
Russia	<u>S</u>	S	P	S	P
Poland	S	S	Р	S	S
Hungary	S	S	P	S	S
Czech Republic	S	T	Р	S	T
The Balkans	S	T	Р	S	T
The Baltics	N	T	P	S	T
Asia	S	Р	Р	S	Р
China	S	S	Р	S	N
South Korea	S	T	Р	S	T
Taiwan	T	T	Р	S	N
India	S	T	Р	S	T
Thailand	S	S	Р	S	Т
Malavsia	S	S	Р	S	S
Indonesia	S	S	P	S	P
Latin America	S	P	P	S	P
Brazil	S	S	P	S	P
Mexico	S	S	P	S	P
Argentina	S	S	P	S	S
Chile	S	S	P	S	Ť
Middle East and Africa	S	Ť	P	S	P
Nigeria	S	Ť	P	S	S
South Africa	S	Ś	P	S	S
Egypt	S	<u>J</u>	P	S	
Jordan	S	'		<u>S</u>	÷
Morocco	<u>5</u>	Ť	P	S	-
Frontier markets	<u>'</u>	T	<u>г</u> Р		<u> </u>
				[26]	
No. of countries in benchmark(s), invested in only T and N		T: 40; N: 7	T & N: 0	(27)	T: 30-35; N: 5
No. of countries not included in benchmark(s) invested in P, S or T	114	P: 10; S: 15	P, S & T: 0		P: 0; S: 4; T: 3
Acceptable tracking error for emerging market debt	NA NA	DD	0.50%	150-400bps	1.5-3%
Average S&P/Moody's rating for emerging market debt	BB+	BB+	(23)	BB-/Ba3	BB
% weighting given in running emerging market debt					
Top down	35	20		5	30
Bottom up	20	30		95	20
Technical price/spread analysis	10	10		5	5
Fundamental credit analysis	15	20		70	20
Quantitative	10	5		15	10
Currency views	10	15		10	15
Number of analysts/investment professionals in emerging market debt team	7	31	11	35	8

Company	TKP Investments	UBS Asset Management	Union Investment	Vontobel Asset Mngt.	Western AM Co.
Total assets in emerging market debt (€m)	1,350	13,367	7,500 (30)	2,780	36,626
As at	31/08/18	30/06/18	31/07/18	30/06/18	30/06/18
Total group AUM worldwide (€m)	27,747	700,449	336,300	106,540	359,766
Total assets in fixed income worldwide (€m)	13,692	135,845	168,000	14,112	359,766
Emerging market debt assets invested for (€m)					
Europe-based institutional clients	1,350		7,500	2,366	4,816
Pension fund clients	1,316		207	261	535
Insurance company clients	0		3,547	406	543
All other institutional clients	34		3,746	1,699	3,738
Through segregated accounts mandates	0	9,168	1,200	260	16,501
Through investment/mutual fund vehicles	1,350	4,199	6,300	2,520	20,125
In emerging market hard currency sovereign debt	1.080	4,113	3,300	2,526	9,572
In emerging market local currency sovereign debt	7	685	900	95	17.839
In emerging market hard currency corporate debt	257		3.300	122	7.114
Other	6	8,655	-,		2,101
Regions invested in within emerging market debt portfolios	-	-,			
Emerging Europe	S	S/T	Р	P	S
Turkey	S	S/T	P	S	S
Russia	S	S/T	P	S	S
Poland	S	S/T	P	S	<u>S</u>
Hungary	S	S/T	P	S	<u>S</u>
Czech Republic	S	S/T	P	S	S
The Balkans	S	S/T	S	S	<u>S</u>
The Baltics	S	S/T	S	S	I
Asia	S	S/T	<u>P</u>	P	S
China	<u>S</u>	S/T	<u>P</u>	<u>S</u>	S
South Korea	T	S/T	Р	T	S
Taiwan	Ţ	S/T	<u>S</u>	<u>T</u>	S
India	S	S/T	P	T	S
Thailand	T	S/T	Р	S	S
Malaysia	S	S/T	P	S	S
Indonesia	S	S/T	P	S	S
Latin America	S	S/T	P	P	S
Brazil	S	S/T	P	S	S
Mexico	S	S/T	P	S	S
Argentina	S	S/T	Р	S	S
Chile	S	S/T	Р	S	S
Middle East and Africa	S	S/T	Р	P	T
Nigeria Nigeria	S	S/T	S	S	T
South Africa	S	S/T	Р	S	Т
Egypt	S	S/T	P	S	Ť
Jordan	S	S/T	S	Ť	Ť
Morocco	S	S/T	S	Š	Ť
Frontier markets	S	S/T		S	Ť
No. of countries in benchmark(s), invested in only T and N	T & N: 0	[28]	T: 8	J	[32]
No. of countries not included in benchmark(s) invested in P, S or T	T: 8	[29]	P, S, & T: 0	P: 5; S: 8; T: 2	[32]
No. of countries not included in benchmark(s) invested in P, 5 or 1 Acceptable tracking error for emerging market debt	2%	200-300bps	P, S, & I: U	P: 0; 5: 8; 1: 2 NA	330bps
Acceptable tracking error for emerging market debt Average S&P/Moody's rating for emerging market debt	2% BB	BB-BBB	BBB-	INA	BBB
% weighting given in running emerging market debt	DD	DD-DDD	DDD-		DDB
	20	20	ne.	20	FO
Top down	20	30	35	30	50
Bottom up	20	40	20	20	50
Technical price/spread analysis	20	(15)	10	30	10
Fundamental credit analysis	20		20	20	60
Quantitative	10	10	5	0	0
Currency views	10	20	10	0	30
Number of analysts/investment professionals in emerging market debt team	- 4	17	21	23	34

N= Never

Key: NA= Not available P= Permanently S= Strategically T= Tactically

Footnotes:

 Emerging market dedicated platform
 Each individual strategy's underlying composition is built through a mix of quantitative and quantitative/bottom-up valuation analysis. Due to valuations and forward looking expectations a strategy may be void of credits/countries and

(3) Relates to assets managed in dedicated emerging market debt portfolios only (4) Does not include assets for institutional clients invested within the firm's mutual funds (5) Includes only investment professionals working solely on global emerging market debt (6) No limit

(7) As the strategy is non-benchmarked, the firm does not look at it for portfolio construction. It does (strategically and tactically) include frontie markets and is normally invested in around 25-30 different countries

(8) Varies by strategy
(9) The firm's emerging markets debt strategies

[10] The firm's investment teams are not constrained to any benchmark, so its emerging mar kets debt strategies are able to invest significant assets in off-benchmark countries

(11) Relates to total assets in emerging market

(12) The firm may invest in any number of nonbenchmark countries strategically, as its criteria for investment are based on price

(13) Included in top down (14) The subsequent data relates to Hard Cur-

[15] Included under bottom up

(16) The subsequent data relates to actively managed strategies only
(17) The Emerging Market Debt team allocates

capital based on the opportunity set and not on a predetermined asset allocation

(18) Reflects the total AUM of the Lord Abbett Emerging Markets Bond Fund, the Lord Abbett Emerging Markets Corporate Debt Fund, and the Lord Abbett Passport Portfolio – Emerging Mar-

kets Corporate Debt Fund (19) Not benchmark constrained

(20) The firm holds weightings in some countries for long periods of time, however may reduce that exposure to zero during periods of global stress or in anticipation of default by an individual country. Within country weightings, the type of securities owned may vary over time depending on fundamentals and valuations of a country

(21) There are over 80 emerging markets countries approved for investment (22) The firm considers all eligible countries from

the investment universe, which is broadly aligned with the benchmark

(23) This and subsequent data relates to PGIM Fixed Income

(24) Includes assets managed across the firm's Emerging Sovereign Debt, Emerging Currencies and Emerging Corporate product ranges. Within these product ranges, the total assets are managed by three separate teams who adopt distinct vestment philosophies and processes

(25) The firm's emerging market debt strategies are indexed managed strategies and as such seek to match the characteristics of the index (26) The firm may invest in all countries in the

benchmark based on a fundamental credit analysis and its views on current valuations (27) The firm invest in countries outside of the

index on a tactical and strategic basis (28) All issuers included in the benchmark can be invested based on strategic as well as tactical allocations

(29) On average, the firm monitors and invests in between 5-15 countries and 25-35 additional issuers outside the benchmark (30) Relates to dedicated EMD funds. The firm

also has €8.4bn in cross-over holdings (31) Depends on various fund characteristics (32) The EMD team constantly reviews its holdings within the context of its long-term views

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