





























issuers	bonds
VW	11
TELEFO	8
TOTAL	6
ENBW	6
ORAFP	5
ENGIFP	5
EDF	5
SOLBBB	4
BAYNGR	4
MRKGR	4
REPSM	4
ENELIM	4
ORSTED	4
AKEFP	3
ERFFP	3
OMVAV	3
SEVFP	3
IBESM	3
EDPPL	3
ACFP	3
ARNDTN	3
GYCGR	3

				short spread	long spread	curve per year	curve change (14d)	curve change (30d)
short ticker		long ticker						
vw	pairBasis	VW 3 3/4 PERP nc-21	VW 2 1/2 PERP nc-22	255	379	125	13	245
	pairBasis	VW 2 1/2 PERP nc-22	VW 2.7 PERP nc-22	379	381	3	-8	-21
	pairBasis	VW 2.7 PERP nc-22	VW 5 1/8 PERP nc-23	381	351	-42	4	-45
	pairBasis	VW 5 1/8 PERP nc-23	VW 3 3/8 PERP nc-24	351	388	47	-8	-9
	pairBasis	VW 3 3/8 PERP nc-24	VW 3 1/2 PERP nc-25	388	399	11	-4	-
	pairBasis	VW 3 1/2 PERP nc-25	VW 4 5/8 PERP nc-26	399	398	-1	4	-
	pairBasis	VW 4 5/8 PERP nc-26	VW 3 7/8 PERP nc-27	398	409	9	-2	-15
	pairBasis	VW 3 7/8 PERP nc-27	VW 4 5/8 PERP nc-28	409	420	11	10	7
	pairBasis	VW 4 5/8 PERP nc-28	VW 3 7/8 PERP nc-29	420	422	2	-15	-
	pairBasis	VW 3 7/8 PERP nc-29	VW 3 1/2 PERP nc-30	422	395	-35	35	-
	whole curv	VW 2 1/2 PERP nc-22	VW 4 5/8 PERP nc-28	379	420	7	0	-9
	whole curv	VW 2.7 PERP nc-22	VW 3 7/8 PERP nc-29	381	422	6	-2	-
	long end	VW 4 5/8 PERP nc-26	VW 3 1/2 PERP nc-30	398	395	-1	5	2

		short ticker	long ticker	short spread	long spread	curve per year	curve change (14d)	curve change (30d)
telefo	pairBasis	TELEFO 3 3/4 PERP nc-22	TELEFO 2 5/8 PERP nc-23	362	379	17 	153	120
	pairBasis	TELEFO 2 5/8 PERP nc-23	TELEFO 3 PERP nc-23	379	391	25 	-297	-225
	pairBasis	TELEFO 3 PERP nc-23	TELEFO 5 7/8 PERP nc-24	391	371	-35 	-5	-24
	pairBasis	TELEFO 5 7/8 PERP nc-24	TELEFO 4 3/8 PERP nc-24	371	382	16 	22	7
	pairBasis	TELEFO 4 3/8 PERP nc-24	TELEFO 3 7/8 PERP nc-26	382	408	17 	57	48
	pairBasis	TELEFO 3 7/8 PERP nc-26	TELEFO 2.502 PERP nc-27	408	363	-73 	-136	-135
	pairBasis	TELEFO 2.502 PERP nc-27	TELEFO 2 7/8 PERP nc-27	363	386	61 	10	23
	whole curv	TELEFO 2 5/8 PERP nc-23	TELEFO 3 7/8 PERP nc-26	379	408	9	-14	-14
	whole curv	TELEFO 3 PERP nc-23	TELEFO 2 7/8 PERP nc-27	391	386	-1	5	-3
	long end	TELEFO 5 7/8 PERP nc-24	TELEFO 2 7/8 PERP nc-27	371	386	5	7	1
total	pairBasis	TOTAL 2 1/4 PERP nc-21	TOTAL 3 7/8 PERP nc-22	195	205	8 	-4	-4
	pairBasis	TOTAL 3 7/8 PERP nc-22	TOTAL 2.708 PERP nc-23	205	221	17 	28	-14
	pairBasis	TOTAL 2.708 PERP nc-23	TOTAL 1 3/4 PERP nc-24	221	226	6 	3	-14
	pairBasis	TOTAL 1 3/4 PERP nc-24	TOTAL 2 5/8 PERP nc-25	226	231	6 	3	-12
	pairBasis	TOTAL 2 5/8 PERP nc-25	TOTAL 3.369 PERP nc-26	231	241	6 	4	5
	whole curv	TOTAL 3 7/8 PERP nc-22	TOTAL 2 5/8 PERP nc-25	205	231	10	11	-13
	long end	TOTAL 2.708 PERP nc-23	TOTAL 3.369 PERP nc-26	221	241	6	3	-4
enbw	pairBasis	ENBW 3 5/8 04/02/76 nc-2	ENBW 3 5/8 04/02/76 nc-2	199	199	-	-	-
	pairBasis	ENBW 3 5/8 04/02/76 nc-2	ENBW 3 3/8 04/05/77 nc-2	199	191	-11 	6	-50
	pairBasis	ENBW 3 3/8 04/05/77 nc-2	ENBW 1 1/8 11/05/79 nc-2	191	209	7 	-9	-10
	pairBasis	ENBW 1 1/8 11/05/79 nc-2	ENBW 1 7/8 06/29/80 nc-2	209	231	14 	-	-
	pairBasis	ENBW 1 7/8 06/29/80 nc-2	ENBW 1 5/8 08/05/79 nc-2	231	230	-1 	-	-
	whole curv	ENBW 3 5/8 04/02/76 nc-2	ENBW 1 5/8 08/05/79 nc-2	199	230	5	-3	-11
	long end	ENBW 1 1/8 11/05/79 nc-2	ENBW 1 5/8 08/05/79 nc-2	209	230	8	0	0

		short ticker	long ticker	short spread	long spread	curve per year	curve change (14d)	curve change (30d)
orange	pairBasis	ORAFP 4 PERP nc-21	ORAFP 5 1/4 PERP nc-24	160	218	25	 -9	-3
	pairBasis	ORAFP 5 1/4 PERP nc-24	ORAFP 2 3/8 PERP nc-25	218	235	18	 7	2
	pairBasis	ORAFP 2 3/8 PERP nc-25	ORAFP 5 PERP nc-26	235	246	6	 -1	-8
	pairBasis	ORAFP 5 PERP nc-26	ORAFP 1 3/4 PERP nc-26	246	234	-53	 33	61
	whole curv	ORAFP 4 PERP nc-21	ORAFP 1 3/4 PERP nc-26	160	234	14	-2	-1
	long end	ORAFP 2 3/8 PERP nc-25	ORAFP 1 3/4 PERP nc-26	235	234	0	3	0
engifp	pairBasis	ENGIFP 4 3/4 PERP nc-21	ENGIFP 1 3/8 PERP nc-23	163	259	63	 -20	-1
	pairBasis	ENGIFP 1 3/8 PERP nc-23	ENGIFP 3 7/8 PERP nc-24	259	234	-18	 10	-12
	pairBasis	ENGIFP 3 7/8 PERP nc-24	ENGIFP 3 1/4 PERP nc-24	234	241	14	 17	8
	pairBasis	ENGIFP 3 1/4 PERP nc-24	ENGIFP 1 5/8 PERP nc-25	241	248	19	 -11	-6
	whole curv	ENGIFP 4 3/4 PERP nc-21	ENGIFP 1 5/8 PERP nc-25	163	248	23	-3	-4
	long end	ENGIFP 3 7/8 PERP nc-24	ENGIFP 1 5/8 PERP nc-25	234	248	16	5	2
edf	pairBasis	EDF 4 1/8 PERP nc-22	EDF 4 PERP nc-24	251	336	35	 7	16
	pairBasis	EDF 4 PERP nc-24	EDF 5 3/8 PERP nc-25	336	358	37	 6	-1
	pairBasis	EDF 5 3/8 PERP nc-25	EDF 5 PERP nc-26	358	374	17	 14	14
	pairBasis	EDF 5 PERP nc-26	EDF 3 PERP nc-27	374	382	5	 8	16
	whole curv	EDF 4 1/8 PERP nc-22	EDF 3 PERP nc-27	251	382	23	9	14

		short ticker				long ticker				short spread	long spread	curve per year	curve change (14d)	curve change (30d)
solbbb	pairBasis	SOLBBB	5.118	PERP	nc-21	SOLBBB	5.425	PERP	nc-23	347	307	-16	-4	-16
	pairBasis	SOLBBB	5.425	PERP	nc-23	SOLBBB	4 1/4	PERP	nc-23	307	351	706	88	480
	pairBasis	SOLBBB	4 1/4	PERP	nc-23	SOLBBB	5.869	PERP	nc-24	351	352	8	-26	-30
	whole curv	SOLBBB	5.118	PERP	nc-21	SOLBBB	5.869	PERP	nc-24	347	352	2	-5	-8
bayngr	pairBasis	BAYNGR	2 3/8	04/02/75	nc-BAYNGR	3 3/4	07/01/74	nc-289		301	7	6	-10	
	pairBasis	BAYNGR	3 3/4	07/01/74	nc-BAYNGR	2 3/8	11/12/79	nc-301		321	33	3	-16	
	pairBasis	BAYNGR	2 3/8	11/12/79	nc-BAYNGR	3 1/8	11/12/79	nc-321		341	8	-1	-4	
	whole curv	BAYNGR	2 3/8	04/02/75	nc-BAYNGR	3 1/8	11/12/79	nc-289		341	11	2	-8	
mrkgr	pairBasis	MRKGR	2 5/8	12/12/74	nc-MRKGR	3 3/8	12/12/74	nc-2223		184	1	-6	-18	
	pairBasis	MRKGR	3 3/8	12/12/74	nc-MRKGR	1 5/8	06/25/79	nc-2184		197	55	-30	-47	
	pairBasis	MRKGR	1 5/8	06/25/79	nc-MRKGR	2 7/8	06/25/79	nc-2197		246	11	0	0	
	whole curv	MRKGR	2 5/8	12/12/74	nc-MRKGR	2 7/8	06/25/79	nc-2223		246	3	-3	-9	
repsm	pairBasis	REPSM	3 7/8	PERP	nc-21	REPSM	4 1/2	03/25/75	nc-2270	378	27	-1	10	
	pairBasis	REPSM	4 1/2	03/25/75	nc-REPSM	3 3/4	PERP	nc-26	378	399	22	-8	-	
	pairBasis	REPSM	3 3/4	PERP	nc-26	REPSM	4.247	PERP	nc-28	399	417	7	1	-
	whole curv	REPSM	3 7/8	PERP	nc-21	REPSM	4.247	PERP	nc-28	270	417	20	-1	-

		short ticker	long ticker	short spread	long spread	curve per year	curve change (14d)	curve change (30d)
enelim	pairBasis	ENELIM 2 1/2 11/24/78 nc	ENELIM 5.451 01/10/74 nc-271	256	256	-40	-33	-1
	pairBasis	ENELIM 5.451 01/10/74 nc	ENELIM 3 1/2 05/24/80 nc-256	291	291	31	8	13
	pairBasis	ENELIM 3 1/2 05/24/80 nc	ENELIM 3 3/8 11/24/81 nc-291	308	308	12	-1	-5
	whole curv	ENELIM 2 1/2 11/24/78 nc	ENELIM 3 3/8 11/24/81 nc-271	308	308	13	-2	2
orsted	remove the orsted 3 11/15 bond							
AKEFP	pairBasis	AKEFP 4 3/4 PERP nc-20	AKEFP 2 3/4 PERP nc-24	182	299	32	10	-1
	pairBasis	AKEFP 2 3/4 PERP nc-24	AKEFP 1 1/2 PERP nc-25	299	290	-1	-1	-3
	whole curv	AKEFP 4 3/4 PERP nc-20	AKEFP 1 1/2 PERP nc-25	182	290	22	7	-1
erffp	pairBasis	ERFFP 2 7/8 PERP nc-22	ERFFP 4 7/8 PERP nc-23	424	388	-50	38	38
	pairBasis	ERFFP 4 7/8 PERP nc-23	ERFFP 3 1/4 PERP nc-25	388	439	20	-4	-8
	whole curv	ERFFP 2 7/8 PERP nc-22	ERFFP 3 1/4 PERP nc-25	424	439	5	5	3
omvav	pairBasis	OMVAV 5 1/4 PERP nc-21	OMVAV 2 7/8 PERP nc-24	229	299	31	-8	14
	pairBasis	OMVAV 2 7/8 PERP nc-24	OMVAV 6 1/4 PERP nc-25	299	297	-1	-4	-12
	whole curv	OMVAV 5 1/4 PERP nc-21	OMVAV 6 1/4 PERP nc-25	229	297	17	-6	3
sevfp	pairBasis	SEVFP 2 1/2 PERP nc-22	SEVFP 2 7/8 PERP nc-24	258	282	13	-1	-4
	pairBasis	SEVFP 2 7/8 PERP nc-24	SEVFP 1 5/8 PERP nc-26	282	291	4	-3	-2
	whole curv	SEVFP 2 1/2 PERP nc-22	SEVFP 1 5/8 PERP nc-26	258	291	8	-2	-3

[illegible]