

EUREX and LIFFE Calendar Rolls

Schatz, Bobl, Bunds and Gilts

- In this note we provide an update of the upcoming EUREX and LIFFE calendar rolls that were published in last week's *IIRS* and yesterday's *Morning Call* publication
- **EUREX U2/Z2 Calendar Rolls:** We recommend rolling longs late and shorts early for Schatz and Bund contracts. For the Bobl contract we recommend rolling longs early and shorts late. We expect the roll activity to gather momentum very soon.
- **Gilt U2/Z2 Calendar Spreads:** The roll is just below fair value at time of writing but with the same CTD to both contracts and the repo close to GC the risk-reward favours rolling longs late and shorts early. A CTD switch would have minimal impact on the roll.

Aman Bansal

+91-22-4277-5021

aman1.bansal@citi.com

Nishay Patel

+44-20-7986-1007

nishay.patel@citi.com

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Bund Calendar Roll: RXU2-RXZ2

The roll approaches

We currently see fair value for the RXU2/RXZ2 roll at 172 ticks, in line with the market level (Figure 1). For every 10bp change in repo to December the roll changes by approximately 4 ticks (Figure 6).

Given that both contracts share the same CTD (2.25% Jul21) the main driver of the roll will be the repo rates. With the repo rate of the CTD to December not too far away from GC we recommend rolling shorts early and longs late.

A CTD switch in either contract is unlikely

Both contracts (U2 and Z2) share the same deliverables (Figure 2 and Figure 4). The first and second CTD into both contracts are Bund 3.25% Jul21 and 2.25% Sep21 respectively. For a CTD switch in either contract to occur the Bund 2.25% Sep21 would have to cheapen by over 19bp vs Bund 3.25% Jul21 (Figure 3 and Figure 5). We view the likelihood of this as very low.

Figure 1. Bund Roll: September – December Contracts

	RXU2	RXZ2
CTD	BUND-3.250-07/04/21	BUND-3.250-07/04/21
Repo to delivery	-0.11% (GC-0.09%)	-0.12% (GC-0.045%)
Current Fair Value	172 ticks	
Hedge Ratio (contracts)	1000 (U2) = 1005 (Z2)	

Source: Citi Research

Figure 2. Deliverables into RXU2 – September Contract Details

	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
RXU2	BUND-3.250-07/04/21	0.815772	0.05	-0.01	143.88	0.15
	BUND-2.250-09/04/21	0.745281	1.70	1.66	146.12	-91.66
	BUND-2.000-01/04/22	0.720545	2.79	2.75	147.71	-153.03
	BUND-1.750-07/04/22	0.691255	4.25	4.22	149.99	-242.41

Source: Citi Research

Figure 4. Deliverables into RXZ2 – December Contract Details

	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
RXZ2	BUND-3.250-07/04/21	0.819695	0.90	0.00	142.16	-0.13
	BUND-2.250-09/04/21	0.750582	2.24	1.60	144.30	-5.58
	BUND-2.000-01/04/22	0.726319	3.21	2.65	145.81	-9.22
	BUND-1.750-07/04/22	0.697112	4.61	4.11	148.06	-14.73

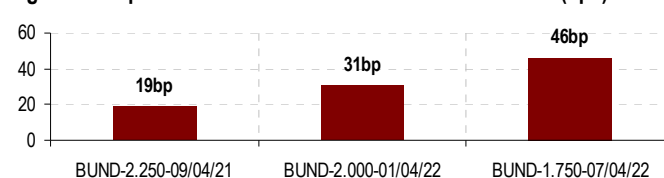
Source: Citi Research

Figure 6. Fair Value Level of U2-Z2 Futures Roll for different repo rates

		Repo of U2 CTD (BUND-3.250-07/04/21) to expiry		
		-0.21	-0.11	-0.01
Repo of Z2 CTD (BUND-3.250-07/04/21) to expiry	-0.62	191	191	191
	-0.52	187	187	187
	-0.42	183	183	184
	-0.32	180	180	180
	-0.22	176	176	176
	-0.12	172	172	172
	-0.02	168	168	168
	0.08	164	165	165
	0.18	161	161	161

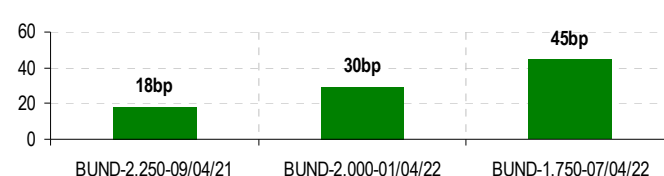
Source: Citi Research

Figure 3. Required moves vs 3.25% Jul21 for a CTD switch (bps)



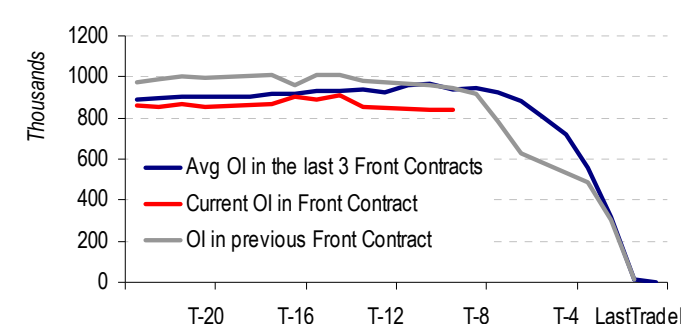
Source: Citi Research

Figure 5. Required moves vs 3.25% Jul21 for a CTD switch (bps)



Source: Citi Research

Figure 7. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Open interest: As in previous Bund rolls, we expect the roll to start gathering momentum soon (Figure 7).

We recommend rolling shorts early and longs late

Conclusion: As both contracts share the same CTD (Bund 3.25% Jul21, by a comfortable margin) the main driver of the roll will be the repo rate of the December CTD. With the repo rate of the CTD only 5bp below GC the risk-reward favours rolling shorts early and longs late.

Bobl Calendar Roll: OEU2-OEZ2

Fair value estimate

We currently see fair value for the OEU2/OEZ2 roll at 166ticks. For every 10bp change in repo to December the roll changes by approximately 3.5ticks. The market level has converged to our fair value estimate since we published it last week.

Similar to the Bund roll, both Bobl contracts share the same CTD (Bund Jul17). As a result, the main driver of the Bobl roll will be the repo rate.

Small probability of a CTD switch in either contract

For a CTD switch to occur in the September contract, the current CTD (Bund 4.25% Jul17) would have to richen by over 10bp vs the second CTD (Bobl-163) - Figure 10. In this instance, the fair futures price of OEU2 would increase by 59ticks. Based on the historical yield spread between the current CTD and the second CTD in either contract, we view the likelihood of a CTD switch as very low.

Figure 8. Bobl Roll: September – December Contracts

	OEU2	OEZ2
CTD	BUND-4.250-07/04/17	BUND-4.250-07/04/17
Repo to delivery	-0.21% (GC-0.19%)	-0.2% (GC-0.125%)
Current Fair Value	166 ticks	
Hedge Ratio (contracts)	1000 (U2) = 1000 (Z2)	

Source: Citi Research

Figure 9. Deliverables into OEU2 – September Contract Details

OEU2	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
	BUND-4.250-07/04/17	0.928476	0.07	0.00	127.53	-0.02
	BOBL #163-0.500-04/07/17	0.785557	0.47	0.46	128.12	-27.73
	BUND-4.000-01/04/18	0.910942	2.27	2.20	129.96	-109.39

Source: Citi Research

Figure 11. Deliverables into OEZ2 – December Contract Details

OEZ2	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
	BUND-4.250-07/04/17	0.931583	1.21	0.02	125.90	-0.27
	BUND-4.000-01/04/18	0.914689	3.31	2.18	128.27	-6.89

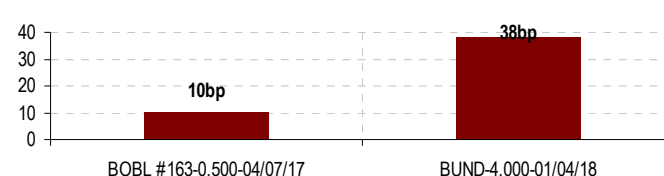
Source: Citi Research

Figure 13. Fair Value Level of U2-Z2 Futures Roll for different repo rates

Repo of U2 CTD (BUND-4.250-07/04/17) to expiry		-0.31	-0.21	-0.11
Repo of Z2 CTD (BUND-4.250-07/04/17) to expiry	-0.70	184	184	184
	-0.60	180	180	181
	-0.50	177	177	177
	-0.40	173	173	174
	-0.30	170	170	170
	-0.20	166	166	167
	-0.10	162	163	163
	0.00	159	159	160
	0.10	155	156	156

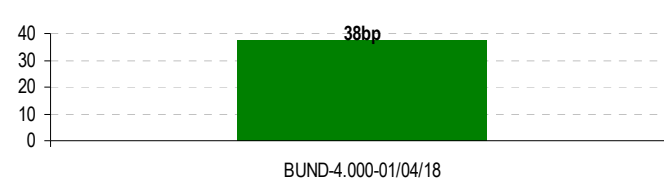
Source: Citi Research

Figure 10. Required moves vs 4.25% Jul17 for a CTD switch (bps)



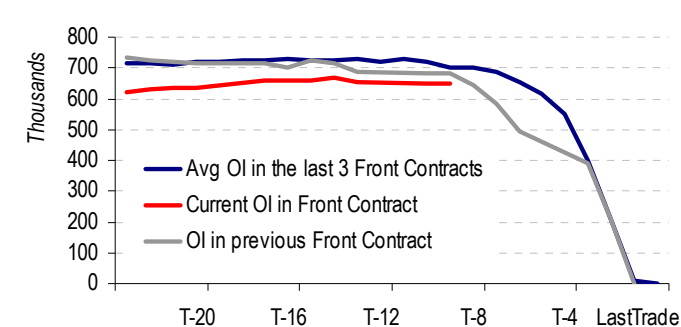
Source: Citi Research

Figure 12. Required moves vs 4.25% Jul17 for a CTD switch (bps)



Source: Citi Research

Figure 14. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Open interest: Based on the profile of previous rolls we would expect the roll to start gathering momentum soon (Figure 14).

We suggest rolling longs early and shorts late

Conclusion: As both contracts share the same CTD the main driver of the roll is likely to be the repo rate to delivery. With the repo rate of the December CTD already rich, we suggest rolling longs early and shorts late.

Schatz Calendar Roll: DUU2-DU22

Fair value estimate

We currently see fair value for the DUU2/DU22 roll at 6ticks. For every 10bps change in repo to December the roll changes by approximately 3ticks. Based on repo rates at the time of writing, the roll is trading 2ticks below our fair value estimate.

Figure 15. Schatz Roll: September – December Contracts

	DUU2	DU22
CTD	BUNS-0.000-06/13/14	BUNS-0.000-09/12/14
Repo to delivery	-0.09% (GC-0.07%)	-0.13% (GC-0.055%)
Current Fair Value	6 ticks	
Hedge Ratio (contracts)	1000 (U2) = 877 (Z2)	

Source: Citi Research

A CTD switch in either contract is very unlikely

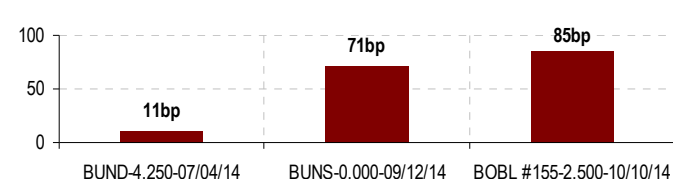
Our estimates suggest that the Bund 4.25% Jul14 would have to cheapen by over 11bp vs the Schatz Jun14 (current CTD) to become the new CTD to September. For a CTD switch to occur in the December contract the second CTD (Bobl-155) would have to cheapen by over 18bp relative to the Schatz Sep14 (current CTD to December) to become the new CTD. Taking into account the historical spread between the current and second CTD in both contracts, the likelihood of a CTD switch in either contract is very unlikely.

Figure 16. Deliverables into DUU2 – September Contract Details

DUU2	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
	BUNS-0.000-06/13/14	0.902732	-0.01	-0.01	110.83	0.32
	BUND-4.250-07/04/14	0.970562	0.27	0.20	111.04	-11.15
	BUNS-0.000-09/12/14	0.889713	1.42	1.41	112.43	-84.90
	BOBL #155-2.500-10/10/14	0.933302	1.86	1.81	112.78	-101.26

Source: Citi Research

Figure 17. Required moves vs 0% Jun14 for a CTD switch (bps)



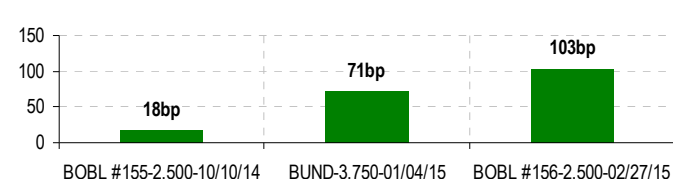
Source: Citi Research

Figure 18. Deliverables into DU22 – December Contract Details

DU22	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
	BUNS-0.000-09/12/14	0.902732	0.01	-0.03	110.77	-0.02
	BOBL #155-2.500-10/10/14	0.940811	1.06	0.36	111.18	-1.38
	BUND-3.750-01/04/15	0.957353	2.75	1.72	112.60	-5.86
	BOBL #156-2.500-02/27/15	0.929219	3.29	2.59	113.59	-9.06

Source: Citi Research

Figure 19. Required moves vs 0% Sep14 for a CTD switch (bps)



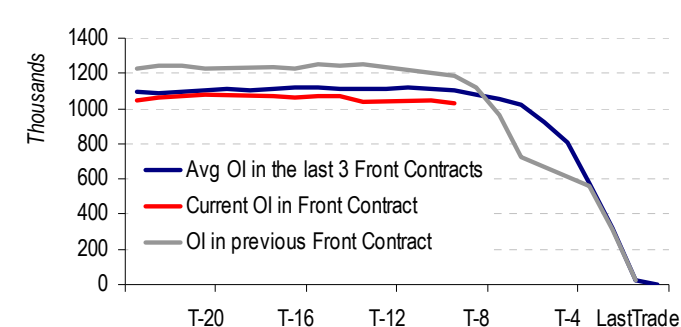
Source: Citi Research

Figure 20. Fair Value Level of U2-Z2 Futures Roll for different repo rates

Repo of U2 CTD (BUNS-0.000-09/12/14) to expiry		-0.19	-0.09	0.01
Repo of Z2 CTD (BUNS-0.000-06/13/14) to expiry	-0.63	21	21	21
	-0.53	18	18	18
	-0.43	15	15	15
	-0.33	12	12	12
	-0.23	9	9	9
	-0.13	6	6	6
	-0.03	3	3	3
	0.07	0	0	0
	0.17	-4	-3	-3

Source: Citi Research

Figure 21. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

We suggest rolling shorts early and longs late

Open Interest: We expect the roll to start gathering momentum soon, based on previous Schatz rolls (Figure 21).

Conclusion: We retain our bullish view on Germany and expect yields to fall further. Given that the DV01 of DU22 is larger than DUU2 in addition to the repo rate of the December CTD trading close to GC we suggest rolling shorts early and longs late.

Gilt Calendar Roll: G U2-G Z2

Same CTDs: 10bps of repo is worth 4ticks of roll

We currently see the fair value for the G U2/G Z2 roll at 101ticks (Figure 22), which is now 1 tick above the market level. For every 10bps change in repo to December the roll changes by approximately 4ticks (Figure 27).

CTD switch: possible but low impact

Both Sept and Dec contracts share the same CTD (3.75% Sep21) and remaining deliverables. The CTD would need to richen by 2bps relative to the second CTD (Mar22) to lose its CTD status (Figure 24 and Figure 26).

Although the Sep21/Mar22 spread was more than 2bps wider in March (Figure 30) we think the curve will bull-flatten. However, even in the event of a CTD switch, there would be no impact on the roll.

Impact of a change in repo on the roll: The fair value of the roll would increase by 4 ticks for every 10bps of repo (Figure 27). At the moment, the repo rate for gilt deliverables (into both contracts) is trading very close to GC making the risk-reward skewed towards rolling shorts early and longs late.

Roll timing: The current open interest in the front contract versus previous rolls can be found in Figure 28 below.

Figure 22. 10yr Gilt Roll: September – December Contracts

	G U2	G Z2
CTD	UKT-3.750-09/07/21	UKT-3.750-09/07/21
Repo to delivery	0.4% (GC-0.02%)	0.39% (GC-0.02%)
Current Fair Value	101 ticks	
Hedge Ratio (contracts)	1000 (U2) = 958 (Z2)	

Source: Citi Research

Figure 23. Deliverables into G U2 – Sep Contract Details

GU2	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
	UKT-3.750-09/07/21	0.981238	0.26	0.01	121.77	0.31
	UKT-4.000-03/07/22	1.000007	0.46	0.18	121.94	-1.57
	UKT-5.000-03/07/25	1.097724	1.39	1.05	122.71	-9.75
	UKT-1.750-09/07/22	0.815805	1.60	1.50	123.60	-18.97

Source: Citi Research

Figure 25. Deliverables into G Z2 – Dec Contract Details

GZ2	Bond	ConvFactor	GrossBasis	NetBasis	FairFutPx	ImplRepo
	UKT-3.750-09/07/21	0.981623	1.19	0.09	120.85	0.17
	UKT-4.000-03/07/22	0.999951	1.46	0.27	121.03	-0.28
	UKT-5.000-03/07/25	1.096132	2.68	1.18	121.83	-2.22
	UKT-1.750-09/07/22	0.819562	1.96	1.51	122.60	-4.08

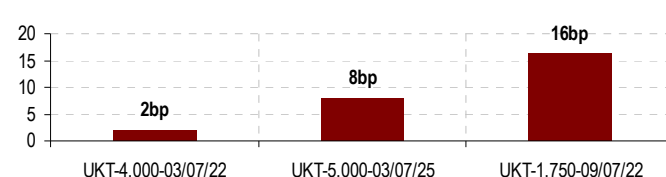
Source: Citi Research

Figure 27. Level of U2-Z2 Futures Roll for different repo rates

		Repo of U2 CTD (UKT-3.750-09/07/21) to expiry		
		0.30	0.40	0.50
Repo of Z2 CTD (UKT-3.750-09/07/21) to expiry	-0.11	120	121	122
	-0.01	116	117	118
	0.09	112	113	114
	0.19	108	109	111
	0.29	104	105	107
	0.39	100	101	103
	0.49	96	97	99
	0.59	92	93	95
	0.69	88	90	91

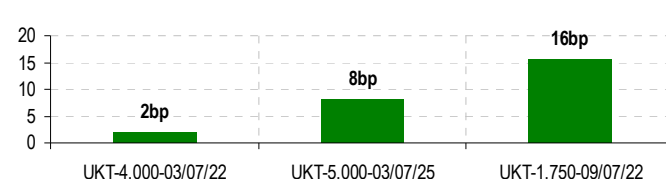
Source: Citi Research

Figure 24. Required moves vs Sep21 for a CTD switch (bps)



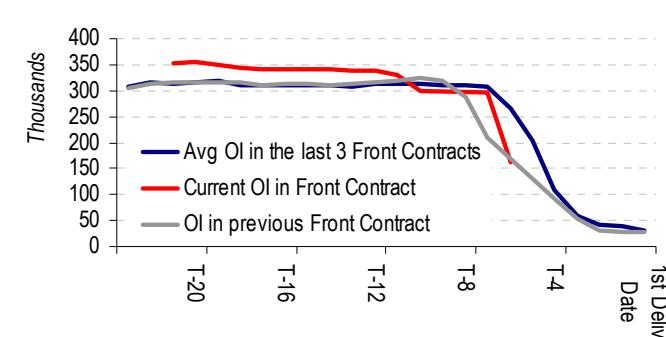
Source: Citi Research

Figure 26. Required moves vs Sep21 for a CTD switch (bps)



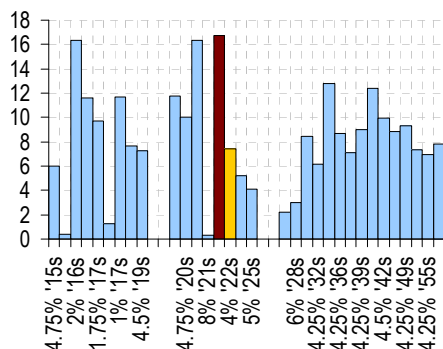
Source: Citi Research

Figure 28. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Figure 29. Gilts: free-floats (£bn)



Source: Citi Research, DMO, Bloomberg

Figure 30. Gilt Mar22-Sep21 yield spread



Source: Citi Research

Figure 31. Gilt Mar25-Sep21 yield spread



Source: Citi Research

Scenario analysis - parallel curve shift & change in curve slope

Figure 32 below highlights various scenarios (parallel curve shift and curve slope) for a CTD switch to occur. We highlight three examples below.

Relative: 2bp steepening

- If the Gilt 4% Mar22 were to cheapen by over 1.8bps relative to the current CTD (Gilt 3.75% Sep21) it would become the new CTD. Although the free-float profile suggests that the APF program should be supportive for Sep21s on the curve (Figure 29) we expect direction to be the dominant factor shaping the curve and for gilts to continue bull flattening.

Parallel: 40bp parallel shift

- If the gilt curve were to cheapen by over 40bps Mar25s would become the new CTD. As we are bullish on gilts we do not expect the 10yr sector of gilt curve to cheapen by over 40bps between now and the last trade date (26 September).

Both: 2.5bp steepening + 20bp parallel

- If the gilt curve was to richen (in parallel) by 20bps 4% Mar22 would have to cheapen by a further 2.5bps vs the 3.75% Sep21s to become the new CTD.

Figure 32. Required cheapening of G U2 deliverables vs the CTD for various parallel yield shifts (bps). The table below is virtually identical for G Z2

	Parallel Yield Shifts (bps)												
Deliverable	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60
UKT-3.750-09/07/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.0	5.6
UKT-4.000-03/07/22	4.1	3.7	3.3	2.9	2.5	2.2	1.8	1.4	1.0	0.6	0.7	2.8	4.9
UKT-1.750-09/07/22	24.9	23.5	22.0	20.6	19.2	17.7	16.3	14.8	13.4	11.9	10.8	11.6	12.3
UKT-5.000-03/07/25	20.3	18.2	16.1	14.1	12.0	9.9	7.9	5.8	3.7	1.7	0.0	0.0	0.0

Source: Citi Research

Conclusion

The roll is just below fair value at time of writing but with the same CTD to both contracts and the repo close to GC the risk-reward favours rolling longs late and shorts early. There would be no impact of a CTD switch.

Appendix A-1

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