

European Rates Strategy

EUREX Calendar Rolls H3/M3

- **Bund Calendar Roll:** We are neutral on the roll due to valuation, positioning and current repo levels.
- **Bobl Calendar Roll:** With both contracts sharing the same CTD, and positioning largely neutral, we expect the repo level to be the main driver of the roll. It is highly likely that Jan18s repo tightens further into delivery, and so we recommend rolling longs late and shorts early.
- **Schatz Calendar Roll:** With positioning slightly long 2yr Germany and the risk-reward favouring flatteners in Germany, we have a small bias towards rolling longs early and shorts late.
- **OAT Calendar Roll:** We expect relative value to be the main driver of the OAT roll and recommend rolling longs early to take advantage of the historically attractive yield spread between the CTD to March and CTD to June.

Nishay Patel

+44-20-7986-1007

nishay.patel@citi.com

Mohit Aggarwal

+91-22-4277-5022

mohit1.aggarwal@citi.com

Figure 1. View summary table

	RX	OE	DU	OAT
Current	182	175	13	82
Fair Value for roll (using mid-mkt repo)	181	167	16	79
View	Neutral	Bullish	Bearish	Bearish
Action	-	roll longs late / roll shorts early	roll longs early / roll shorts late	roll longs early / roll shorts late
Main driver	-	Repo of the CTD	Germany 2s5s curve	RV between CTD to March & CTD
Probability of CTD switch in either	low	low	low	low
Hedge ratio: 1000 vs	1008	1004	880	952
Fwd ASW of front CTD	-26	-46	-36	34

Source: Citi Research

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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Bund Calendar Roll: RXH3-RXM3

Fair value vs current market level

The Bund roll is trading 1 tick above our fair value estimate of 181ticks

- We currently see fair value for the RXH3/RXM3 roll at 181ticks (Figure 2). Based on repo rates at the time of writing, the roll is trading 1 tick above our fair value estimate of 181ticks. Investors would require 1008 M3 contracts for every 1000 H3 contracts that they hold.

Figure 2. Bund Roll March – June Contracts

	RXH3	RXM3
CTD	BUND-2.000-01/04/22	BUND-2.000-01/04/22
Repo to delivery	-0.08% (GC-0.08%)	-0.06% (GC-0.08%)
Fair value estimate	181 ticks	
Fair value estimate - current market level	-1 ticks	
Hedge Ratio (contracts)	1000 (H3) = 1008 (M3)	

Source: Citi Research

Probability of a CTD switch and implications on the roll

Front contract

A CTD switch in either contract is unlikely

- Bund 2% Jan22 is the current CTD to March and is trading 1cent cheap to futures. There are 4 bonds eligible for delivery into the March contract (Figure 3).

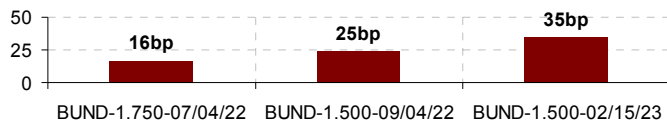
Figure 3. Deliverables into RXH3 – March Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd	Impl Repo %	Amt Out (€bn)	Deliv Prob
BUND-2.000-01/04/22	0.732026	0.10	-0.01	142.46	0.13	20	100%
BUND-1.750-07/04/22	0.703119	1.51	1.41	144.48	-24.69	24	0%
BUND-1.500-09/04/22	0.681447	2.20	2.12	145.58	-38.18	18	0%
BUND-1.500-02/15/23	0.670316	3.18	3.10	147.09	-56.46	5	0%

Source: Citi Research

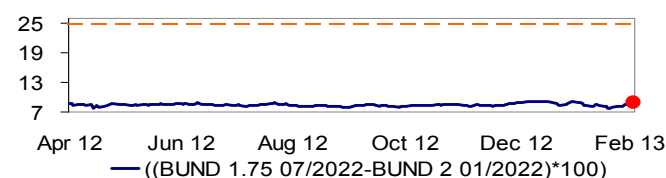
- Figure 4 shows the required cheapening of Bund deliverables versus the current CTD in each contract to become the new CTD. If Bund 1.75% Jul22 (second CTD) were to cheapen by over 16bps vs the 2% Jan22s (current CTD to March) it will become the new CTD to March.
- As shown in Figure 5 the likelihood of Jul22-Jan22 steepening by over 16bp from current levels is extremely low.

Figure 4. Required cheapening vs 2% Jan22 for a CTD switch (bps)



Source: Citi Research

Figure 5. Yield spread between Jul22 and Jan22 (blue line) vs the required yield spread for a CTD switch to occur (orange line)



Source: Citi Research

Back contract

Same basket in March as in June

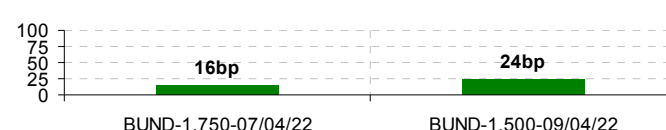
- Bund 2% Jan22 is the current CTD to June and is trading in line with futures (Figure 6). As mentioned earlier, Jan22s are also the current CTD to March. All 4 bonds that are eligible for delivery into the March contract are also eligible for delivery into June (Figure 3 and Figure 6).
- For a CTD switch to occur in the back contract, Jul22s (second CTD to June) would have to cheapen by over 16bps vs Jan22 (current CTD to June). As discussed previously, we view the likelihood of this as very low (Figure 7).

Figure 6. Deliverables into RXM3 – June Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd	Impl Repo %	Amt Out (€bn)	Deliv Prob
BUND-2.000-01/04/22	0.737805	0.62	0.00	140.65	-0.05	20	100%
BUND-1.750-07/04/22	0.709278	1.93	1.38	142.59	-4.38	24	0%
BUND-1.500-09/04/22	0.687792	2.55	2.08	143.67	-6.80	18	0%
BUND-1.500-02/15/23	0.676417	3.55	3.07	145.19	-10.14	5	0%

Source: Citi Research

Figure 7. Required moves vs 2% Jan22 for a CTD switch (bps)



Source: Citi Research

Impact on the roll from a change in repo

At GC-8 the risk/reward of rolling at current levels is balanced

- For every 10bps change in repo to June, the fair value of the roll changes by approximately 4ticks (Figure 8). At GC-8bps the risk reward of rolling contracts at current levels is balanced, purely from a repo perspective.

Thoughts on positioning

Positioning in 10yr Bunds is largely neutral, in our view

- Based on our investor intelligence positioning in 10yr Bunds (and with 10yr swap spreads currently in the middle of their 6month trading range) we do not expect positioning to be much of a driver for the upcoming calendar roll.

We expect the roll to gather momentum around 10days before the last trade date (7 March 2013)

Open Interest vs previous rolls

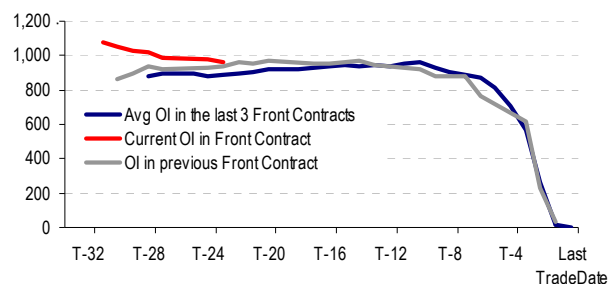
- As has been the case with previous Bund rolls, we would expect the roll to gather momentum around 10 days before the last trade date (7 March 2013) - Figure 9.

Figure 8. Fair Value Level of H3-M3 Futures Roll for different repo rates

		Repo of H3 CTD (BUND-2.000-01/04/22) to expiry		
		-0.18	-0.08	0.02
Repo of M3 CTD (BUND-2.000-01/04/22) to expiry	-0.56	200	202	204
	-0.46	196	198	200
	-0.36	192	194	196
	-0.26	187	189	192
	-0.16	183	185	187
	-0.06	179	181	183
	0.04	175	177	179
	0.14	171	173	175
	0.24	166	169	171

Source: Citi Research

Figure 9. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Conclusion

Summary:

We are neutral on the Bund roll

- We are neutral on the roll due to valuation, positioning and current repo levels.

Bobl Calendar Roll: OEH3-OEM3

Fair value vs current market level

Using mid-market repo levels the roll is trading 8 ticks above our fair value estimate of 167ticks

- We currently see fair value for the OEH3/OEM3 roll at 167ticks (Figure 10). Based on mid-market repo rates at the time of writing, the roll is trading 8 ticks above our fair value estimate of 167ticks.

Figure 10. Bobl Roll March – June Contracts

	OEH3	OEM3
CTD	BUND-4.000-01/04/18	BUND-4.000-01/04/18
Repo to delivery	-0.4% (GC-0.4%)	-0.34% (GC-0.36%)
Fair value estimate	167 ticks	
Fair value estimate - current market level	-8 ticks	
Hedge Ratio (contracts)	1000 (H3) = 1004 (M3)	

Source: Citi Research

Probability of a CTD switch and implications on the roll

A CTD switch in either contract is unlikely

- **Front contract:** Bund 4% Jan18 is the current CTD to March and is trading in line with futures. There are 4 bonds eligible for delivery into March (Figure 11).

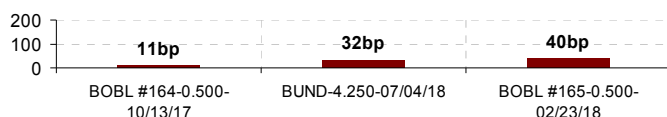
Figure 11. Deliverables into OEH3 – March Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd Price	Impl Repo %	Amt Out (€bn)	Deliv Prob
BUND-4.000-01/04/18	0.918219	0.21	-0.05	126.04	0.31	20	100%
BOBL #164-0.500-10/13/17	0.784760	0.52	0.48	126.70	-8.43	16	0%
BUND-4.250-07/04/18	0.922051	2.09	1.85	128.10	-26.19	21	0%
BOBL #165-0.500-02/23/18	0.770034	1.92	1.90	128.55	-32.78	9	0%

Source: Citi Research

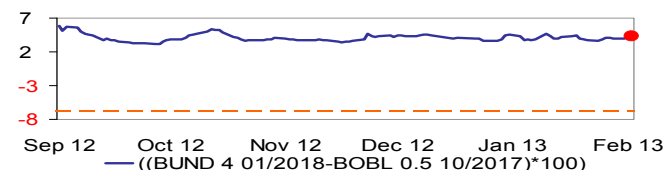
- Figure 12 shows the required cheapening of Bobl deliverables versus the current CTD to March (Bund 4% Jan18) to result in a CTD switch. For example, if Bobl 0.5% Oct17 cheapens by over 11bp vs the current CTD to March (4% Jan18s) it will become the new CTD to March. As shown in Figure 13 the likelihood of Jan18 - Oct17 flattening by over 11bp from current levels is extremely low.

Figure 12. Required moves vs 4% Jan18 for a CTD switch (bps)



Source: Citi Research

Figure 13. Yield spread between Jan18 and Oct17 (blue line) vs the required yield spread for a CTD switch to occur (orange line)



Source: Citi Research

- **Back contract:** Bund 4% Jan18 is the current CTD to June and is trading 2cents rich to futures (Figure 14). As mentioned earlier, Jan18s are also CTD to March. There are 3 bonds eligible for delivery into June.

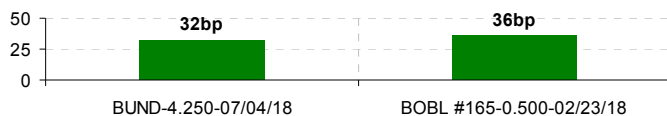
Figure 14. Deliverables into OEM3 – June Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd Price	Impl Repo %	Amt Out (€bn)	Deliv Prob
BUND-4.000-01/04/18	0.921789	1.37	0.02	124.36	-0.40	20	100%
BUND-4.250-07/04/18	0.925373	3.29	1.88	126.37	-5.28	9	0%
BOBL #165-0.500-02/23/18	0.780067	2.02	1.84	126.70	-6.07	21	0%

Source: Citi Research

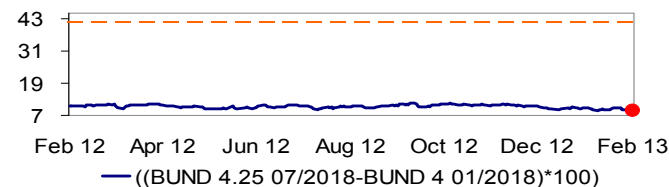
- For a CTD switch to occur in the back contract Bund 4.25% Jul18s would have to cheapen by over 32bps vs Bund 4% Jan 18s (current CTD to June) - Figure 15. We view the likelihood of this as very low (Figure 16).

Figure 15. Required moves vs 4% Jan18 for a CTD switch (bps)



Source: Citi Research

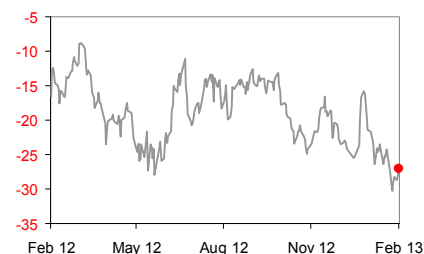
Figure 16. Yield spread between Jul18 and Jan18 (blue line) vs the required yield spread for a CTD switch to occur (orange line)



Source: Citi Research

We expect Jan18s to tighten further into delivery and recommend rolling longs late and shorts early

Figure 17. Germany 2s5s10s ASW fly



Source: Citi Research

Impact of a change in repo on roll

- For every 10bps change in repo to June, the fair value of the roll changes by approximately 4 ticks (Figure 18). Given that the Jan18s (current CTD in both the contracts) is an old 10yr Bund we would expect this bond to be tightly held (i.e. a small available free-float). We expect Jan18s to tighten further into delivery and recommend rolling longs late and shorts early.

Thoughts on positioning

- We think investors have moved from a neutral stance to a slightly underweight position in recent sessions following the strong interest seen in selling 5yr Germany ASW spreads vs 2yr and 10yr ASW spread (Figure 17).

Open Interest vs previous rolls

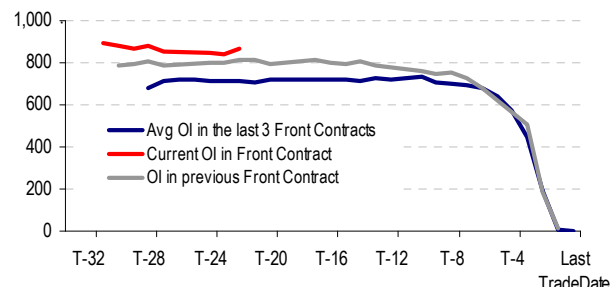
- The open interest in the March contract is around 19% higher than the average open interest in the last three front contracts. As in previous Bobl rolls we would expect the roll to gather momentum 8days before the last trade date.

Figure 18. Fair Value Level of H3-M3 Futures Roll for different repo rates

Repo of H3 CTD (BUND-4.000-01/04/18) to expiry		-0.34	-0.24	-0.14
Repo of M3 CTD (BUND-4.000-01/04/18) to expiry	-0.84	184	186	188
	-0.74	180	182	185
	-0.64	176	179	181
	-0.54	172	175	177
	-0.44	169	171	174
	-0.34	165	167	170
	-0.24	161	164	166
	-0.14	158	160	162
	-0.04	154	156	159

Source: Citi Research, Bloomberg

Figure 19. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Conclusion

We have a bias towards rolling Bobl longs late and shorts early

- With both contracts sharing the same CTD, and positioning largely neutral, we expect the repo level to be the main driver of the roll. It is highly likely that Jan18s repo tightens further into delivery, and so we recommend rolling longs late and shorts early.

Schatz Calendar Roll: DUH3-DUM3

Fair value vs current market level

The roll is trading 3 ticks below our fair value estimate of 16ticks

- We currently see fair value for the DUH3/M3 roll at 16ticks. Based on repo rates at the time of writing, the roll is trading 3 ticks below our fair value estimate of 16ticks (Figure 20).

Figure 20. Schatz Roll March – June Contracts

	DUH3	DUM3
CTD	BUNS-0.000-12/12/14	BUNS-0.250-03/13/15
Repo to delivery	-0.07% (GC-0.07%)	-0.12% (GC-0.14%)
Fair value estimate	16 ticks	
Fair value estimate - current market level	3 ticks	
Hedge Ratio (contracts)	1000 (H3) = 880 (M3)	

Source: Citi Research

Probability of a CTD switch and implications on the roll

A CTD switch in either contract is unlikely

- **Front contract:** Schatz Dec14 is the current CTD to March and is trading 2cents cheap to futures (Figure 21). There are 5 bonds eligible for delivery into March.

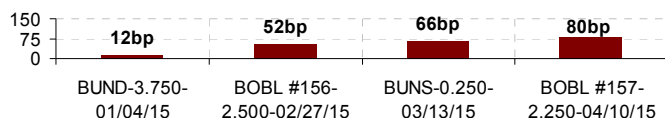
Figure 21. Deliverables into DUH3 – March Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd Price	Impl Repo %	Amt Out (€bn)	Deliv Prob
BUNS-0.000-12/12/14	0.902732	-0.02	-0.02	110.37	0.27	14	100%
BUND-3.750-01/04/15	0.962123	0.44	0.22	110.63	-3.66	23	0%
BOBL #156-2.500-02/27/15	0.936804	1.21	1.07	111.53	-17.38	17	0%
BUNS-0.250-03/13/15	0.894298	1.33	1.32	111.87	-22.61	5	0%
BOBL #157-2.250-04/10/15	0.928540	1.84	1.71	112.24	-27.64	19	0%

Source: Citi Research

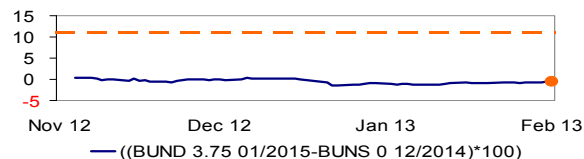
- Figure 22 shows the required cheapening of Bund deliverables versus the current CTD in each contract to become the new CTD. If Jan15s were to cheapen by over 12bp vs Dec14s (CTD to March) it will become the new CTD.
- Based on the historic yield spread between the two bonds the likelihood of a CTD switch is extremely low, in our view (Figure 23).

Figure 22. Required moves vs 0% Dec14 for a CTD switch (bps)



Source: Citi Research

Figure 23. Yield spread between Dec14 and Jan15 (blue line) vs the required yield spread for a CTD switch to occur (orange line)



Source: Citi Research

- **Back contract:** Schatz 0.25% Mar15 is the current CTD to June and is trading 3cents cheap to futures (Figure 24). There are 3 bonds eligible for delivery into the June contract.
- For a CTD switch to occur in the back contract Bobl 2.25% Apr15s would have to cheapen by over 18bps vs the 0.25% Mar15 (current CTD to June) - Figure 25. Based on the historic spread of Bobl-157 and Feb15s¹ we view the likelihood of a CTD switch in the June contract as very low.

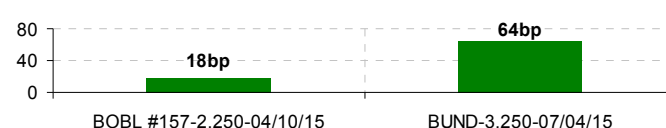
¹ We have used Feb15s instead of the current CTD due to the short history of Schatz Mar15s

Figure 24. Deliverables into DUM3 – June Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd Price	Impl Repo %	Amt Out (€bn)	Deliv Prob
BUNS-0.250-03/13/15	0.906764	0.08	-0.03	110.22	-0.01	5	99%
BOBL #157-2.250-04/10/15	0.936600	1.08	0.35	110.63	-1.19	19	0%
BUND-3.250-07/04/15	0.947963	2.58	1.54	111.89	-4.66	21	1%

Source: Citi Research

Figure 25. Required moves vs 0.25% Mar15 for a CTD switch (bps)



Source: Citi Research

From a repo perspective the risk reward of rolling contracts at current levels is balanced

We think investors are slightly long 2yr Germany and suggest rolling longs early

Our curve view provides a small bias towards rolling longs early and shorts late

Impact on the roll from a change in repo

- For every 10bps change in repo to June, the fair value of the roll changes by approximately 4 ticks (Figure 26). At GC-14bps the risk reward of rolling contracts at current levels is balanced, purely from a repo perspective.

Thoughts on positioning

- Given that the March contract will expire just before the ECB meeting (7 March) and our economists' expectation that the ECB will keep rates unchanged at the March meeting we do not expect the upcoming ECB meeting to have a huge effect on the roll at this stage. We think investors are slightly long 2yr Germany and suggest rolling longs early.

Curve view

- The upcoming second 3yr LTRO repayment has the potential to have a huge effect on the roll. Taking this into account, along with the 2s5s being towards the steeper end of their 6month range, the risk-reward favours flatteners. We therefore have a small bias towards rolling longs early and shorts late.

Open Interest vs previous rolls

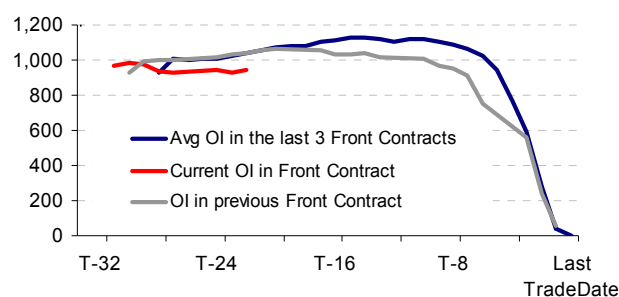
- We expect the roll to gather momentum eight days before the last trade date (7 March 2013) – Figure 27

Figure 26. Fair Value Level of H3-M3 Roll for different repo rates

Repo of H3 CTD (BUNS-0.250-03/13/15) to expiry		-0.17	-0.07	0.03
Repo of M3 CTD (BUNS-0.000-12/12/14) to expiry	-0.62	32	33	34
	-0.52	29	30	30
	-0.42	25	26	27
	-0.32	22	23	23
	-0.22	18	19	20
	-0.12	15	16	16
	-0.02	12	12	13
	0.08	8	9	9
	0.18	5	5	6

Source: Citi Research

Figure 27. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Conclusion

Summary:

We suggest rolling Schatz longs early and shorts late

- With positioning slightly long 2yr Germany and the risk-reward favouring flatteners in Germany we have a small bias towards rolling longs early and shorts late.

OAT Calendar Roll: OAT H3-OAT M3

Fair value vs current market level

The roll is trading 3 ticks above our fair value estimate of 79ticks

- We currently see fair value for the OAT H3/OAT M3 roll at 79ticks (Figure 28). Based on repo rates at the time of writing, the roll is trading 3ticks above our fair value estimate.

Figure 28. OAT Roll March – June Contracts

	OATH3	OATM3
CTD	FFRG-3.250-10/25/21	FFRG-3.000-04/25/22
Repo to delivery	-0.1% (GC-0.2%)	-0.08% (GC-0.105%)
Fair value estimate	79 ticks	
Fair value estimate - current market level	-3 ticks	
Hedge Ratio (contracts)	1000 (H3) = 952 (M3)	

Source: Citi Research

Probability of a CTD switch and implications on the roll

A CTD switch in either contract is unlikely

- **Front contract:** OAT Oct21 is the current CTD to March and is trading in line with the futures. There are 3 bonds eligible for delivery into March (Figure 29).

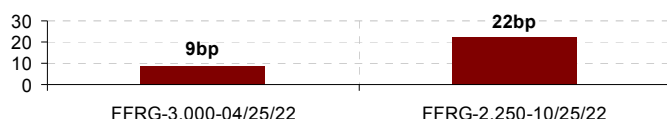
Figure 29. Deliverables into OAT H3 – March Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd Price	Impl Repo %	Amt Out (€bn)	Deliv Prob
FFRG-3.250-10/25/21	0.818731	0.18	0.00	133.79	-0.10	30	100%
FFRG-3.000-04/25/22	0.793736	0.92	0.75	134.73	-12.35	33	0%
FFRG-2.250-10/25/22	0.731560	2.04	1.92	136.41	-34.35	17	0%

Source: Citi Research

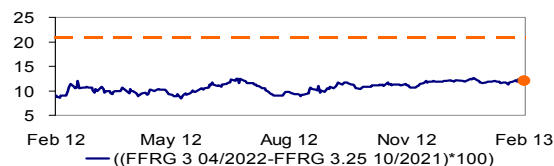
- Figure 30 shows the required cheapening of OAT deliverables versus the current CTD in the March contract to become the new CTD. If OAT 3% Apr22s were to cheapen by over 9bp vs 3.25% Oct21s (current CTD to March) it will become the new CTD to March. As shown in Figure 31 the likelihood of Apr22-Oct21 steepening by over 9bp from current levels is extremely low.

Figure 30. Required moves vs 3.25% Oct21 for a CTD switch (bps)



Source: Citi Research

Figure 31. Yield spread between Apr22 and Oct21 (blue line) vs the required yield spread for a CTD switch to occur (orange line)



Source: Citi Research

- **Back contract:** OAT 3% Apr22 is the current CTD to June and is trading 6cents rich to futures. There are 3 bonds eligible for delivery into the June contract (Figure 32).

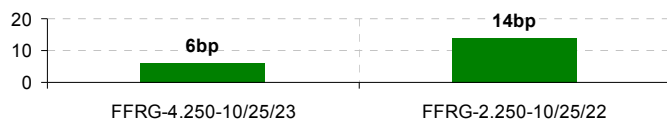
Figure 32. Deliverables into OAT M3 – June Contract Details

Bond	Conv Factor	Gross Basis	Net Basis	Conv Fwd Price	Impl Repo %	Amt Out (€bn)	Deliv Prob
FFRG-3.000-04/25/22	0.798035	1.00	0.06	133.05	-0.25	33	88%
FFRG-4.250-10/25/23	0.867384	2.01	0.69	133.78	-1.97	17	0%
FFRG-2.250-10/25/22	0.736780	1.95	1.24	134.66	-4.08	33	12%

Source: Citi Research

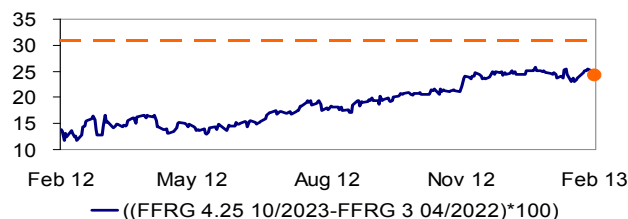
- For a CTD switch to occur in the back contract OAT 4.25% Oct23s would have to cheapen by over 6bps vs the 3% Apr22s (current CTD to June). We view the likelihood of this as very low (Figure 33 and Figure 34).

Figure 33. Required moves vs 3% Apr22 for a CTD switch (bps)



Source: Citi Research

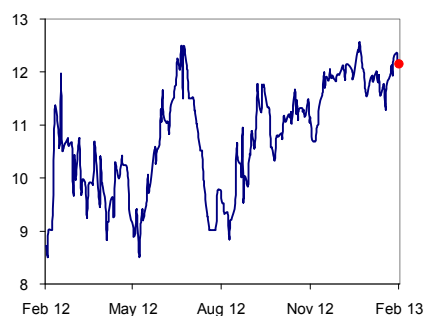
Figure 34. Yield spread between Oct23 and Apr22 (blue line) vs the required yield spread for a CTD switch to occur (orange line)



Source: Citi Research

From a relative value perspective we suggest rolling longs early & shorts late

Figure 35. Switching out of Oct21s and into Apr22s looks historically attractive



Source: Citi Research

Impact on the roll from a change in repo

- For every 10bps change in repo to June, the fair value of the roll changes by approximately 4 ticks (Figure 36). At GC-10bps the risk reward of rolling contracts at current levels is balanced, purely from a repo perspective.

Thoughts on positioning & curve

- However, we think speculative investors are slightly underweight OATs which would favour rolling shorts early rather than late. However, we think this factor will be trumped by interest to switch out of Oct 21 (CTD to March) and into Apr22 (CTD to June) given the historically attractive yield pick-up. Therefore from a relative value perspective we suggest rolling longs early and shorts late.

Open Interest vs previous rolls

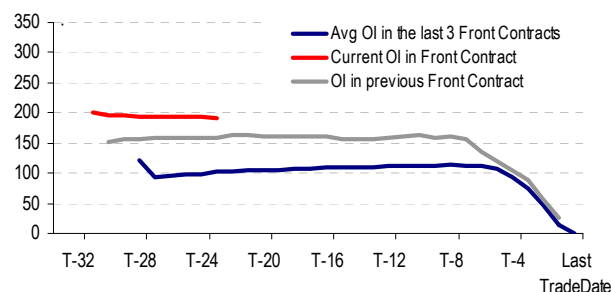
- Based on the profile of previous rolls, we expect the roll to gather momentum a week before the last trade date (7 March 2013) - Figure 37

Figure 36. Fair Value Level of H3-M3 Futures Roll for different repo rates

		Repo of H3 CTD (FFRRG-3.000-04/25/22) to expiry		
		-0.20	-0.10	0.00
Repo of M3 CTD (FFRRG-3.250-10/25/21) to expiry	-0.58	102	103	104
	-0.48	98	98	99
	-0.38	93	94	94
	-0.28	88	89	89
	-0.18	84	84	85
	-0.08	79	80	80
	0.03	74	75	75
	0.13	70	70	71
	0.23	65	65	66

Source: Citi Research

Figure 37. Current Open Interest (OI) in front contract vs previous rolls



Source: Citi Research, Bloomberg

Conclusion

Summary:

We have a bias towards OAT longs early and shorts late

- We expect relative value to be the main driver of the OAT roll and recommend rolling longs early to take advantage of the historically attractive yield spread between the CTD to March and CTD to June.

Appendix A-1

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