

NZAOA fixed income update

20 April 2023

Anthropocene Fixed Income Institute

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Oil and gas sector review

IS TENTATIVE ALIGNMENT BEING PRICED IN? CF. NZAOA "[POSITION ON THE OIL AND GAS SECTOR](#)"

[Oil & Gas: Climate performance and the cost of capital](#), 6 Mar 2023.

- Some pricing of relative climate-alignment in the front-end
- No effects seen in terms of curves, which suggests long-term steepeners could be suitable for poorly aligned O&G credits.

Figure 8. 5y CDS spread, Financial Leverage, and AFII sector relative climate ranking. Source: Bloomberg, AFII, accessed 14 Feb 2023.

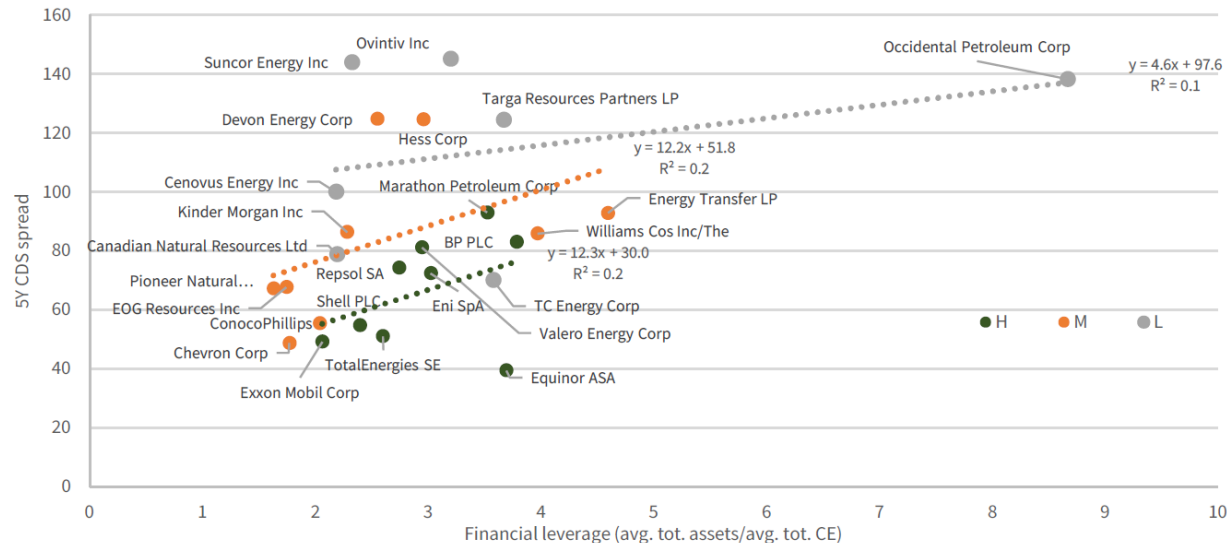
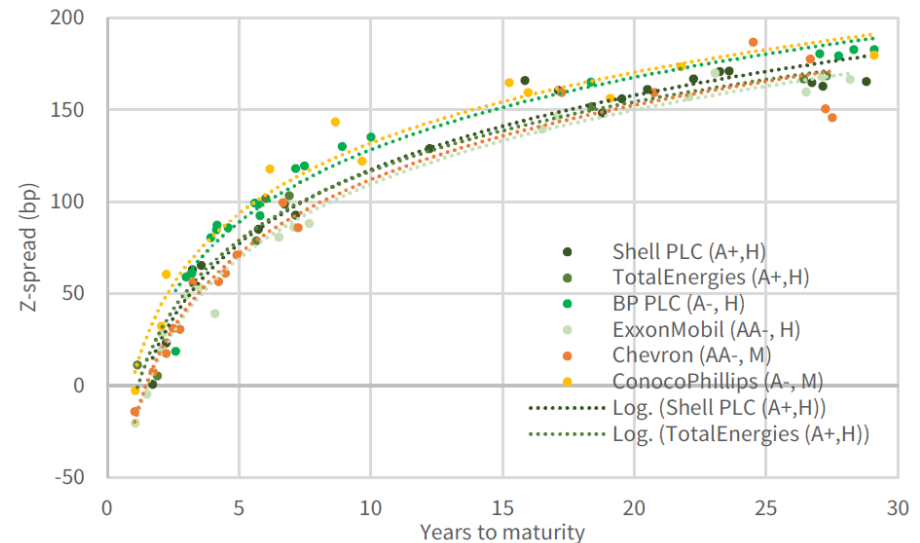


Figure 10. Credit relative value for oil majors with USD outstanding bonds over years to maturity. Legend describes credit rating and AFII sector relative ranking. Source: Bloomberg, AFII, accessed 16 Feb 2023.



Adani Group: Coal funding fallout

THE ADANI/HINDENBURG SHORT SALES REPORT HAS HAD SEVERAL FI MARKET IMPLICATIONS

- Dollar bond markets were good indicators of corporate finance stress prior to domestic equity and bond dynamics: [Adani Group: Bonds underperforming equities after report](#)
- Using “good” parts of the business as collateral to get financing for coal business: [Adani Green/Ports and Carmichael funding exposures](#)
- Using joint-ventures and closely related party transaction to attempt to access hard currency funding: [EQT Infrastructure investors and offshore capital raising](#)
- Passive exposures: [Adani Enterprises and passive ESG index investors](#)

Figure 1. Adani Group equities, normalized, 10 day intraday. Source: Bloomberg.



Figure 2. Adani Group bonds in USD with more than USD100mn outstanding. Light grey indicates bonds where not enough reliable price data has been found. Source: AFII, Bloomberg. Data as per 15:30 GMT+1 25 Jan 2023.

ISIN	Ticker	Coupon and maturity	Cash price 24-Jan	Cash price 25-Jan	Chg in cash price	% price change	z-spread 24-Jan	z-spread 25-Jan	Change z-spread	Size (USDmn)	Est. rating	Green bond	SLB
US00654GAA13	ADANEM	3.949 2/30	82.1	72.7	-9.4	-11.5%	402	611	209	1 000	BBB-		Y
US00654GAB95	ADANEM	3.867 7/31	78.9	69.0	-9.9	-12.5%	405	602	197	300	BBB-		
US00653XAA54	ADANIG	4.375 9/24	95.6	80.9	-14.7	-15.4%	283	1 414	1130	750	n.a.	Y	
US00654AAA43	ADGREG	6.25 12/24	99.1	96.3	-2.7		248	412	164	500	BB	Y	
US00654CAA09	ARENRJ	4.625 10/39	80.9	78.8	-2.1		465	509	44	328	BB+	Y	
US00652MAG78	ADSEZ	4.2 8/27	90.4	83.7	-6.7	-7.4%	327	522	194	750	BBB-		
US00652MAE21	ADSEZ	4.375 7/29	87.6	76.6	-11.0	-12.5%	352	603	250	750	BBB-		
US00652MAF95	ADSEZ	3.375 7/24	96.4	90.0	-6.4		136	628	491	650	BBB-		
US00652MAH51	ADSEZ	3.1 2/31	77.1	66.0	-11.1	-14.4%	367	600	233	500	BBB-		
US00652MAD48	ADSEZ	4. 7/27	89.6	81.1	-8.6	-9.6%	327	582	255	500	BBB-		
US00652MAJ18	ADSEZ	5. 8/41	76.2	66.8	-9.4	-12.3%	421	543	123	450	BBB-		
US00652MAK80	ADSEZ	3.828 2/32	79.9	67.9	-12.0	-15.0%	368	595	227	300	BBB-		
US00654UAA07	ADINCO	3. 2/31	82.8	80.1	-2.7		n.a.	536	n.a.	281	BBB-		
US00652XAA63	ADTIN	4. 8/26	91.1	86.5	-4.7	-5.1%	326	494	168	500	BBB-		
US00652XAB47	ADTIN	4.25 5/36	82.2	82.2	0.0		n.a.	507	n.a.	423	BBB-		

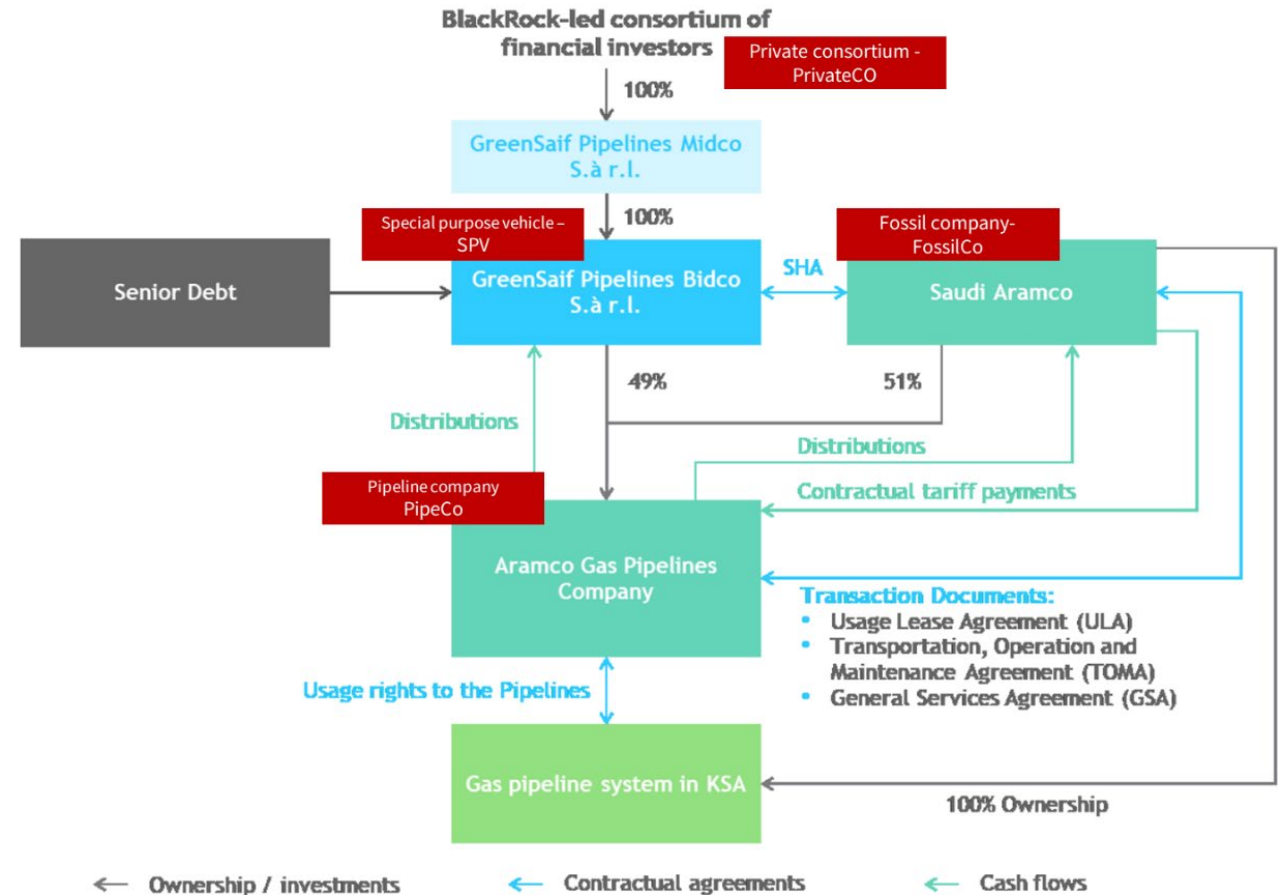
Table 1. Example list of ESG funds with ADE IN exposure and ESG criteria. Positions as per Dec-22. Source: Bloomberg.

ISIN	Documentation	Underlying index	% in fund	AUM
NL0011515424	Prospectus	MSCI Emerging Markets Custom ESG Index	0.22	EUR 4.4Bn
IE00B8MZ9L26	Supplement	MSCI Emerging Markets Custom ESG Index	0.23	USD 2.7Bn
IE00B4NCR763	Supplement	MSCI AC (All Country) Asia ex Japan Custom ESG Index	0.25	USD 0.3Bn
IE00BFNM3P36	Prospectus	MSCI EM IMI ESG Screened Index	0.19	USD 2.2Bn
LU1493735606	Prospectus	Actively managed quant with exclusions	0.21	USD 0.1Bn

Fossil funding through public-to-private-to-public

INCLUSION IN ESG INDICES (CONTINUED)

- Greensaif transaction: using public bond markets to get PE leverage for assets that public markets do not want to finance: [GREENSAIF: A not-so-green, double-edged sword](#)
- ... and yes, the Greensaif bonds go into ESG indices/funds: [The arbitrage of a pipeline](#)
- On another note, the Saudi SWF PIF is now the 2nd biggest owner of Aramco, 2nd biggest issuer of green bonds: [PIF: big on Aramco, big on green bonds](#)
- Beware of sell-side buyouts, comment [here](#).



Greening the financial system

AFII NET GREEN VS FOSSIL FUNDING FEE LEAGUE TABLES/INDICATORS

- Brought together, UBS and CS will become an intermediate rather than two small players, and relatively green (Before: UBS #1, CS #5). [Net green/fossil bond syndication - Mar23 \(CS/UBS update\)](#)
- Recent press on RBC confirmed by our data, which can be made available at a rolling basis.
- Being applied by AOs for counterparty selection processes.

Figure 1. Large net green/fossil league table based on bond and loan syndications. A top rank (low ranking number=1) indicates a higher degree of green activities relative to fossil. Source: AFII, Bloomberg.

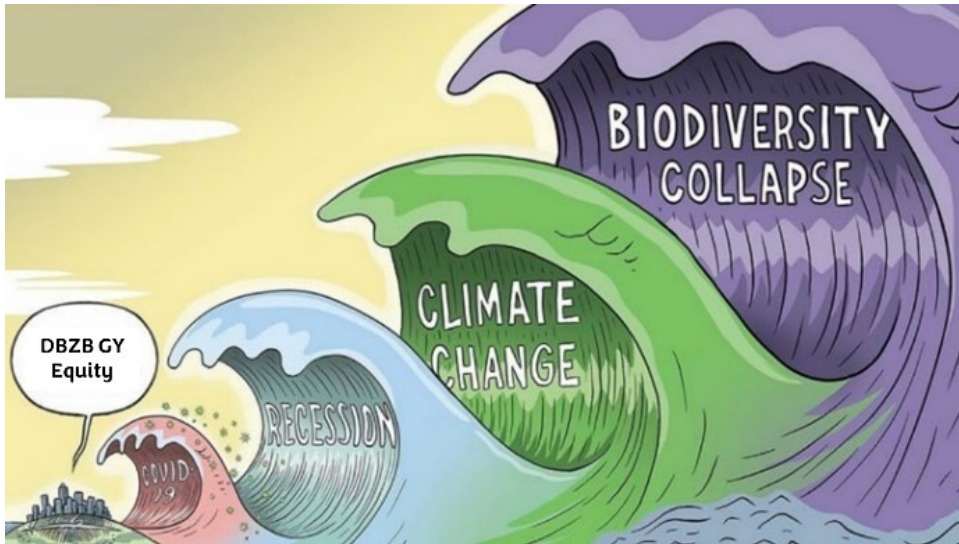
Rank	Chg vs Dec-22	vs Mar-2022	vs Mar-2021	Bank	Net green/fossil fees pct	Total fees USDm	Net green/ fossil revenue USDm	Chg in fossil fees vs -21/22	SLB fees of total	Net fees (green+ SLB) /fossil
1	2 ↑	5 ↑	6 ↑	HSBC	7.9%	1,250.6	98.6	-76%	1.6%	9.5%
2	0 ~	-1 ↓	-1 ↓	Credit Agricole	6.3%	1,103.0	69.6	-34%	2.0%	8.3%
3	-1 ↓	0 ~	-1 ↓	UBS & Credit Suisse	6.2%	1,369.3	85.1	-70%	0.6%	6.8%
4	3 ↑	6 ↑	6 ↑	Societe Generale	5.3%	700.4	36.8	-51%	2.2%	7.5%
5	-1 ↓	-3 ↓	0 ~	BNP Paribas	4.2%	1,409.1	59.0	-52%	2.3%	6.4%
6	2 ↑	-2 ↓	-3 ↓	Deutsche Bank	2.8%	1,227.6	34.8	-13%	1.2%	4.0%
7	-1 ↓	2 ↑	-1 ↓	Goldman Sachs	2.2%	1,316.2	29.4	-78%	1.0%	3.3%
8	1 ↑	3 ↑	-4 ↓	Morgan Stanley	1.6%	1,105.8	18.2	-50%	1.9%	3.6%
9	1 ↑	-1 ↓	-1 ↓	Barclays	1.2%	1,383.1	17.2	-45%	0.7%	2.0%
10	6 ↑	6 ↑	6 ↑	MUFG	1.0%	983.5	9.7	-28%	0.9%	1.9%
11	3 ↑	2 ↑	2 ↑	Citi	0.5%	2,026.5	10.4	-52%	1.0%	1.5%
12	0 ~	-5 ↓	-1 ↓	BofA Securities	0.0%	2,553.1	0.1	-39%	0.7%	0.7%
13	-2 ↓	-8 ↓	4 ↑	SMBC	-0.7%	746.1	-5.4	-36%	1.4%	0.7%
14	-1 ↓	-2 ↓	-5 ↓	JP Morgan	-1.2%	2,558.7	-31.9	-53%	0.7%	-0.5%
15	0 ~	-1 ↓	-3 ↓	Mizuho Financial	-2.7%	960.1	-25.9	-8%	1.8%	-0.9%
16	2 ↑	-1 ↓	-1 ↓	RBC	-7.1%	1,015.8	-71.8	15%	0.8%	-6.3%
17	0 ~	0 ~	-3 ↓	Wells Fargo	-7.3%	1,380.7	-100.5	-5%	0.4%	-6.9%

Kunming-Montreal agreement: FI impact

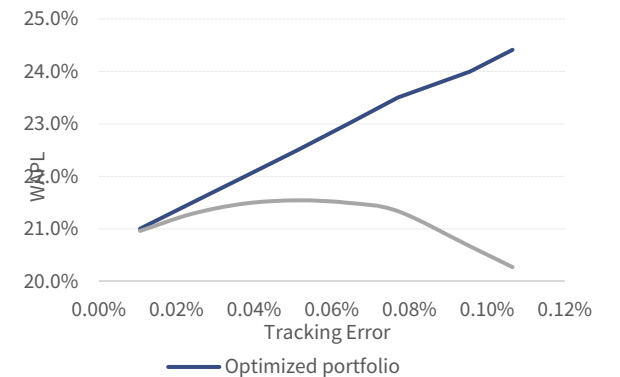
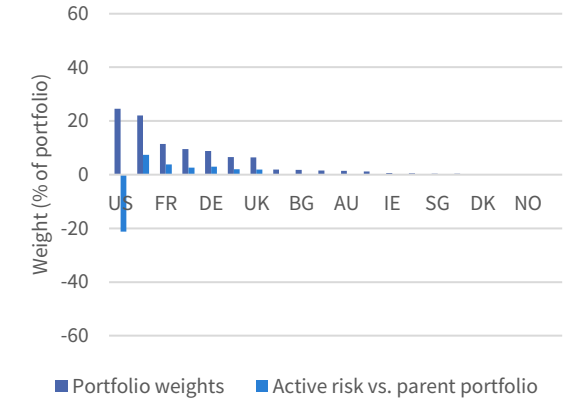
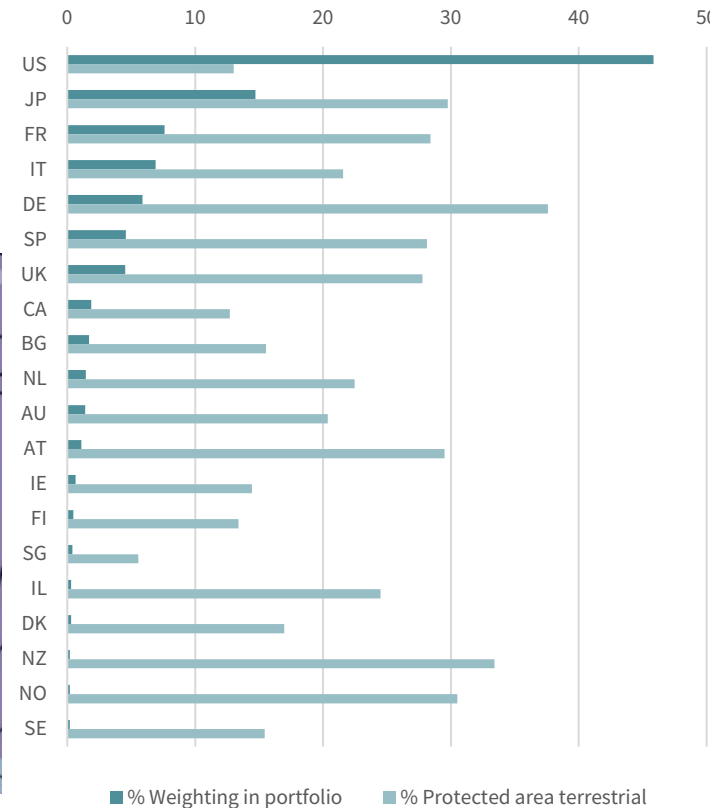
THE ROLE AND EVOLUTION OF THE US WILL BE KEY FOR PORTFOLIO TARGETS

In [Kunming-Montreal agreements: A bond perspective](#) we study the effects on a government bond portfolio that aligns to the KM targets:

- Unacceptable switch from USTs in a simplistic procedure
- We suggest using “utility functions” to generate a more gradual re-allocation.
- Also see recent UNEPFI paper: [Stepping Up on Biodiversity: What the Kunming-Montreal Global Biodiversity Framework means for responsible investors](#)



Weighting in portfolio shown against % protected terrestrial area



SLBs: A “greenback” SLB standardization proposal

THE PROPOSAL IN PRACTICE: SIGNIFICANTLY HIGHER STEPS, SIGNIFICANTLY LOWER COST-OF-CAPITAL

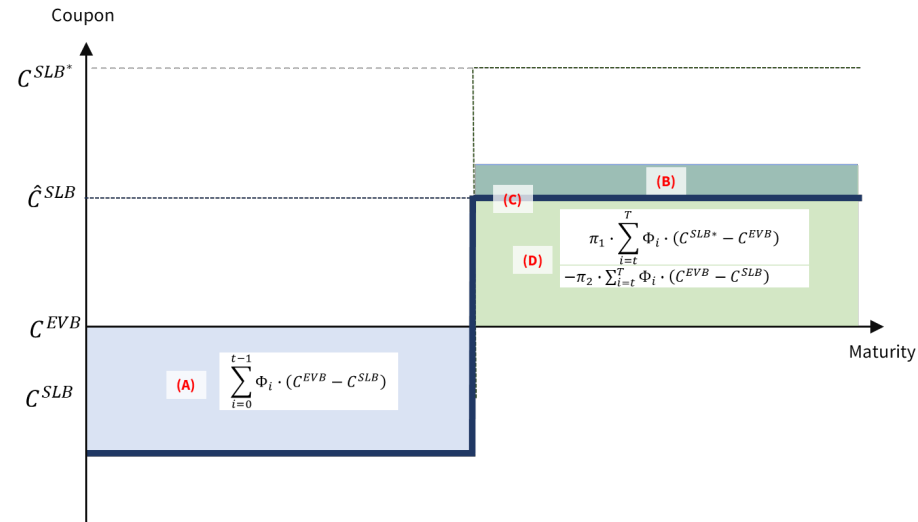
A greenback SLB is defined as an SLB where the option value of the step is at least 1%/ \$1 in bond price terms.

For example, a 5x5 greenback would have a 54.1bp step-up, with an SLB fixed coupon 12.1 bp inside the EVB.

EVB: 10yr at 4.5% for a EUR BBB credit

SLB: 10yr 4 3/8% with a 55bp step-up in year 6 if targets are not met, for a EUR BBB credit

Forthcoming work from AFII: previous work on option pricing of SLBs in [An option pricing approach for sustainability-linked bonds](#) and [Notes on Risk-Neutral Pricing of SLBs and Step-down Structures](#)



“No arbitrage condition”

$$\sum_{i=0}^{t-1} \Phi_i \cdot (C^{EVB} - C^{SLB}) = \pi_1 \cdot \sum_{i=t}^T \Phi_i \cdot (C^{SLB*} - C^{EVB}) - \pi_2 \cdot \sum_{i=t}^T \Phi_i \cdot (C^{EVB} - C^{SLB})$$

Option value		with 50% prob / 4.5% fixed coupon				
Disc: EUR BBB		Step structure				
Coupon step		3s5s	5s7s	3s7s	7s10s	5s10s
0	0.000	0.000	0.000	0.000	0.000	0.000
0.125	0.106	0.098	0.204	0.133	0.231	
0.25	0.212	0.196	0.408	0.266	0.462	
0.375	0.317	0.294	0.611	0.400	0.693	
0.5	0.423	0.392	0.815	0.533	0.925	
0.625	0.529	0.490	1.019	0.666	1.156	
0.75	0.635	0.588	1.223	0.799	1.387	
0.875	0.741	0.686	1.427	0.932	1.618	
1	0.847	0.784	1.630	1.065	1.849	
1.25	1.058	0.980	2.038	1.332	2.312	
1.5	1.270	1.176	2.446	1.598	2.774	
2	1.693	1.568	3.261	2.131	3.698	
Step-up	118.1	127.6	61.3	93.9	54.1	
Fixed discount	-22.3	-16.5	-16.5	-12.2	-12.2	
Bp delta	0.847	0.784	1.630	1.065	1.849	

Thank you!

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