

The New Old Convexity Portfolio

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With 10y and 30y Treasury yields 70bp and 90bp above year-to-date lows, respectively, the average dollar price of the US Corporate Index has declined significantly and is now trading below \$105 for the first time in five years (Figure 1). As a result, nearly 40% of bonds in the index now trade below par, compared with 5% at the end of January (Figure 2). Because Treasury yields have been on a fairly consistent downward trend since 2009 (continuing a 30+ year trend), this is the first time in five years that we are seeing a significant share of the market trade significantly below par, and we believe it has presented an opportunity to take advantage of an empirical kink that we have observed in the convexity curve.

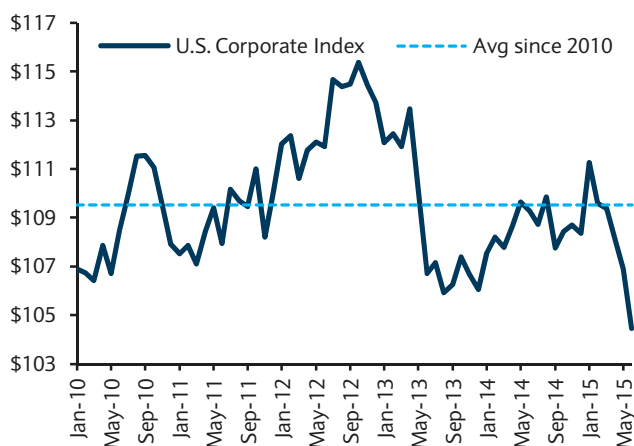
Analytically, as dollar prices fall, duration tends to decrease smoothly (in general), with convexity resulting in lower-price bonds being less sensitive to widening of spreads or rising yields. Empirically, there appears to be a kink in the curve for investment grade bonds that causes prices to become much less sensitive to further downward pressure once they reach the low \$80 range. Comparing a portfolio of 20+year bonds that started the year in the \$95 price range with a portfolio of bonds of similar maturities from the same issuers that started in the \$120 range, the high dollar price bonds have declined \$9 more than the lower-price bonds as rates have risen (Figures 3 and 4).

There are sound theoretical reasons for that shift in convexity – in particular, the lower losses that would be realized by lower-priced bonds if an issuer were to default. Beyond this, we believe that there are other factors that make \$80 a key threshold for lower rate and spread sensitivity:

- Some investors resist realizing a principle loss by selling bonds still rated investment grade (and therefore unlikely to default) at prices far below par.
- Low dollar-priced bonds that have a change of control put can have significant upside in the event of an M&A transaction or other capital structure changes.

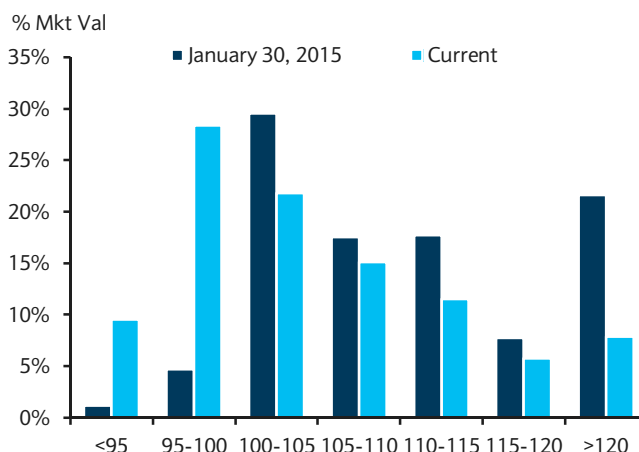
As a result, we see value in bonds that trade at \$85-95, given that they stand to perform well if rates or spreads rise substantially (causing them to approach the \$80 threshold). In particular, we see opportunities to construct a convexity portfolio that will take advantage of the asymmetry while holding no credit risk. To that end, we highlight several swap opportunities between different-priced bonds of the same issuer in Figure 5.

FIGURE 1
US Corporate Index Average Dollar Price



Source: Barclays Research

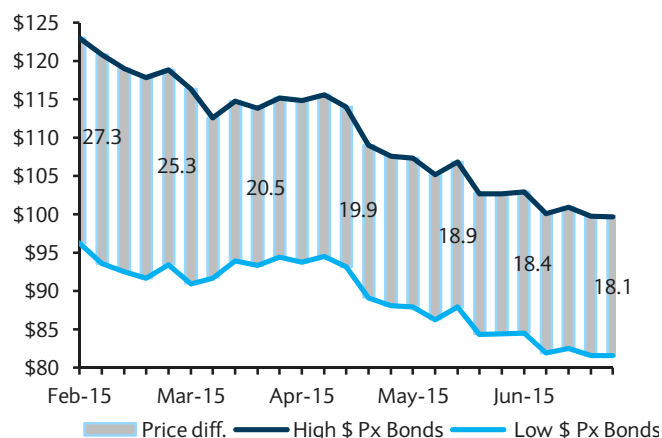
FIGURE 2
Share of Index by Dollar Price Bucket



Source: Barclays Research

FIGURE 3

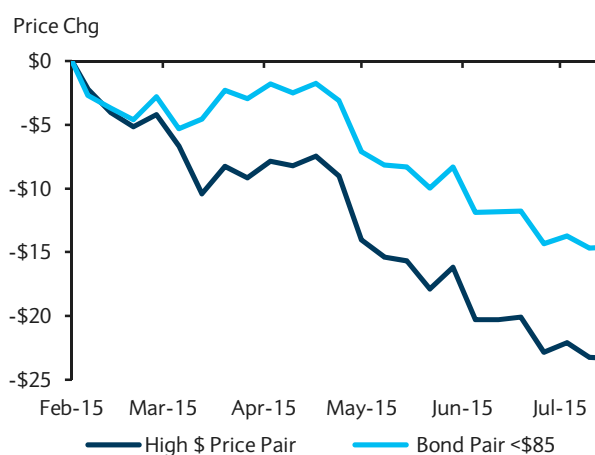
Bonds in the \$85-95 Range Have Been Less Sensitive to Rising Yields Year-to-Date...



Note: Comparing a portfolio of 23 20+ year bonds that started the year in the \$95 price range to a maturity- and issuer-matched portfolio of 23 bonds in the \$120 range. Source: Barclays Research

FIGURE 4

...As a Result, Their High Dollar Price Counterparts Have Underperformed



Note: Comparing a portfolio of 23 20+ year bonds that started the year in the \$95 price range to a maturity- and issuer-matched portfolio of 23 bonds in the \$120 range. Source: Barclays Research

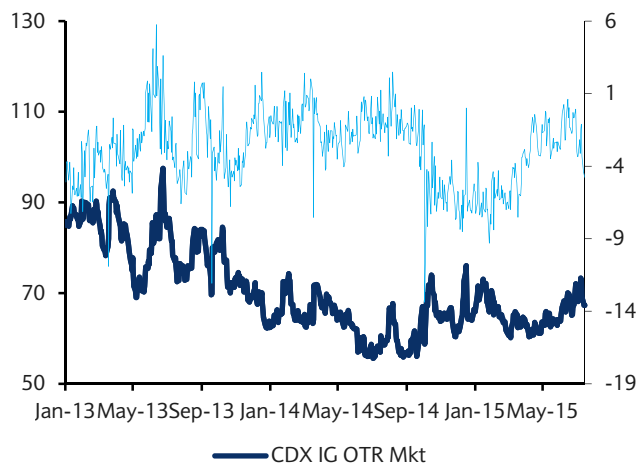
FIGURE 5

Swap Opportunities from High Dollar Price Bonds to Low Dollar Price Bonds within the Same Issuer

Ticker	Low \$ Bond			High \$ Bond			Px dif	OAS dif
	Security	Price	OAS	Security	Price	OAS		
AAPL	3.85s of 2043	\$90.2	137	4.45s of 2044	\$98.9	143	\$9	6
AAPL	3.45s of 2045	\$83.7	132	4.375s of 2045	\$97.5	143	\$14	11
ABIBB	3.75s of 2042	\$87.1	150	4.625s of 2044	\$100.0	155	\$13	5
AET	4.125s of 2042	\$87.6	188	4.75s of 2044	\$96.1	193	\$8	6
BNSF	4.375s of 2042	\$94.7	166	5.15s of 2043	\$105.9	171	\$11	5
CAG	4.65s of 2043	\$84.2	276	6.625s of 2039	\$103.9	337	\$20	62
D	4.05s of 2042	\$88.2	176	4.7s of 2044	\$96.1	187	\$8	12
D	4s of 2043	\$93.6	131	4.65s of 2043	\$102.9	139	\$9	7
FDX	3.875s of 2042	\$86.0	173	5.1s of 2044	\$102.6	187	\$17	14
FRT	2.75s of 2023	\$94.9	131	3.95s of 2024	\$103.2	127	\$8	(4)
IBM	1.875s of 2022	\$93.0	89	3.625s of 2024	\$101.2	123	\$8	34
KMI	4.7s of 2042	\$81.6	304	5.5s of 2044	\$90.8	316	\$9	11
MCD	3.625s of 2043	\$82.7	166	4.6s of 2045	\$96.3	174	\$14	9
MO	4.25s of 2042	\$88.9	194	5.375s of 2044	\$105.7	195	\$17	1
MSFT	3.5s of 2042	\$84.5	139	4.875s of 2043	\$105.8	143	\$21	5
PEP	3.6s of 2042	\$86.6	136	4.25s of 2044	\$96.2	138	\$10	2
PM	3.875s of 2042	\$88.0	158	4.875s of 2043	\$102.0	168	\$14	11
RAI	4.75s of 2042	\$87.8	258	6.15s of 2043	\$105.2	277	\$17	18
RCICN	4.5s of 2043	\$90.7	207	5.45s of 2043	\$103.7	215	\$13	8
RDSALN	3.625s of 2042	\$86.9	137	4.55s of 2043	\$100.2	146	\$13	9
VIA	4.375s of 2043	\$81.0	270	5.85s of 2043	\$97.9	299	\$17	29
VZ	4.75s of 2041	\$92.6	224	6.55s of 2043	\$116.3	241	\$24	17
VZ	2.45s of 2022	\$93.2	138	5.15s of 2023	\$109.1	167	\$16	29

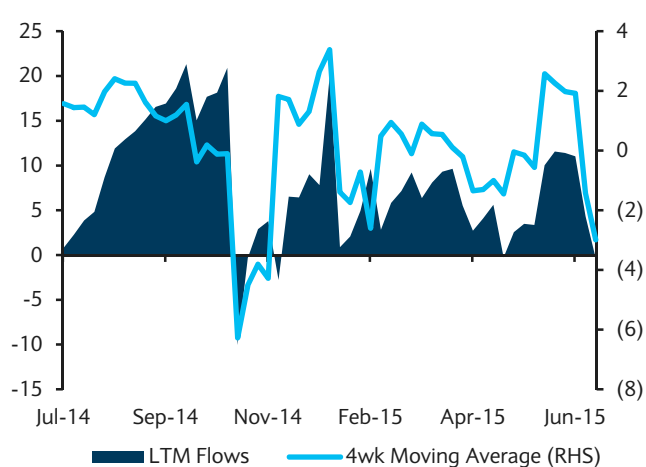
Source: Barclays Research

CDX.IG OTR Market versus Intrinsic (bp)



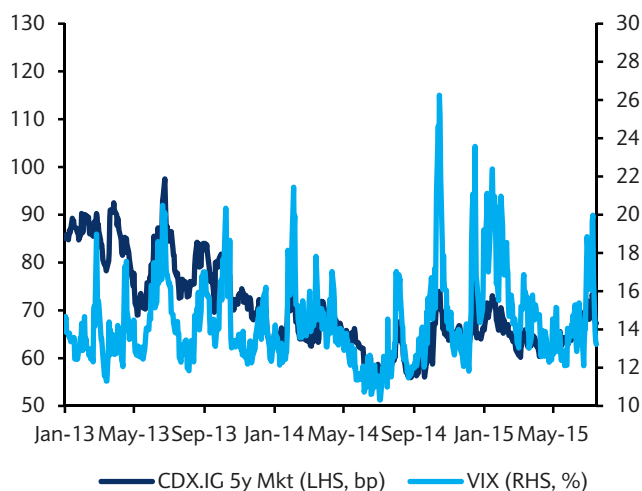
Source: Barclays Research

Investment Grade Fund Flows (\$bn)



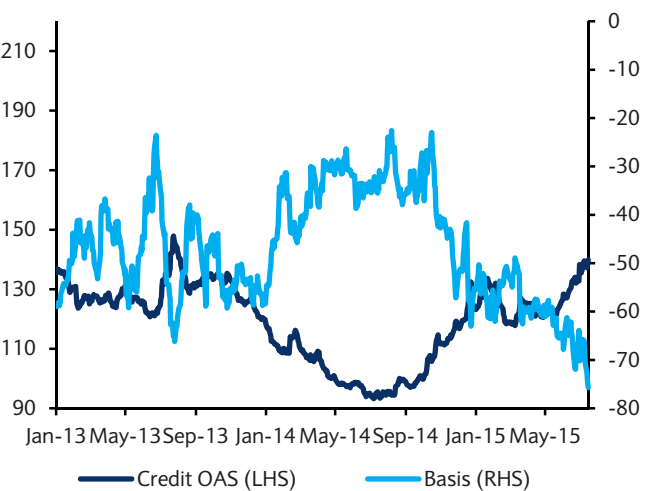
Source: Lipper/Thomson Reuters, Barclays Research

CDX.IG versus VIX



Source: Markit, Barclays Research

CDS-Cash Basis (bp)



Note: Basis defined as CDX.IG spread – Corporate Libor OAS.
Source: Barclays Research

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