Flaherty & Crumrine Incorporated

Preferred Market Update – A Look at Valuation

Preferred and contingent capital securities have fallen sharply recently as fears surrounding Covid-19 and its impact on the economy intensified. While the Covid-19 situation is serious, and prices of preferred and contingent capital securities could decline further, ultimately the question for investors is one of magnitude. If the virus results in a severe, but short-term, shock, and government fiscal, monetary and regulatory actions successfully limit risk of a prolonged and severe contraction, then preferred and contingent capital securities could see significant upside. However, even if the impact is severe and more long-term, these securities can still generate acceptable long-term returns.

A parallel situation occurred as the global financial crisis unfolded in 2008-09, when prices of preferred securities fell sharply and yields rose. Investors worried about recession and a possibility of rising defaults on those securities. We asked ourselves the question: what default and loss rates would be required to reduce returns on preferred securities to a particular level? This is a complex problem that requires some simplifying assumptions but trying to answer it gives some insight into valuation. We return to that model to shed some light on risk premiums in today's markets.

We start with a quick description of our model.[1] We assume that yield on the modeled portfolio or index is fixed during the investment horizon at today's current yield. There are two main problems with that assumption. First, some securities may be called by their issuers, typically to be refinanced at a lower yield. With today's prices averaging about 84% of par, calls at 100% of par prior to the 10-year horizon date probably would be welcomed by investors. Second, while some securities are fixed for life, others are fixed initially but change to floating-rate payments later and still others are currently floating. Depending on reset rates, spreads and how many of each type actually default, portfolio yield could be quite different, especially later in the 10-year model period. Modeling those variables would add their own assumptions and significant complexity while obscuring the broader issue (how bad can things get?) that we're trying to illuminate. In short, we put these two problems aside and focus on default risk.

We also assume that issuers do not defer or skip payments prior to default, even though coupons on most issues can be deferred or canceled. We try to compensate for this by assuming that recovery in default will be zero. Actual recoveries could be higher, especially for companies with "hard" assets like utilities and pipeline companies; recoveries on deeply subordinated securities of financial issuers are likely to be very low. In addition, our research indicates that deferrals historically have had only a minimal (about 3 bp) impact on returns. The next ten years could be different, but historically most companies that deferred coupons either recovered or defaulted relatively quickly.

[1] See the Appendix at the end of this note for a fuller description of our model.

Figure 1: Breakeven Default Rates at Unchanged Prices (Top Table) and Eventual Recovery (Bottom)

Date: 03/20/2020	*Ten-Year Breakeven Default Analysis (Fast-Normal Default Model)*						
ICE BofA 8% Constrained Core West Preferred & Jr Subordinated Securities Index (P8JC). Start Price = 83.62, Ann. Yield = 6.93%							
Scenario Number & Description	Starting Default Rt	**Cumulative Defaults**	Recovery given Default	Ending Price (Pct Par)	Ending Current Yield	**Scenario IRR**	Sprd to UST10, bp
1. Model defaults needed for Zero return	18.8%	**43.6%**	0.00	83.62	6.93%	**0.00%**	-0.94%
2. Model defaults needed to equal 10-year UST return	16.2%	**38.9%**	0.00	83.62	6.93%	**0.94%**	0.00%
3. 2008-18 Actual Pfd & Hybrid Default Rates	9.9%	**11.5%**	0.00	83.62	6.93%	**5.43%**	4.49%
4. 2008-18 Actual Pfd & Hybrid Default Rts, ex Fannie+Freddie	1.9%	**4.0%**	0.00	83.62	6.93%	**6.57%**	5.63%
5. Cumulative Defaults = 38% (All banks, Great Depression)	15.7%	**38.0%**	0.00	83.62	6.93%	**1.12%**	0.18%

ICE BofA 8% Constrained Core West Preferred & Jr Subordinated Securities Index (P8JC). Start Price = 83.62, Ann. Yield = 6.93%							
Scenario Number & Description	Starting Default Rt	**Cumulative Defaults**	Recovery given Default	Ending Price (Pct Par)	Ending Current Yield	**Scenario IRR**	Sprd to UST10, bp
1. Model defaults needed for Zero return	22.5%	**49.7%**	0.00	100.00	5.80%	**0.00%**	-0.94%
2. Model defaults needed to equal 10-year UST return	19.9%	**45.4%**	0.00	100.00	5.80%	**0.94%**	0.00%
3. 2008-18 Actual Pfd & Hybrid Default Rates	9.9%	**11.5%**	0.00	100.00	5.80%	**6.79%**	5.85%
4. 2008-18 Actual Pfd & Hybrid Default Rts, ex Fannie+Freddie	1.9%	**4.0%**	0.00	100.00	5.80%	**7.93%**	6.98%
5. Cumulative Defaults = 38% (All banks, Great Depression)	15.7%	**38.0%**	0.00	100.00	5.80%	**2.47%**	1.52%

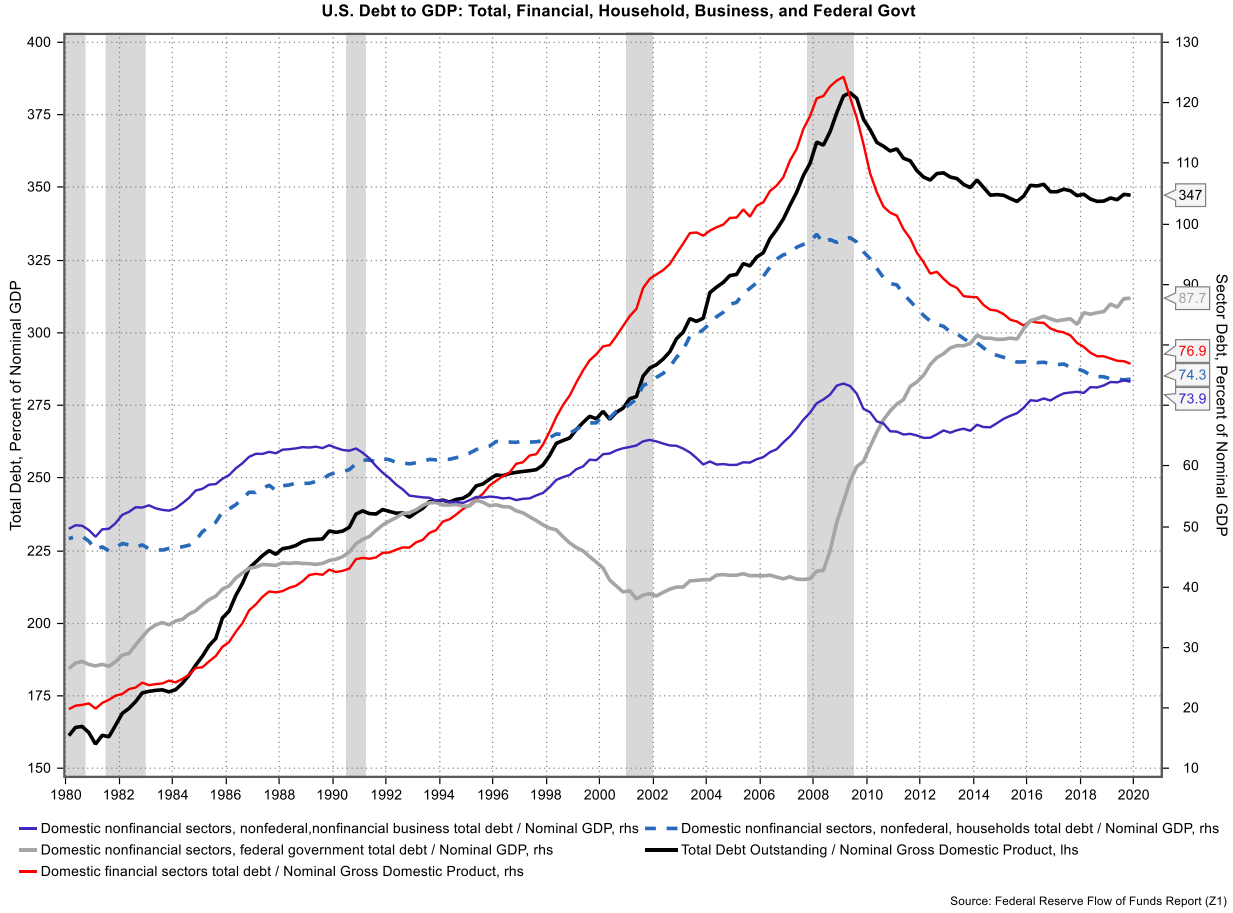
Our model uses both historical and hypothetical default rates. The historical period is the global financial crisis and its aftermath (2008-2018), where we use actual annual default rates that we have calculated. Hypothetical default rates assume that defaults start at a high rate for the first two years, drop by half in each of the next four years and then stabilize at a long-run rate of 0.25% (annualized) for the last four years. The model then solves for a path of default rates to produce either (1) a level of defaults associated with a historical scenario or (2) a targeted internal rate of return on the portfolio corresponding to a particular scenario.

What does our model say the market is pricing in? It calculates that the ICE BofA 8% Constrained Core West Preferred & Jr Subordinated Securities Index (P8JC) could sustain cumulative defaults of 38.9% over ten years, starting at 16.2% defaults for each of the first two years, and still equal the return of the 10-year US Treasury note (0.94%), even if prices have not improved a decade from now (top table, scenario 2). The breakeven default rate rises to 45.4% cumulatively if prices return to par at the horizon (bottom table, scenario 2). To put that in context, during the ten years surrounding the Great Depression (1929-1939) cumulative defaults at banking institutions were approximately 38%. Our model suggests that at today's prices the index would still generate a slightly higher internal rate of return (IRR) than 10-year Treasuries even if cumulative defaults reached Great Depression levels and prices remained unchanged (Scenario 5).

What if defaults are "only" as bad as the global financial crisis? Actual annual default rates from 2008-2018 are applied in Scenario 3, which includes Fannie Mae and Freddie Mac preferred defaults (approximately 8% of total US dollar preferreds at the time they entered conservatorship in 2008), and Scenario 4, which excludes them. Scenario 3 results in 11.5% cumulative defaults and IRRs between 5.4% and 6.8% on P8JC. Scenario 4 generates 4% cumulative defaults and IRRs from 6.6-7.9%. While economic activity is likely to fall sharply from efforts to mitigate Covid-19, we do not think default rates on preferred and contingent capital securities will reach financial crisis levels, for reasons we outline next.

The global financial crisis, as its name implies, was exacerbated by a banking system whose borrowing had risen dramatically over several decades. Consumers joined the borrowing party in the 2000s as mortgage debt expanded rapidly, fueling a bubble in home prices. Since the financial crisis, those trends have been in reverse in the US, as consumers and financial companies reduced debt relative to GDP (Figure 2). Earnings, loan-loss reserves and common equity capital are much higher at banks today than they were before the financial crisis. Similarly, the personal savings rate is well above its historical average, and savings should provide a buffer for households to help get through a period of reduced income over coming months. As we noted last week, banks are well prepared for the upcoming slowdown, and the Federal Reserve and other major central banks are using their full toolkits to support their banking systems. In the financial crisis, banks were a big part of the problem; in the Covid-19 crisis, banks are part of the solution.

Figure 2: Deleveraging Strengthened Financials and Consumers; Nonfinancials Feeling Strain



In contrast, nonfinancial companies boosted leverage over the past 7-8 years, with energy companies eager to borrow during a period of rapid growth in domestic production. A sharp drop in oil prices and what could be continued weakness over coming months has put energy and pipeline/midstream companies' securities under substantial downward pressure. However, unlike exploration and production companies, pipeline and midstream companies have significantly less commodity price exposure and, we believe, the ability to weather a period of lower energy prices. Asset portfolios are generally diversified. They include some portion of midstream earnings that are volume dependent and therefore indirectly commodity exposed to some extent. They also include pipeline and storage assets (among others) where there is little to no commodity or volume exposure given their contractual and regulated nature.

Fortunately for the pipeline/midstream sector, a number of issuers already accessed the bond market in 2020, leaving net forward liquidity profiles at solid levels for the year. In addition, the midstream/pipeline sector boasts better balance sheets than in 2014-16 (the last time oil prices fell precipitously), through a combination of deleveraging, distribution reductions, and organizational streamlining. With capital spending and distribution burdens generally lower (and room to reduce them further if needed), the sector has greater flexibility than it did in in 2014-16. While the energy sector in general is under significant financial strain, and some issuers are likely to go bankrupt, we believe pipeline and midstream companies are much better positioned than price-sensitive exploration and production companies, and we remain comfortable with the small number of quality companies we own in this sector.

To reiterate what we said at the beginning of this update, preferred and contingent capital securities have fallen sharply recently as fears surrounding Covid-19 and its impact on the economy intensified. While the Covid-19 situation is serious, and prices of preferred and contingent capital securities could decline further, ultimately the question for investors is one of magnitude. If the virus results in a severe, but short-term, shock, and government fiscal, monetary and regulatory actions successfully limit risk of a prolonged and severe contraction, then preferred and contingent capital securities could see significant upside. However, even if the impact is as severe as the Great Depression and portfolios of preferred and contingent capital securities suffer very high default rates, that portfolio can still generate acceptable long-term returns. And today's efforts by the Federal Reserve to expand quantitative easing and provide liquidity to private credit markets reinforce the idea that the economy is not facing another Great Depression.

As we said more than a decade ago, all investing entails taking risks. Intelligent long-term investing entails taking risks when potential payoffs are high and the probability of poor outcomes is low. Once again, we believe that now is such a time.

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Appendix

Breakeven Default Scenario Analysis Model Description

Our model applies default rates to a portfolio of securities. It discounts cash flows on dividend and interest payments, net of defaults, at a risk-free discount rate (the US Treasury curve) plus a fixed spread (the risk premium for each scenario) over a ten-year horizon. Defaults are assumed to occur at the end of each quarter. At horizon-end, the portfolio, also net of defaults, is valued at the ending price for each scenario, then discounted to present value as described above. For example, if cumulative defaults are 10% and ending price is $95, then (1-0.10) x $95 = $85.50 is principal value at horizon.

We make some simplifying assumptions in order to focus on default risk.

1. We assume that yield on the portfolio or index we are modeling is fixed during the investment horizon at today's current yield. However, some securities could be called by their issuers over the investment horizon, typically to be refinanced at a lower yield. In addition, while some securities are fixed for life, others are fixed initially but change to floating-rate payments later and still others are currently floating. Depending on future reset rates, spreads and which securities actually default, portfolio yield could vary from our assumption, especially later in the model period.

2. We assume that all coupon payments are made prior to default. However, coupons on most preferred and contingent capital securities can be deferred or canceled. The model partly compensates for this by assuming that recovery given default will be zero (i.e., loss rate = default rate). Actual recoveries could be higher, especially for companies with "hard" assets like utilities and pipeline companies; recoveries on deeply subordinated financial securities are likely to be very low or zero. Our research indicates that deferrals historically (from 2001-2018) have reduced returns by only about 3 bp. Most companies that deferred coupons either recovered or defaulted relatively quickly during this period.

3. Default rates are applied equally in each quarter of a model year. However, portfolio holdings are unequally distributed, and defaults could occur sooner or later than assumed, affecting calculations of internal rate of return.

Our model uses both historical and hypothetical default rates applied on a quarterly basis. We use actual annual default rates that we have calculated from the global financial crisis (GFC) and its aftermath (2008-2018). The mortgage GSEs Fannie Mae and Freddie Mac entered conservatorship in 2008 and were large issuers of preferred securities

(approximately 8% of the market). We run scenarios based on the 2008-2018 period both including and excluding Fannie Mae and Freddie Mac defaults.[2]

Hypothetical default rates assume that defaults start at a high initial rate for the first two years, drop by half in each of the next four years and then stabilize at a long-run rate of 0.25% (annualized) for the last four years. The model then solves for a path of default rates to produce either (1) a targeted level of cumulative defaults or (2) a targeted internal rate of return on the portfolio corresponding to a particular scenario. In our summary tables, we show both starting default rates for the first two years (our "high" default period) and cumulative defaults over the ten-year investment horizon. The path of defaults produced by our model is broadly consistent with historical periods of credit stress, which typically experienced a 1-2 year period of high defaults tapering relatively quickly to lower levels.

The scenario modeling bank defaults during the Great Depression is based on aggregate default data of depositary institutions from *A Monetary History of the United States* by Milton Friedman and Anna Schwartz. It estimates that approximately 38% of depository institutions failed over 10 years beginning in 1929.

[2] Fannie Mae and Freddie Mac's public preferred securities did not default and were not canceled; however, dividends were canceled and have not been paid since September 2008. We count them as defaulted.