
CORPORATE DEBT SELECTION OVER THE BUSINESS CYCLE

Applying the Business Cycle Framework to
the Corporate Debt Market

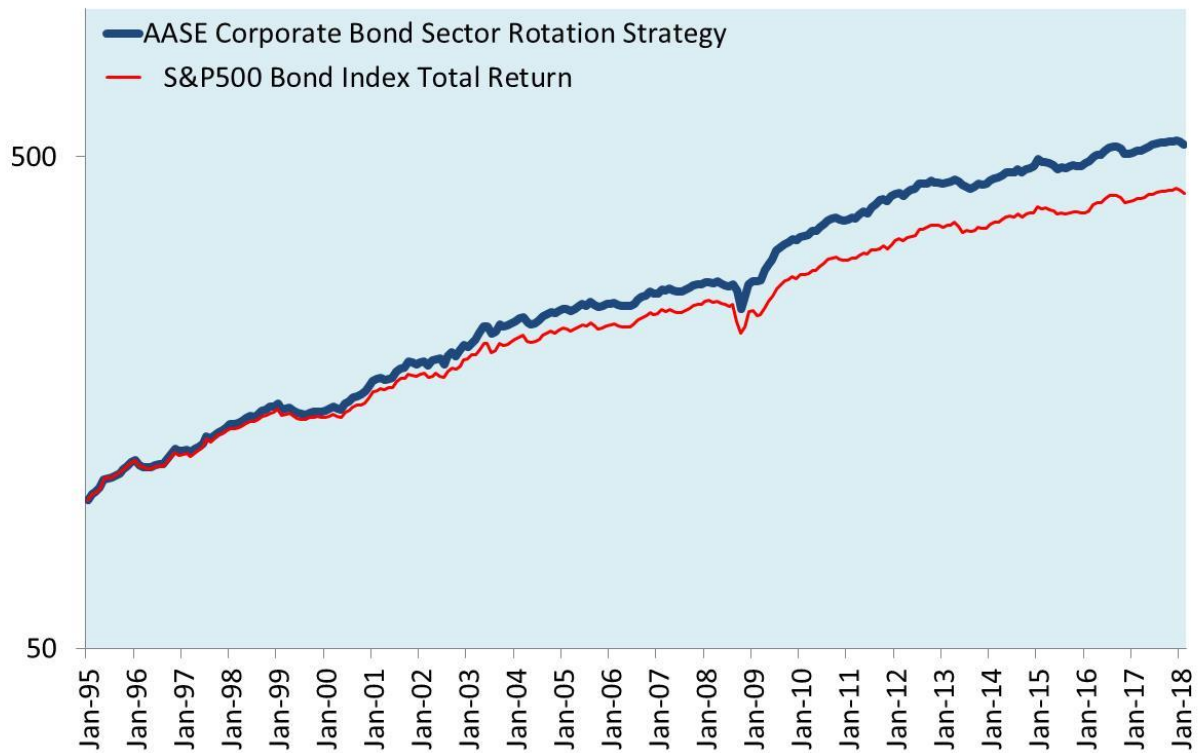
March, 2018

U.S.

For the month of April our business cycle leading index (see **The Framework** section below for a detailed explanation) indicates that the US economic cycle remains in **Stage 2** (see **Notes for weightings*). Historically sectors which have performed well in this cyclical stage include:

- **Consumer Discretionary**
- **Technology**
- **Energy**
- **Basic Materials**

Below we present the proforma results of our corporate debt strategy for the US.



ANALYSIS*	AASE Approach*	S&P 500 Bond Total Return
Jan-1995 to Feb-2018		
CAGR	7.48%	6.42%
Max Drawdown	-12.4%	-14.3%
Std Dev	5.1%	5.0%
Return/Drawdown	0.61	0.45
Sharpe 3%	0.88	0.69
% Positive Years	83.3%	79.2%
YTD	-2.2%	-2.4%
1 Year Return	2.8%	2.5%
3 Year Return	8.5%	7.3%

U.S.

Yearly Analysis

	AASE Approach	'S&P 500 Bond Total Return		AASE Approach	'S&P 500 Bond Total Return
1995	19.53%	19.58%	2007	4.70%	4.78%
1996	5.56%	3.43%	2008	-0.28%	-3.52%
1997	11.53%	11.81%	2009	23.09%	17.02%
1998	10.46%	9.37%	2010	9.58%	8.72%
1999	-2.51%	-2.64%	2011	12.02%	7.77%
2000	12.41%	9.55%	2012	6.96%	9.17%
2001	10.93%	10.94%	2013	-0.87%	-1.02%
2002	9.43%	7.78%	2014	8.48%	7.47%
2003	10.62%	8.93%	2015	0.25%	-0.38%
2004	6.26%	5.68%	2016	5.73%	5.43%
2005	3.26%	2.00%	2017	6.86%	6.61%
2006	4.80%	5.58%	2018	-2.25%	-2.38%

Recent Cycle Stages

		Subsequent Month Return	'S&P 500 Bond Total Return
Feb-17	STAGE 1	1.1%	1.0%
Mar-17	STAGE 2	-0.11%	0.32%
Apr-17	STAGE 2	1.0%	0.5%
May-17	STAGE 2	1.05%	1.18%
Jun-17	STAGE 1	0.8%	0.3%
Jul-17	STAGE 1	0.64%	0.67%
Aug-17	STAGE 1	0.6%	0.7%
Sep-17	STAGE 2	0.05%	-0.14%
Oct-17	STAGE 2	0.5%	0.6%
Nov-17	STAGE 2	-0.19%	-0.12%
Dec-17	STAGE 2	0.7%	0.9%
Jan-18	STAGE 2	-0.88%	-0.86%
Feb-18	STAGE 2	-1.4%	-1.5%

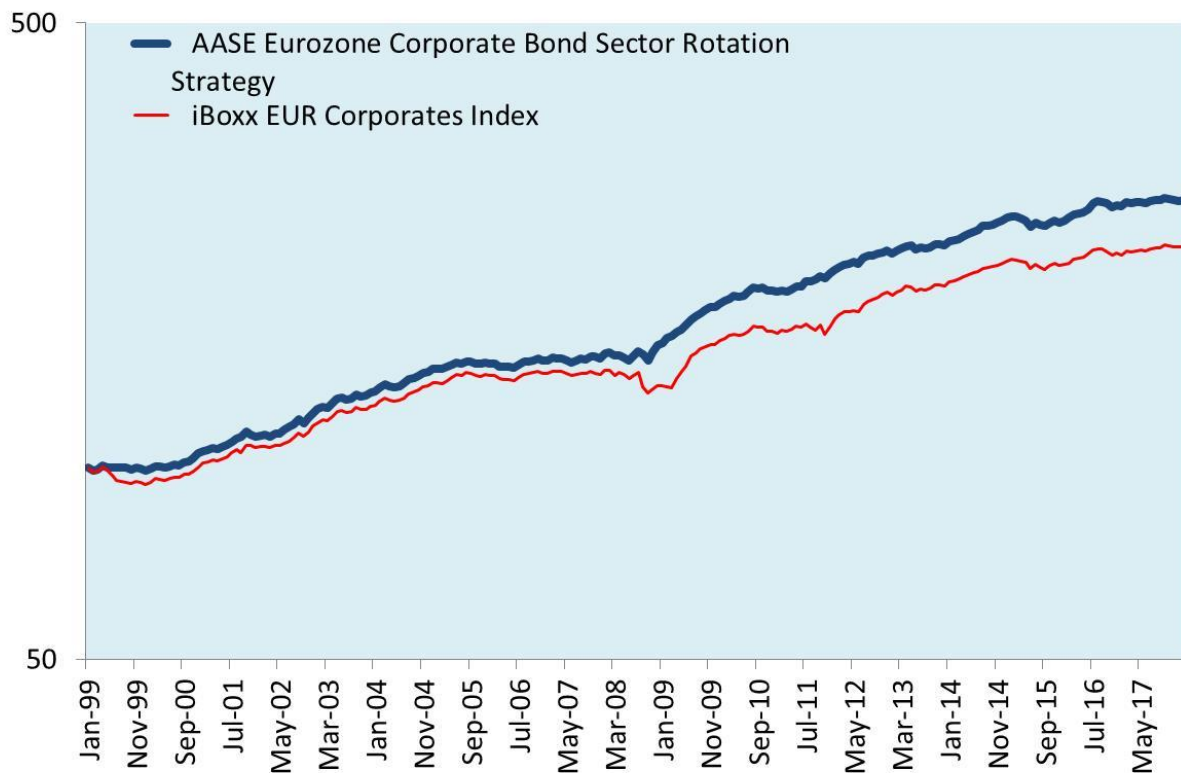
CORPORATE BOND SECTOR ALLOCATIONS			
February 2018 Stage 2			
Sectors	90%	Consumer Discretionary	45.0%
		Technology	45.0%
Commodity Sectors	10%	Oil & Gas	5.0%
		Basic Mateials	5.0%
March 2018 Stage 2			
Sectors	90%	Consumer Discretionary	45.0%
		Technology	45.0%
Commodity Sectors	10%	Oil & Gas	5.0%
		Basic Mateials	5.0%
April 2018 Stage 2			
Sectors	90%	Consumer Discretionary	45.0%
		Technology	45.0%
Commodity Sectors	10%	Oil & Gas	5.0%
		Basic Mateials	5.0%

Eurozone

For the month of April our business cycle leading index (see **The Framework** section below for a detailed explanation) indicates that the Eurozone economic cycle remains in **Stage 4** (see **Notes for weightings*). Historically sectors which have performed well in this cyclical stage include:

- **Consumer Staples**
- **Health**

Below we present the proforma results of our corporate debt strategy for the US.



ANALYSIS* Jan-1999 to Feb-2018	AASE Approach*	iBoxx EUR Corporates Index
CAGR	5.2%	4.3%
Max Drawdown	-3.7%	-8.0%
Std Dev	3.0%	3.6%
Return/Drawdown	1.40	0.54
Sharpe 3%	0.73	0.35
% Positive Years	85.0%	75.0%
YTD	-0.3%	-0.3%
1 Year Return	0.6%	1.5%
3 Year Return	5.9%	4.6%

Eurozone

Yearly Analysis

	AASE Approach	iBoxx EUR Corporates Index		AASE Approach	iBoxx EUR Corporates Index
1999	-1.01%	-5.85%	2009	14.85%	16.02%
2000	5.73%	6.03%	2010	6.36%	4.73%
2001	6.30%	7.11%	2011	6.25%	1.73%
2002	8.85%	8.00%	2012	8.60%	13.57%
2003	7.90%	7.46%	2013	1.77%	2.24%
2004	7.64%	7.83%	2014	9.44%	8.24%
2005	3.29%	4.00%	2015	-0.84%	-0.66%
2006	0.86%	0.40%	2016	6.82%	4.72%
2007	0.64%	-0.24%	2017	1.89%	2.37%
2008	4.94%	-4.00%	2018	-0.32%	-0.29%

Recent Cycle Stages

		Subsequent Month Return	iBoxx EUR Corporates Index
Feb-17	STAGE 3	1.3%	1.2%
Mar-17	STAGE 3	-0.55%	-0.33%
Apr-17	STAGE 3	0.4%	0.5%
May-17	STAGE 3	0.25%	0.40%
Jun-17	STAGE 3	-0.6%	-0.6%
Jul-17	STAGE 3	0.80%	0.78%
Aug-17	STAGE 4	0.4%	0.6%
Sep-17	STAGE 4	-0.20%	-0.22%
Oct-17	STAGE 4	1.1%	1.1%
Nov-17	STAGE 4	-0.43%	-0.14%
Dec-17	STAGE 4	-0.3%	-0.3%
Jan-18	STAGE 4	-0.35%	-0.27%
Feb-18	STAGE 4	0.0%	0.0%

CORPORATE BOND SECTOR ALLOCATIONS			
February 2018 Stage 4			
Sectors	100%	Consumer Staples	50.00%
		Health	50.00%
Commodity Sectors			
March 2018 Stage 4			
Stocks	100%	Consumer Staples	50.00%
		Health	50.00%
Commodity Sectors			
April 2018 Stage 4			
Stocks	100%	Consumer Staples	50.00%
		Health	50.00%
Commodity Sectors			

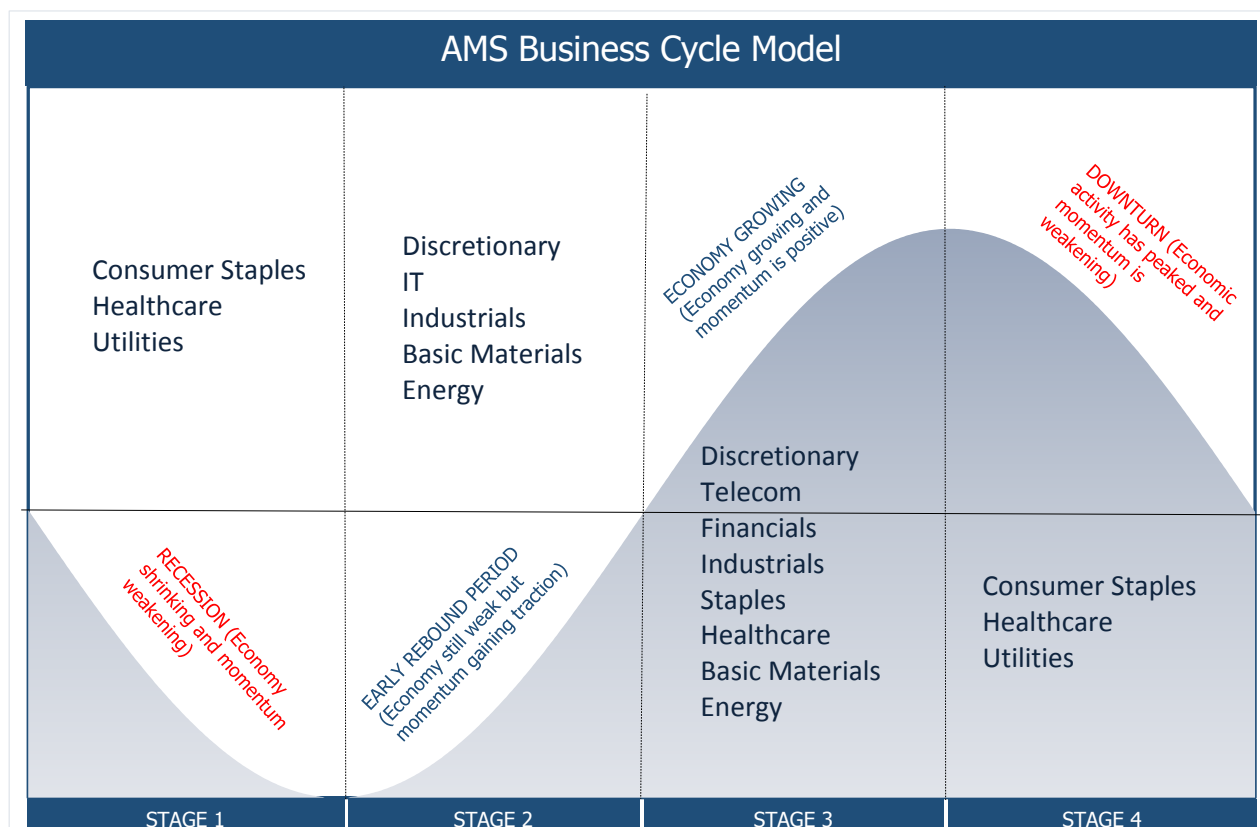
The Framework

Applying the AASE Business Cycle Approach to the Corporate Debt Market

The same underlying principles that drive our multi-strategy asset allocation models, as well as our equity sector selection models, can be applied to the corporate debt market. Indeed, what this illustrates to us is the robustness of utilizing the money supply as a leading indicator of business cycles and hence capital allocation.

Because money supply is a leading indicator, one can utilize changes in money supply to establish a forward looking view as to which stage of the cycle we anticipate the economy to be entering. By modifying the standard money supply definitions to better reflect the true nature of money we are able to better predict the business cycle and its stages. As can be seen below this approach has delivered reliable forecasts over many decades. If we expect the economy to be in Stage 1, for example, for the next three months then we can position ourselves accordingly in sectors which have performed best historically in Stage 1.

A visual representation of our cycle staging approach is shown below along with sectors which tend to historically outperform in each respective stage. Note that the precise configurations for each country may vary slightly from the chart below due to differences in industrial structure.



Cycle Stage 1: *Recessionary conditions – optimal to be defensive*

In Stage 1 of the AASE cycle the economy is declining at a rapid pace and, in general, it is better to adopt a defensive strategy. This typically entails allocations to very defensive sectors such as Consumer Staples, Healthcare and Utilities.

Cycle Stage 2: *Early rebound period*

In Stage 2 of the AASE cycle the economy is declining at a slower pace or may be starting to show signs of positive growth. The economy at this stage is commonly patchy but with the emergence of some momentum tends to benefit the more cyclical sectors. Different economies, with different industrial structures, will have slight variations as to which sectors are, in their cases, more “cyclical” when compared to other economies.

On occasions there may be a pickup in commodity prices (although this is more common in Stage 3) and thus may also benefit commodity related debt.

Cycle Stage 3: *Late recovery period*

In Stage 3 of the AASE cycle the economy is expanding at a more rapid pace. Now the cyclicals may be performing well but the risks are increasing and some of the more “non-cyclical” sectors may come into favour. Often industrials will be performing well, enjoying the pull-up demand from other sectors.

At this stage it is often common to see increases in commodity prices (which may also appear earlier in the cycle in some economies). Therefore allocations to commodity related debt are more likely in this stage.

Cycle Stage 4: *Downturn*

In Stage 4 of the AASE cycle the economy is growing at a slower pace as measured economic activity has peaked and begins to weaken. At this time a defensive posture is warranted. Sectors which perform relatively well include Consumer Staples, Healthcare and Utilities.

For corporate debt investors what this means is that the money supply can indicate – many months ahead – the stages of the economic cycle and the sectors that have done best in those stages. By utilizing this information an investor can be positioned in the relevant sectors – those which have historically performed well in those stages. This allows allocations to the respective sectors either via sector replication, or via individual company selection from within the sectors based on investor-preferred criteria (e.g. value).

To summarize, then, by means of our proprietary monetary measure we forecast the likely stage of the cycle in the months ahead. Once the stage is established an asset mix is selected in accordance with the expected stage. Note that the asset mix is established beforehand. Also, note that once the asset mix is established we don't change it while that stage is in force. The only thing that is subject to change is the phase of the cycle.

*Notes

Sector allocations are equally weighted, however in Stage 2 and Stage 3 the allocation towards commodity related sectors (Energy and Basic Materials) is illustrated below

		Stage 1	Stage 2	Stage 3	Stage 4
USA	Sectors	100%	90%	50%	100%
	Commodity Sectors	-	10%	50%	-
		Stage 1	Stage 2	Stage 3	Stage 4
Eurozone	Sectors	100%	90%	70%	100%
	Commodity Sectors	-	10%	30%	-

Assumed transactions costs: 0.05%.

Proforma allocations of assets as indicated by the AASE process. Allocations across bond sectors.

US Corporate Debt Sector Sources:

- S&P500 Bond Index Total Return
- S&P500 Consumer Staples Corporate Bond Index Total Return
- S&P500 Consumer Discretionary Corporate Bond Index Total Return
- S&P500 Energy Corporate Bond Index Total Return
- S&P500 Financials Corporate Bond Index Total Return
- S&P500 Healthcare Corporate Bond Index Total Return
- S&P500 Industrials Corporate Bond Index Total Return
- S&P500 IT Corporate Bond Index Total Return
- S&P500 Materials Corporate Bond Index Total Return
- S&P500 Telecommunications Corporate Bond Index Total Return
- S&P500 Utilities Corporate Bond Index Total Return

Eurozone Corporate Debt Sector Sources:

- iBoxx EUR Corporates Index
- iBoxx EUR Automobiles & Parts Index
- iBoxx EUR Food & Beverages Index
- iBoxx EUR Oil & Gas Index
- iBoxx EUR Financials Index
- iBoxx EUR Health Index
- iBoxx EUR Industrial Goods & Services Index
- iBoxx EUR Technology Index
- iBoxx EUR Basic Resources Index
- iBoxx EUR Telecom Index
- iBoxx EUR Utilities Index

This analysis does not represent an actual investment portfolio but rather the application of the AASE process to historical data. This is for information only and is not investment advice. No action should be taken based on this analysis.

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