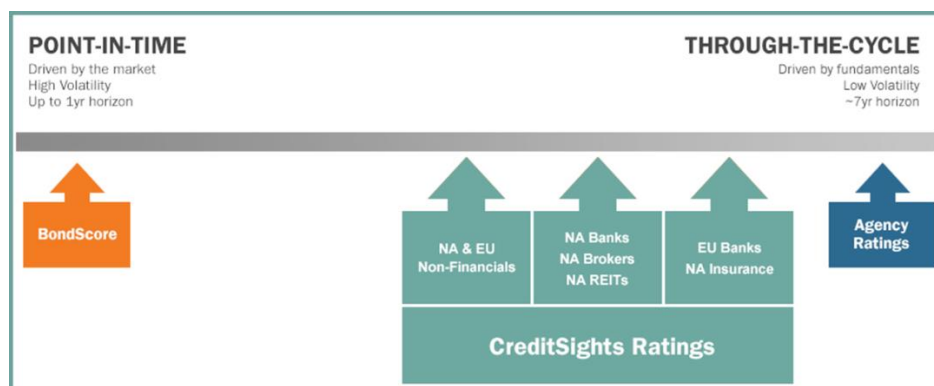


**CreditSights Risk Products (CSRP) - CreditSights' suite of quantitative credit risk models – provides measures of company-level short- and medium-term credit risk for use by credit professionals. Our BondScore models produce a one-year forward probability of default (PD) for over 5,000 firms, while our CreditSights Ratings (CSR) models produce a medium-term standalone rating (based on a 5-yr PD term structure for corporates) for just under 5,500 firms. Over 150 large private corporates are covered.**



### Uses

We encourage our Risk Products clients to use CreditSights Ratings to address potential ratings migration and standalone medium-term credit risk. BondScore is an excellent tool for identifying short-term default risks, rapid changes in a company's credit profile and short-term relative value opportunities. Both products provide calculators for scenario analysis, including the impact of M&A.

### Methodology

	BondScore	Ratings
<b>Core Output</b>	<b>One-yr forward PD*</b>	<b>medium-term credit rating</b>
Weighted towards	Equity	Fundamentals
<b>Corporates</b>	<b>hybrid approach</b>	<b>based on 5-yr cumulative PD</b>
Fundamentals	30%	80%
	<i>8 sector-specific models</i>	<i>8 sector-specific models</i>
Equity	70%	20%
<b>Financials</b>	<b>statistical approach</b>	<b>fit to agency ratings</b>
Fundamentals	20% - 35%	85% - 100%
Equity	65% - 80%	0% - 15%

\* Six-month forward distress probability for EU banks

### Current & Pending Enhancements

- Bulk (Excel-based) private company scoring now available (Sept 2016)
- Asia-Pacific corporates coverage now available (Dec 2016)
- Enhanced relative value indicators being developed
- Web-based aggregate data visualizer coming 2017

## Predictive Power for Agency Rating Transitions

- Across 430 agency composite rating (ACR) actions between 1 Aug 2015 and 31 Jul 2016, the CSR was a leading indicator 81% of the time, with a lead time of approximately 30 weeks.
- Using an absolute difference of two or more notches, CSRs led ACRs 91% of the time.
- Downgrades outpaced upgrades by over 3 to 1.
- 20 out of 26 fallen angels were successfully identified by the model, 18 of which are detailed in the table to the right.

Fallen Angels covered by CS Ratings, Jan to Jul 2016 (17of 18 predicted)				
Ticker	Company Name	Level 4 Sector	USD Debt (\$mn)	Euro Debt (€mn)
COSCN	Canadian Oil Sands	E & P	1,450	-
CLR	Continental Resources	E & P	5,600	-
MUR	Murphy Oil	E & P	2,250	-
SWN	Southwestern Energy	E & P	3,800	-
COFP	Casino	Food & Drug Retailers	-	6,512
ENLK	EnLink Midstream	Gas Distribution	2,500	-
CVECN	Cenovus Energy	Integrated Energy	4,750	-
AALLN	Anglo American	Metals/Mining Ex Steel	5,200	6,600
FCX	Freeport-McMoRan	Metals/Mining Ex Steel	14,102	-
KCN	Kinross Gold	Metals/Mining Ex Steel	1,250	-
VALEBZ	Vale	Metals/Mining Ex Steel	11,200	1,500
DO	Diamond Offshore Driller	Oil Field Equip & Serv	2,000	-
ESV	EnSCO Plc	Oil Field Equip & Serv	4,839	-
NBR	Nabors Industries	Oil Field Equip & Serv	2,983	-
NE	Noble Corp.	Oil Field Equip & Serv	4,000	-
RDC	Rowan Cos.	Oil Field Equip & Serv	2,800	-
SPN	Superior Energy Service	Oil Field Equip & Serv	1,298	-
CRS	Carpenter Technology	Steel Producers	550	-

Source: CreditSights Risk Products, BAML  
anticipated agency ratings transitions in **bold**

## Predictive Power for Defaults

BondScore 2016 Public Non-Financial Defaults		
Company	CRE	CRL
Midstates Petroleum	26.2%	Very High
Lightstream Resources	25.0%	Very High
Forbes Energy Services	24.2%	Very High
Basic Energy Services	24.0%	Very High
American Apparel	20.4%	Very High
CHC Group	19.6%	Very High
Halcyon Resources	19.0%	Very High
Venoco	17.6%	Very High
Triangle Petroleum Corp.	14.9%	Very High
Foresight Energy LP	14.8%	Very High
Bonanza Creek Energy	13.6%	Very High
Swift Energy	13.6%	Very High
Penn Virginia Corp.	12.8%	Very High
Noranda Aluminum	12.6%	Very High
Arch Coal	11.5%	Very High
Bill Barrett	10.0%	High
Magnum Hunter Resources	9.2%	High
SandRidge Energy	9.0%	High
SFX Entertainment	7.6%	High
BreitBurn Energy Partners	7.1%	High
Peobody Energy	6.4%	High
Ultra Petroleum	3.6%	High

- This sample list of 2016 defaulted companies highlights their lofty CREs 1-yr before default.
- Of the 50 US HY public companies defaulted in 2016, 43 had a Credit Risk Level (CRL) of High or Very High one year before defaulting and would have been eliminated from consideration. The bottom CRE threshold for a High risk CRL is 3%.
- During 2015 and 2014, the model excluded names such as Radio Shack, Quicksilver Resources, Caesar's, James River Coal and Walter Energy.

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