

Corporate Trade Credit Limits: A Forward-looking, Economic Approach

Introductions



**Michael
Denton**

Director – Risk
and Finance
Solutions



**Gustavo
Jimenez**

Asst Director –
Risk and Finance
Solutions



Laurent Birade

Sr Director – Risk
and Finance
Solutions

Agenda

1. Introduction
2. The Value-Centric Approach
3. The Credit Limit Process
4. Case Study
5. Q&A

Overview - Trade Credit Limits

Credit Limit Tables are a traditional tool for managing trade credit; the “Accounts Receivable” held by a seller of goods or services

Rating	Capitalization (Tangible Net Worth)*							
	< \$100M	\$100M-\$250M	\$250M-\$500M	\$500M-\$1B	\$1B-\$3B	\$3B-\$5B	\$5B-\$10B	> \$10B
Aaa	20	30	30	40	50	75	85	100
Aa	20	30	30	40	40	60	75	80
A	20	30	30	40	40	60	75	75
Baa	10	15	15	15	20	25	50	50
Ba	2	3	10	10	15	15	15	15
B	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0
Not Rated	\$5	\$5	\$10	\$10	\$15	\$15	\$15	\$15

EXAMPLE

Credit Limit Table previously used by a global physical commodity trader

Credit Limits in \$ Millions

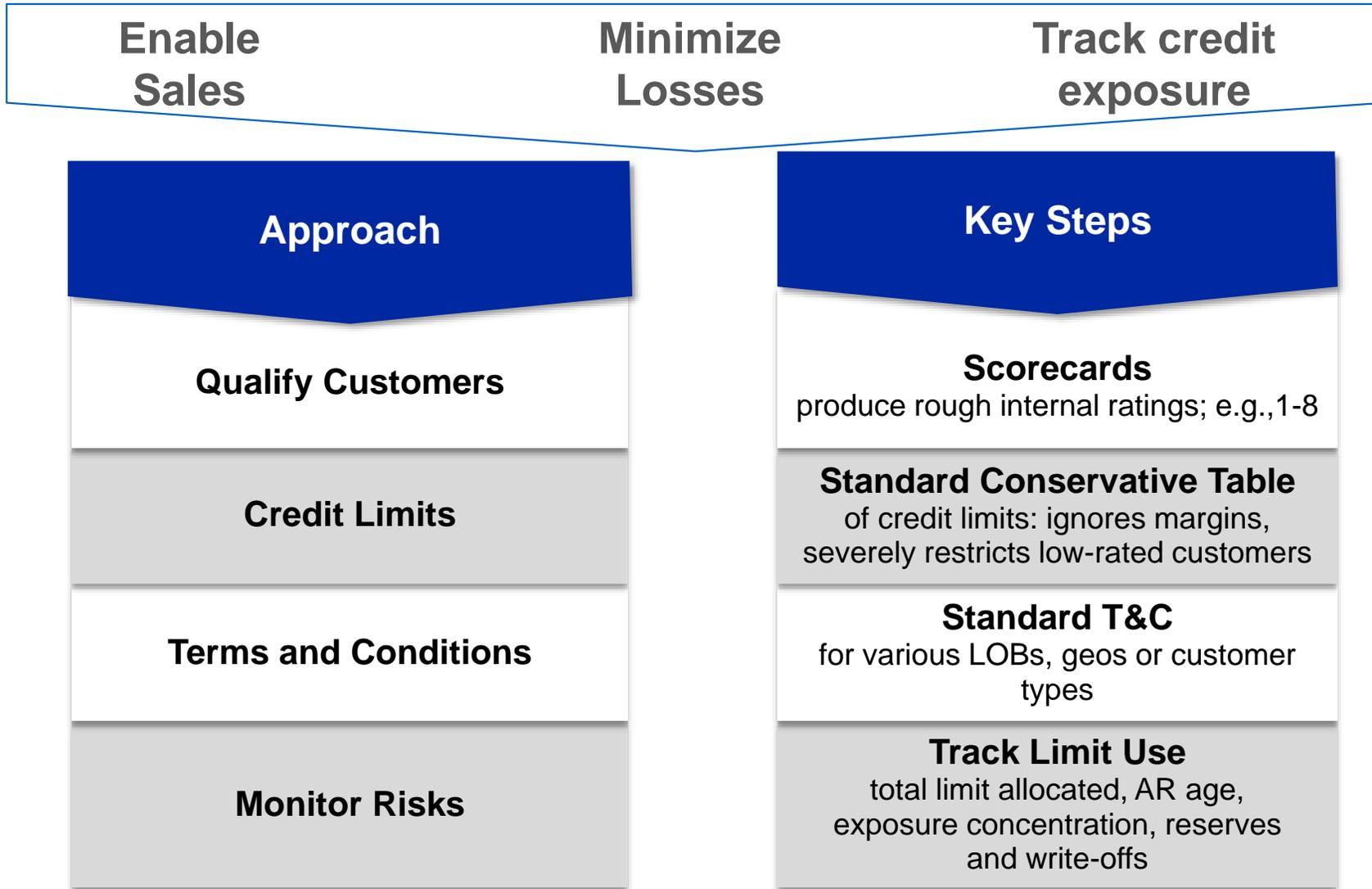
Tangible Net Worth = Net Worth - Goodwill

2

Value-Centric
Approach

Traditional Corporate Credit Risk

Goals and Approach



Value-Centric Corporate Credit Risk

Goals and Approach

Maximize Net Returns to Credit Exposure

Approach

Increase Total Sales

Margin-Adjust Limits

Expand Limit Structure

Maintain Economic Losses

Key Steps

Additional Limits

Are made available where profitable, given the risk levels

Higher Margin Customers

Limit table adjusts to give more limit

Potential Profitability

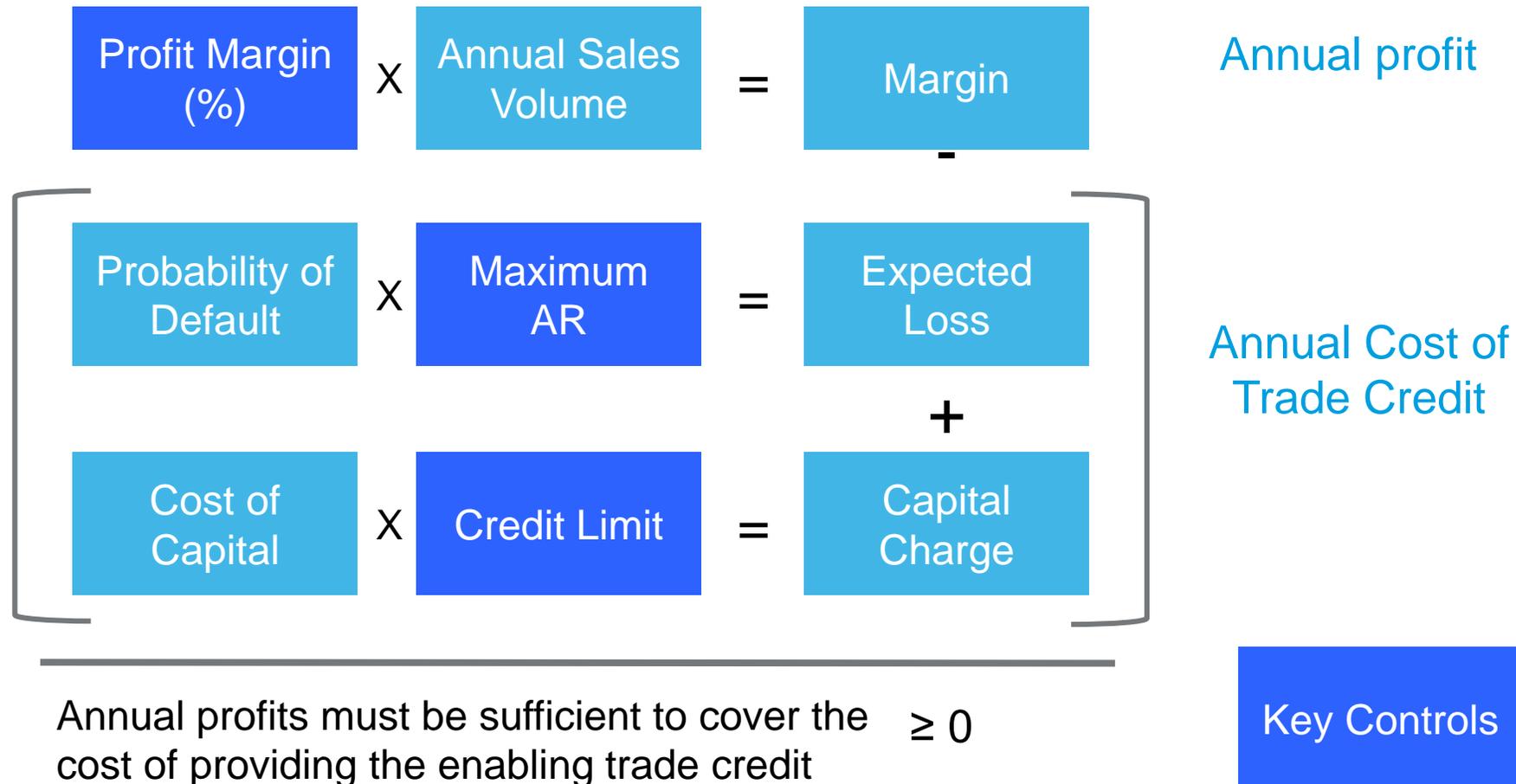
Credit provided to all customers in proportion to risk/return levels

Limits Driven by the Risks

Reflects cost of expected and potential losses, capital costs, and credit risk aversion premiums

Balancing Profit and the Cost of Credit

Accurate costing of the credit limits allows Sales & Marketing to evaluate the economic profitability of deals



Balancing Profit and the Cost of Credit

Accurate costing of the credit limits allows Sales & Marketing to evaluate the economic profitability of deals

Example: \$5M/mo Customer



Annual profits must be sufficient to cover the cost of providing the enabling trade credit ≥ 0

Key Controls

Refining the Limit Table

Opportunities to Adjust the Guideline Credit Limits

Economic Opportunities

- » Historical PD's have been inserted and used to calculate EL
- » A 15% cost of capital is used
- » All customers are assumed to have 3% margins
- » Assumes two invoices are outstanding at termination

Rating	Historical PD	Credit Limit	Expected Loss	15%	3%	
				Capital Charge	Cost of Credit	Margin
Aaa	0.02%	30,000,000	5,550	4,500,000	4,505,550	5,400,000
Aa	0.05%	30,000,000	15,420	4,500,000	4,515,420	5,400,000
A	0.18%	30,000,000	53,550	4,500,000	4,553,550	5,400,000
Baa	0.43%	15,000,000	64,350	2,250,000	2,314,350	2,700,000
Ba	1.65%	10,000,000	165,000	1,500,000	1,665,000	1,800,000
B	5.57%	0	-	-	-	-

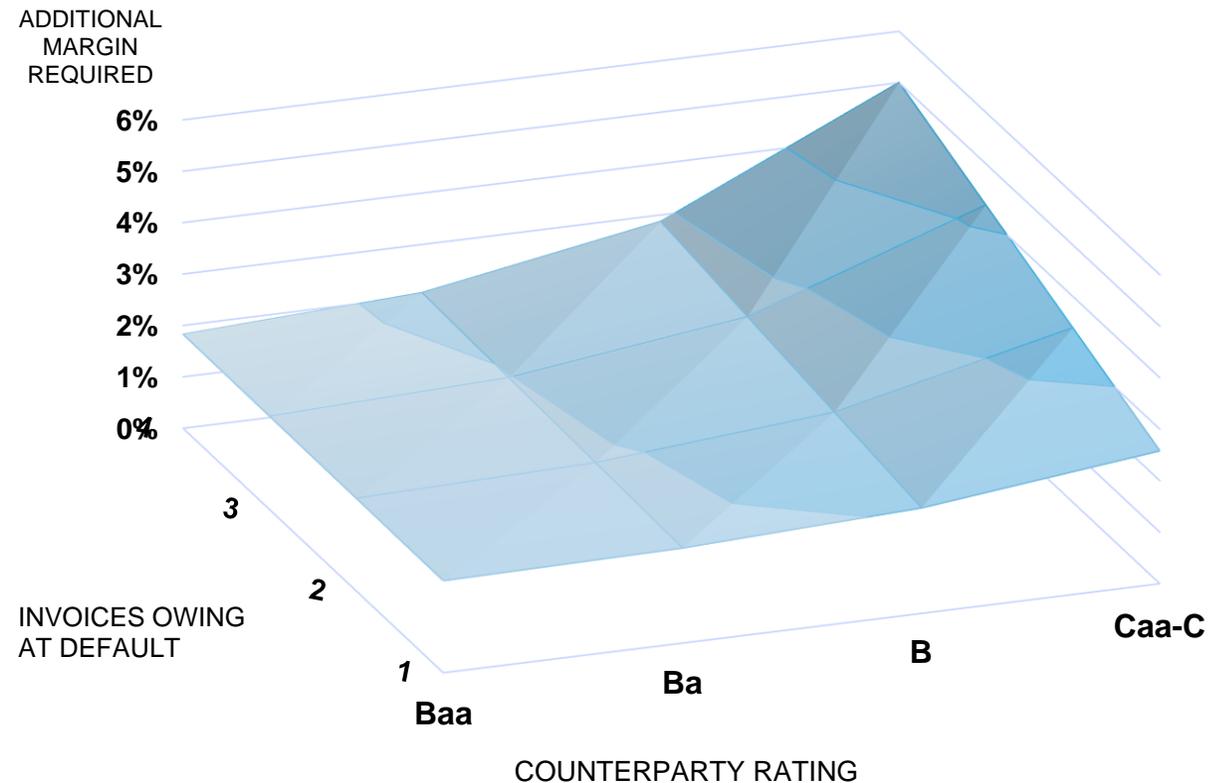
Risk-Based Pricing

Accurate credit costing also enables deal pricing based on credit risk and deal terms

Key Observations

- » Flat portion of the surface reflects very small EL costs for high credit quality customers
 - Most of the cost of credit for these customers is the capital charge
- » Lower credit quality customers require more margin to cover those Expected Losses
- » Similarly, reducing the number of invoices outstanding mitigates the total cost of credit where the EL is important

Cost of Unsecured Credit

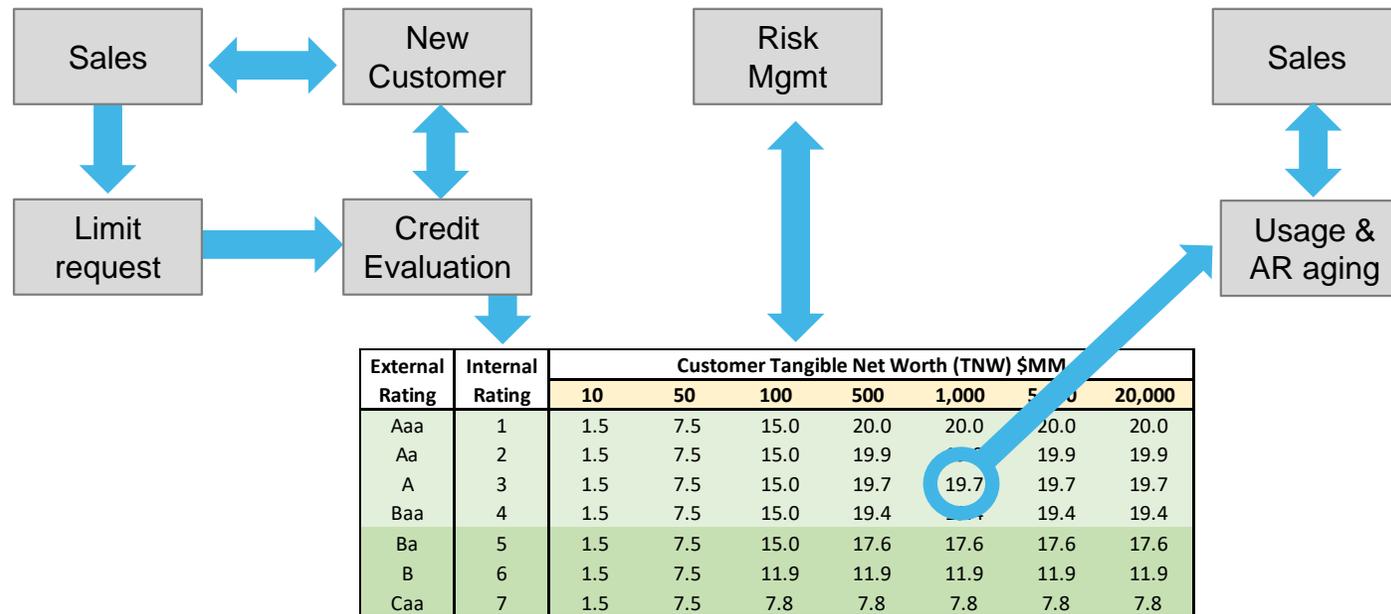


3

The Credit Limit Process

Credit Workflow

Maintains traditional credit processes, with additional flexibility



Credit Workflow

Maintains traditional credit processes, with additional flexibility

External Rating	Internal Rating	Customer Tangible Net Worth (TNW) \$MM						
		10	50	100	500	1,000	5,000	20,000
Aaa	1	1.5	7.5	15.0	20.0	20.0	20.0	20.0
Aa	2	1.5	7.5	15.0	19.9	19.9	19.9	19.9
A	3	1.5	7.5	15.0	19.7	19.7	19.7	19.7
Baa	4	1.5	7.5	15.0	19.4	19.4	19.4	19.4
Ba	5	1.5	7.5	15.0	17.6	17.6	17.6	17.6
B	6	1.5	7.5	11.9	11.9	11.9	11.9	11.9
Caa	7	1.5	7.5	7.8	7.8	7.8	7.8	7.8

Deal Parameters	Value
Margin	4.00%
Sales/mo	\$5.0 M
Invoice Cycle (wks)	4
Payment Terms (wks)	2
Termination (# invoices)	3

Margin forecast

Terms & Conditions

PD estimation

Cost of Capital



External Rating	Internal Rating	Customer Tangible Net Worth (TNW) \$MM								
		\$0 M	\$10 M	\$50 M	\$100 M	\$500 M	\$1,000 M	\$5,000 M	\$20,000 M	
Aaa	1	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M	
Aa1	2	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M	
Aa2	3	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M	
Aa3	4	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M	
A1	5	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.8 M	\$19.8 M	\$19.8 M	\$19.8 M	
A2	6	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M	
A3	7	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M	
Baa1	8	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.6 M	\$19.6 M	\$19.6 M	\$19.6 M	
Baa2	9	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.4 M	\$19.4 M	\$19.4 M	\$19.4 M	
Baa3	10	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.0 M	\$19.0 M	\$19.0 M	\$19.0 M	
Ba1	11	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$18.4 M	\$18.4 M	\$18.4 M	\$18.4 M	
Ba2	12	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$17.6 M	\$17.6 M	\$17.6 M	\$17.6 M	
Ba3	13	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$16.4 M	\$16.4 M	\$16.4 M	\$16.4 M	
B1	14	\$1.5 M	\$1.5 M	\$7.5 M	\$14.6 M	\$14.6 M	\$14.6 M	\$14.6 M	\$14.6 M	
B2	15	\$1.5 M	\$1.5 M	\$7.5 M	\$11.9 M	\$11.9 M	\$11.9 M	\$11.9 M	\$11.9 M	
B3	16	\$1.5 M	\$1.5 M	\$7.5 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	
Caa-C	17	\$1.5 M	\$1.5 M	\$7.5 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	

Impact of the Value-Centric Approach

Key factors and outputs

	Traditional Approach	Value-centric Approach
Inputs/Factors		
Desired Sales Volume	X	Monthly \$
Customer Size	Net Worth	X
Customer Credit Quality	Rating/Score	Precise PD
Profit Margin	?	Deal Specific
Cost of Capital	?	Specific Hurdle
Terms & Conditions	?	Deal Specific
Outputs		
Credit Limit	Table	Customer/Deal Specific
Cost of Credit	X	Explicit Output
Economic Profit/Loss	X	Explicit Output

4

Case Study

Demo – Step 1

Set up the Credit Limit table

MOODY'S
ANALYTICS

Trade Credit Parameters

Seller Parameters	Value
Gross Revenue	\$1,500 M
Cost of Capital	7.00%
Excess Return	5.00%
Max Conc. (% Rev)	25%
Max Conc. (% TNW)	15%
Deal Parameters	Value
Margin	4.00%
Sales/mo	\$5.0 M
Invoice Cycle (wks)	4
Payment Terms (wks)	2
Termination (# invoices)	3
EAD, max owing	\$17.5 M

MAXIMUM Economic Trade Credit Limit

External Rating	Internal Rating	Customer Tangible Net Worth (TNW) \$MM								EDF Upper Bound
		\$0 M	\$10 M	\$50 M	\$100 M	\$500 M	\$1,000 M	\$5,000 M	\$20,000 M	
Aaa	1	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M	0.02%
Aa1	2	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M	0.03%
Aa2	3	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M	0.05%
Aa3	4	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M	0.09%
A1	5	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.8 M	\$19.8 M	\$19.8 M	\$19.8 M	0.14%
A2	6	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M	0.18%
A3	7	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M	0.22%
Baa1	8	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.6 M	\$19.6 M	\$19.6 M	\$19.6 M	0.28%
Baa2	9	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.4 M	\$19.4 M	\$19.4 M	\$19.4 M	0.43%
Baa3	10	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.0 M	\$19.0 M	\$19.0 M	\$19.0 M	0.66%
Ba1	11	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$18.4 M	\$18.4 M	\$18.4 M	\$18.4 M	1.10%
Ba2	12	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$17.6 M	\$17.6 M	\$17.6 M	\$17.6 M	1.65%
Ba3	13	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$16.4 M	\$16.4 M	\$16.4 M	\$16.4 M	2.48%
B1	14	\$1.5 M	\$1.5 M	\$7.5 M	\$14.6 M	\$14.6 M	\$14.6 M	\$14.6 M	\$14.6 M	3.71%
B2	15	\$1.5 M	\$1.5 M	\$7.5 M	\$11.9 M	\$11.9 M	\$11.9 M	\$11.9 M	\$11.9 M	5.57%
B3	16	\$1.5 M	\$1.5 M	\$7.5 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	8.35%
Caa-C	17	\$1.5 M	\$1.5 M	\$7.5 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	8.35%

RiskCalc Implied Rating to Limit Table Mapping

RiskCalc Implied Rating	CreditLimit Rating
Aaa	Aaa
Aa1	Aa1
Aa2	Aa2
Aa3	Aa3
A1	A1
A2	A2
A3	A3
Baa1	Baa1
Baa2	Baa2
Baa3	Baa3
Ba1	Ba1
Ba2	Ba2
Ba3	Ba3
B1	B1
B2	B2
B3	B3
Caa-C	Caa-C

Demo – Step 2

Analyze counter party risk

MOODY'S
ANALYTICS

Input Labels

US 4.0 Corporate	Obligor Name	Obligor Key	Cash & Securities	Inventory	Prev. Yr. Inventory	Accounts Receivable	Prev. Yr. Accounts Receivable	Total Assets					
	User Input	User Input	User Input	User Input	User Input	User Input	User Input	User Input	Formula	Formula	Formula	Formula	Formula
RiskCalc Model	Customer Name	Customer ID	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	NDY Code	NDY Sector	Country	edf_1yr_ir_mdy	c_edf_1YR
US 4.0 Corporate	Endurance	154	5,946	119,887	174,236	197,788	187,030	114,843	N15	Consumer Durables	United States	Caa-C	14.59%
US 4.0 Corporate	Feltzer	65	4,105	131,525	126,649	69,778	32,048	69,082	N05	Automotive	United States	Caa-C	13.52%
US 4.0 Corporate	Heron	45	74,756	82,176	243,628	97,458	186,446	130,838	N05	Automotive	United States	Ba3	1.95%
US 4.0 Corporate	Hirondel	85	175,470	56,845	5,238	85,835	19,395	82,057	N05	Automotive	United States	B2	5.05%
US 4.0 Corporate	Magic Touch	134	175,201	169,718	97,330	216,943	212,873	88,958	N15	Consumer Durables	United States	Caa-C	11.10%
US 4.0 Corporate	Powell Motors	105	137,584	177,704	26,201	86,417	111,405	39,920	N05	Automotive	United States	B1	2.93%
US 4.0 Corporate	Roboclean	74	146,471	38,234	26,657	204,940	129,090	94,687	N15	Consumer Durables	United States	B1	3.46%
US 4.0 Corporate	SkyNet	181	62,525	182,680	61,439	163,473	225,267	156,799	N01	Aerospace & Defense	United States	Ba3	1.83%
US 4.0 Corporate	Stark Ent.	141	5,801	180,736	127,582	51,400	21,519	237,671	N01	Aerospace & Defense	United States	B2	3.94%
US 4.0 Corporate	Virtual1	161	80,234	5,904	72,246	168,346	169,278	165,135	N01	Aerospace & Defense	United States	B1	2.89%
US 4.0 Corporate	Virtual2	147	9,464	243,617	69,214	13,274	113,576	16,679	N08	Business Products W	United States	B2	3.89%
US 4.0 Corporate	Virtual3	91	208,412	175,483	145,950	96,869	220,549	63,972	N12	Computer Software	United States	B2	4.77%
US 4.0 Corporate	Virtual4	13	210,250	131,484	24,124	105,233	207,105	33,217	N14	Construction Material	United States	B1	2.69%
US 4.0 Corporate	Virtual5	77	80,778	90,042	11,938	184,133	126,466	65,856	N18	Consumer Products F	United States	B3	5.94%
US 4.0 Corporate	Virtual6	80	185,844	171,910	110,076	149,122	234,682	230,074	N21	Electronic Equipmen	United States	B2	3.95%
US 4.0 Corporate	Virtual7	35	247,989	32,366	38,780	37,896	185,492	41,428	N16	Consumer Durables F	United States	Ba3	1.90%

Demo – Step 3

Monitor credit limits

MOODY'S
ANALYTICS

Reporting Date	TOTAL ACCOUNTS	TOTAL CREDIT LIMIT	TOTAL BALANCE	AGGREGATE UTIL.	# OF LIMIT BREACHES
4/9/2020	9	\$81.87M	\$40.00M	48.86%	2

CUSTOMER INFORMATION						TRADE CREDIT PARAMETERS		CUSTOMER CREDIT LIMIT			
User Selection	Formula	Formula	Formula	Formula	Formula	User Input	User Input	Formula	Formula	Formula	Formula
Customer Name	Customer ID	NDY Sector	RiskCalc EDF	Moody's EDF IR	Organization Rating	Tangible Net Worth (RE)	Current AR	Credit Limit (Max) Override	Credit Limit (Max)	Utilization %	Credit Limit Breach
Stark Ent.	141	Aerospace & Defense	3.94%	B2	15	\$111.5M	\$8.0M	\$13.5M	\$11.9M	59.25%	No
SkyNet	181	Aerospace & Defense	1.83%	Ba3	13	\$108.2M	\$8.0M	\$17.1M	\$15.0M	46.75%	No
Heron	45	Automotive	1.95%	Ba3	13	\$78.3M	\$3.0M	\$4.9M	\$7.5M	61.01%	No
Feltzer	65	Automotive	13.52%	Caa-C	17	\$159.8M	\$6.0M	\$10.7M	\$7.8M	56.12%	No
Hirondel	85	Automotive	5.05%	B2	15	\$78.4M	\$3.0M	\$3.6M	\$7.5M	84.18%	No
Powell Motors	105	Automotive	2.93%	B1	14	\$187.8M	\$6.0M	\$8.8M	\$14.6M	68.56%	No
Roboclean	74	Consumer Durables	3.46%	B1	14	\$194.3M	\$4.0M	\$5.8M	\$14.6M	68.56%	No
Magic Touch	134	Consumer Durables	11.10%	Caa-C	17	\$7.6M	\$1.0M	\$0.8M	\$1.5M	127.90%	Yes
Endurance	154	Consumer Durables	14.59%	Caa-C	17	\$27.6M	\$1.0M	\$0.8M	\$1.5M	127.90%	Yes

Case Study - Hypothetical

Example credits that we will be exploring in our case study

Customer Name	NDY Sector	Tangible Net Worth (RE)	RiskCalc EDF	Moody's EDF IR	Organization Rating
Stark Ent.	Aerospace & Defense	\$111.5 M	3.94%	B2	15
SkyNet	Aerospace & Defense	\$108.2 M	1.83%	Ba3	13
Heron	Automotive	\$78.3 M	1.95%	Ba3	13
Feltzer	Automotive	\$159.8 M	13.52%	Caa-C	17
Hirondel	Automotive	\$78.4 M	5.05%	B2	15
Powell Motors	Automotive	\$187.8 M	2.93%	B1	14
Roboclean	Consumer Durables	\$194.3 M	3.46%	B1	14
Magic Touch	Consumer Durables	\$7.6 M	11.10%	Caa-C	17
Endurance	Consumer Durables	\$27.6 M	14.59%	Caa-C	17

Maximizing Best Relationships

Best relationship need nurturing, thinking strategically about credit limits and providing margin adjusted limit and early warning indicators

Customer Name	NDY Sector	RiskCalc EDF	Moody's EDF IR	Organization Rating
Stark Ent.	Aerospace & Defense	3.94%	B2	15
SkyNet	Aerospace & Defense	1.83%	Ba3	13
Heron	Automotive	1.95%	Ba3	13
Feltzer	Automotive	13.52%	Caa-C	17
Hirondel	Automotive	5.05%	B2	15
Powell Motors	Automotive	2.93%	B1	14
Roboclean	Consumer Durables	3.46%	B1	14
Magic Touch	Consumer Durables	11.10%	Caa-C	17
Endurance	Consumer Durables	14.59%	Caa-C	17

Skynet - pre and post				
	Margin	Sales	Profit	Difference
Pre	5.00%	45,000,000	2,250,000	
Post	5.50%	60,000,000	3,300,000	1,050,000
	PD	AR	Cost Risk	
Pre	1.83%	15,000,000	274,500	
Post	1.83%	20,000,000	366,000	(91,500)
	CoC	Limit	Cost of capital	
Pre	7%	15,000,000	1,050,000	
Post	7%	20,000,000	1,400,000	(350,000)
Net Increase in value				608,500

New Limit table @ 5% Margin

External Rating	Internal Rating	Customer Tangible Net Worth (TNW) \$MM							
		\$0 M	\$10 M	\$50 M	\$100 M	\$500 M	\$1,000 M	\$5,000 M	\$20,000 M
Aaa	1	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M
Aa1	2	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M
Aa2	3	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M
Aa3	4	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M
A1	5	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.8 M	\$19.8 M	\$19.8 M	\$19.8 M
A2	6	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M
A3	7	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M
Baa1	8	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.6 M	\$19.6 M	\$19.6 M	\$19.6 M
Baa2	9	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.4 M	\$19.4 M	\$19.4 M	\$19.4 M
Baa3	10	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.0 M	\$19.0 M	\$19.0 M	\$19.0 M
Ba1	11	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$18.4 M	\$18.4 M	\$18.4 M	\$18.4 M
Ba2	12	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$17.6 M	\$17.6 M	\$17.6 M	\$17.6 M
Ba3	13	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$16.4 M	\$16.4 M	\$16.4 M	\$16.4 M
B1	14	\$1.5 M	\$1.5 M	\$7.5 M	\$14.6 M	\$14.6 M	\$14.6 M	\$14.6 M	\$14.6 M
B2	15	\$1.5 M	\$1.5 M	\$7.5 M	\$11.9 M	\$11.9 M	\$11.9 M	\$11.9 M	\$11.9 M
B3	16	\$1.5 M	\$1.5 M	\$7.5 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M
Caa-C	17	\$1.5 M	\$1.5 M	\$7.5 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M	\$7.8 M

Skynet just signed a large contract and requires an increased limit to 20m – increasing margin by 50bps ensure we can cover our cost and additional risk

Capturing Customer Wallet Share

Lower rated credit provide an opportunity to capture wallet share at a margin adjusted price

Customer Name	NDY Sector	RiskCalc EDF	Moody's EDF IR	Organization Rating
Stark Ent.	Aerospace & Defense	3.94%	B2	15
SkyNet	Aerospace & Defense	1.83%	Ba3	13
Heron	Automotive	1.95%	Ba3	13
Feltzer	Automotive	13.52%	Caa-C	17
Hirondel	Automotive	5.05%	B2	15
Powell Motors	Automotive	2.93%	B1	14
Roboclean	Consumer Durables	3.46%	B1	14
Magic Touch	Consumer Durables	11.10%	Caa-C	17
Endurance	Consumer Durables	14.59%	Caa-C	17

Feltzer - pre and post				
	Margin	Sales	Profit	Difference
Pre	8.00%	-	-	-
Post	8.00%	23,400,000	1,872,000	1,872,000
		PD	AR	Cost Risk
Pre	13.52%	-	-	-
Post	13.52%	7,800,000	1,054,560	(1,054,560)
		CoC	Limit	Cost of capital
Pre	7%	-	-	-
Post	7%	7,800,000	546,000	(546,000)
			Net Increase in value	271,440

New Limit Table @ 8% Margin

External Rating	Internal Rating	Customer Tangible Net Worth (TNW) \$MM							
		\$0 M	\$10 M	\$50 M	\$100 M	\$500 M	\$1,000 M	\$5,000 M	\$20,000 M
Aaa	1	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M
Aa1	2	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$20.0 M	\$20.0 M	\$20.0 M	\$20.0 M
Aa2	3	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M
Aa3	4	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.9 M	\$19.9 M	\$19.9 M	\$19.9 M
A1	5	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.8 M	\$19.8 M	\$19.8 M	\$19.8 M
A2	6	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M
A3	7	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.7 M	\$19.7 M	\$19.7 M	\$19.7 M
Baa1	8	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.6 M	\$19.6 M	\$19.6 M	\$19.6 M
Baa2	9	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.4 M	\$19.4 M	\$19.4 M	\$19.4 M
Baa3	10	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$19.0 M	\$19.0 M	\$19.0 M	\$19.0 M
Ba1	11	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$18.4 M	\$18.4 M	\$18.4 M	\$18.4 M
Ba2	12	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$17.6 M	\$17.6 M	\$17.6 M	\$17.6 M
Ba3	13	\$1.5 M	\$1.5 M	\$7.5 M	\$15.0 M	\$16.4 M	\$16.4 M	\$16.4 M	\$16.4 M
B1	14								
B2	15								
B3	16								
Caa-C	17								

Feltzer

Up until this year our credit limit policy did not allow the setup of credit limits for obligors rated below B1 – with our new margin adjusted limits we save the client funding costs and add extra margins

Limit Management

Understanding borrower behavior through business cycles and where qualitative input matters, require more than just a model

- EDF accuracy
 - Magic Touch vs Endurance
- Concentration limits
 - 15% of TNW restricts Magic Touch to \$1.1M in limit, vs \$4M for Endurance
- Stress Testing
 - What-if capability to highlight impacts of specific scenarios

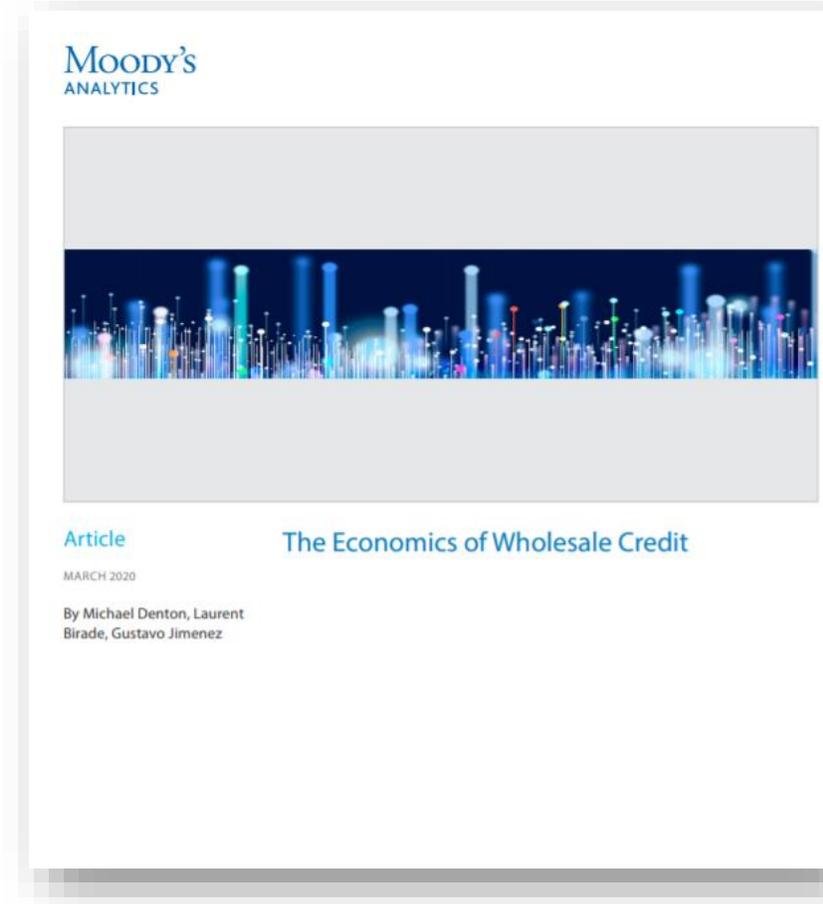
Customer Name	NDY Sector	Tangible Net Worth (RE)	RiskCalc EDF	Moody's EDF IR	Organization Rating
Stark Ent.	Aerospace & Defense	\$111.5 M	3.94%	B2	15
SkyNet	Aerospace & Defense	\$108.2 M	1.83%	Ba3	13
Heron	Automotive	\$78.3 M	1.95%	Ba3	13
Feltzer	Automotive	\$159.8 M	13.52%	Caa-C	17
Hirondel	Automotive	\$78.4 M	5.05%	B2	15
Powell Motors	Automotive	\$187.8 M	2.93%	B1	14
Roboclean	Consumer Durables	\$194.3 M	3.46%	B1	14
Magic Touch	Consumer Durables	\$7.6 M	11.10%	Caa-C	17
Endurance	Consumer Durables	\$27.6 M	14.59%	Caa-C	17

Paper on Methodology and Proof of Concept Offer

Next steps and how we can help you enhance your limit setting practices

- Contact us to review your current limit setting strategy
- Discuss options with our experts
- Conduct a proof of concept

MOODY'S ANALYTICS											
Reporting Date	TOTAL ACCOUNTS	TOTAL CREDIT LIMIT	TOTAL BALANCE	AGGREGATE UTIL	# OF LIMIT BREACHES						
4/9/2020	9	\$81.87M	\$40.00M	48.86%	2						
CUSTOMER INFORMATION						TRADE CREDIT PARAMETERS			CUSTOMER CREDIT LIMIT		
User Selection	Formula	Formula	Formula	Formula	Formula	User Input	User Input	Formula	Formula	Formula	Formula
Customer Name	Customer ID	NDY Sector	RiskCalc EDF	Moody's EDF IR	Organization Rating	Tangible Net Worth (RE)	Current AR	Credit Limit (Max) Override	Credit Limit (Max)	Utilization %	Credit Limit Breach
Stark Ent.	141	Aerospace & Defense	3.94%	B2	15	\$111.5M	\$8.0M	\$13.5M	\$11.9M	59.25%	No
SkyNet	181	Aerospace & Defense	1.83%	Ba3	13	\$108.2M	\$8.0M	\$17.1M	\$15.0M	46.75%	No
Heron	45	Automotive	1.95%	Ba3	13	\$78.3M	\$3.0M	\$4.9M	\$7.5M	61.01%	No
Feltzer	65	Automotive	13.52%	Caa-C	17	\$159.8M	\$6.0M	\$10.7M	\$7.8M	56.12%	No
Hirondel	85	Automotive	5.05%	B2	15	\$78.4M	\$3.0M	\$3.6M	\$7.5M	84.18%	No
Powell Motors	105	Automotive	2.93%	B1	14	\$187.8M	\$6.0M	\$8.8M	\$14.6M	68.56%	No
Roboclean	74	Consumer Durables	3.46%	B1	14	\$194.3M	\$4.0M	\$5.8M	\$14.6M	68.56%	No
Magic Touch	134	Consumer Durables	11.10%	Caa-C	17	\$7.6M	\$1.0M	\$0.8M	\$1.5M	127.90%	Yes
Endurance	154	Consumer Durables	14.59%	Caa-C	17	\$27.6M	\$1.0M	\$0.8M	\$1.5M	127.90%	Yes



5

Questions

MOODY'S
ANALYTICS

*Better
Faster
Decisions*

Moody's Analytics, Inc.
7 World Trade Center
250 Greenwich Street
New York, NY 10007
MA-webinars@moodys.com

© 2020 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND/OR ITS CREDIT RATINGS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S INVESTORS SERVICE DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S INVESTORS SERVICE CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. MCO and Moody's investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody's.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.