

**AFP®**



# Annual Conference

OCTOBER 27-30, 2013 | LAS VEGAS

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## Best Practices In Counterparty Credit Risk Management

**Robert M. Jarnutowski, CPA**  
Customer Risk Management  
MasterCard Worldwide

**Rick Kanungo, CFA, FRM**  
Senior Director  
Enterprise Solutions  
S&P Capital IQ

**Marcel Heinrichs**  
Director  
Corporates and  
Commercial Lending  
S&P Capital IQ

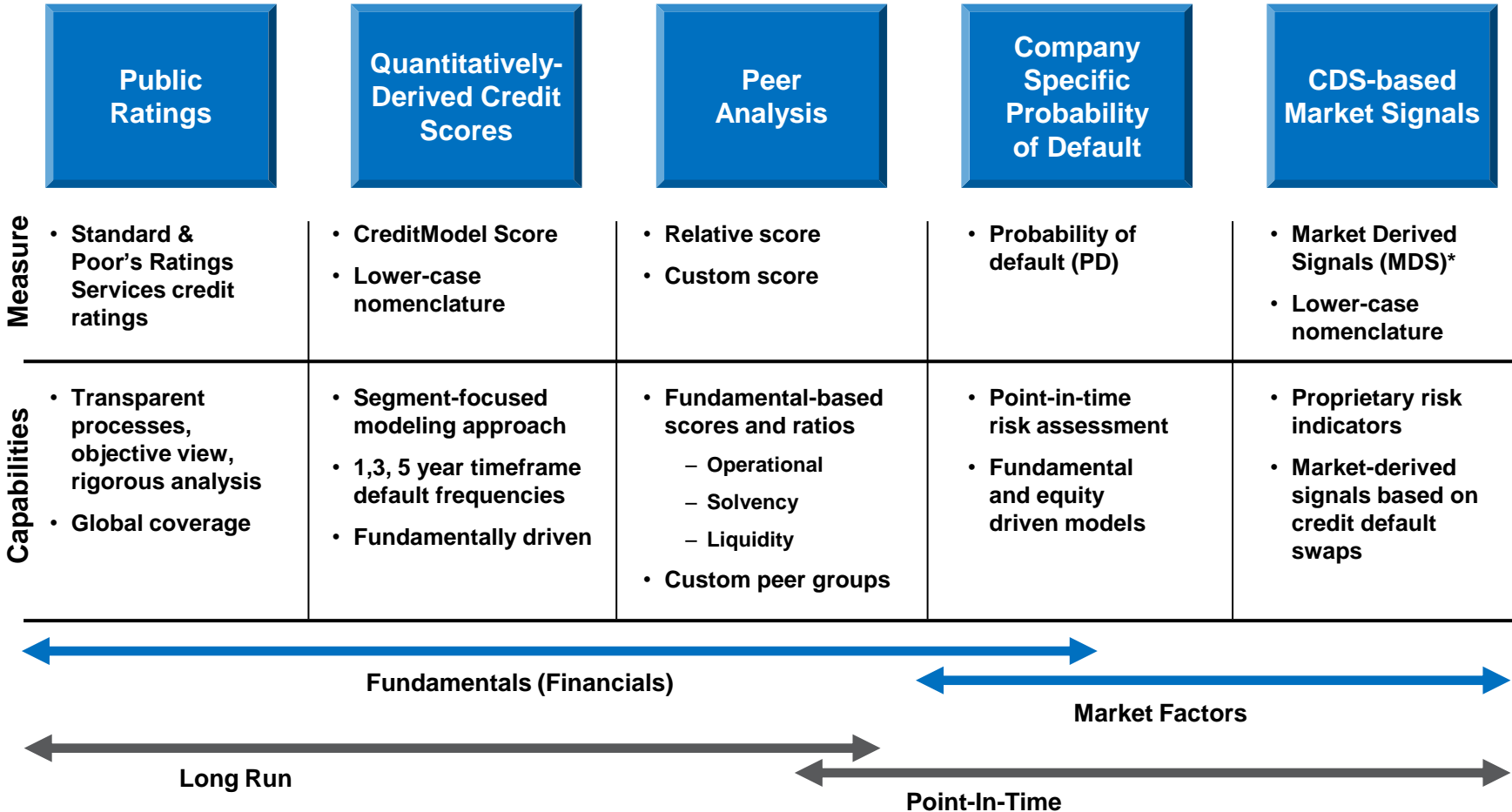
# Speakers

## Best Practices In Counterparty Credit Risk Management

- **Robert M. Jarnutowski, CPA, Customer Risk Management, MasterCard Worldwide**
  - Responsible for MasterCard's US and Canadian customer risk management/counterparty risk assessment
  - Over 20 years risk management experience: 2 years with MasterCard, 18 years with GE Capital. Diverse risk management experience in commercial and consumer underwriting, portfolio management and general risk management
  - B.S. in Accounting from The University of Hartford.
  - Public accounting experience with Deloitte with a focus in corporate tax and Mergers & Acquisitions
- **Rick Kanungo, CFA, FRM, Senior Director, Enterprise Solutions, S&P Capital IQ**
  - Rick has been with the firm for 6 years. Currently he is responsible for coordinating thought leadership and go-to-market activities for all Enterprise Solution products at S&P Capital IQ.
  - Previously, Rick was product manager for the Credit Health Panel and Risk-to-Price products with responsibility for development and commercial strategy
  - 18 years of industry experience including stints at Credit Suisse, Merrill, Lehman and Chase
  - MBA from the Yale School of Management with concentrations in Finance and Investment Management
  - Member of the Global Association of Risk Professionals (GARP) and the New York Society of Security Analysts. He holds the Financial Risk Manager certification and is also a registered Chartered Financial Analyst
- **Marcel Heinrichs, Director, Corporates and Commercial Lending, S&P Capital IQ**
  - Marcel Heinrichs is Director, Market Development for the Corporates and Commercial Lending Segment .
  - Prior to this Marcel was the global head of the Analytic Development Group (ADG), responsible for the analytical innovation, development, maintenance and ongoing validation of credit risk models across S&P Capital IQ.
  - Before joining S&P Risk Solutions in 2004, Marcel taught courses in econometrics, financial econometrics, mathematical economics and macroeconomics at the London School of Economics as a member of the Financial Markets Group, London's foremost Research Center in Finance. Furthermore, he consulted various financial institutions on a variety of risk modeling problems.
  - Marcel has a Masters degree in economics from the University of Bonn, Germany and Ecole Nationale de la Statistique et de l'Administration Economique (ENSAE), France.

Please note: The views each speaker are their own and do not necessarily reflect the views of the other's company.

# Navigating The Credit Landscape Through The Spectrum Of Risk Measures



\*From Standard & Poor's Ratings Services. S&P Capital IQ, as well as its products and services are analytically and editorially separate and independent from other analytical areas at S&P, including S&P Credit Ratings.

# MasterCard Overview

- **MasterCard Background**

- Technology company in the global payments industry
- Leading the way toward a world beyond cash
- 2012 revenue of \$7.4B, net income of \$2.8B
- Operates in more than 210 countries and territories
- World's fastest payment processing network (authorization, clearing, settlement)
- Payment solutions including credit, debit, prepaid and related payment programs, through well-known brands, including MasterCard, Maestro and Cirrus

- **MasterCard's Customer Risk Management Group ("CRM") supports the entire corporation by evaluating credit risk of customers and business partners**

- Ensure customer risks are identified and considered in making business decisions
- Evaluate customer's ability to fund settlement as required

# MasterCard Customer Risk Management Role

- **Origination (on-boarding)**

- Accurate assessment of customer's credit profile
- Evaluate exposure, mitigate risk if necessary
- Consistent analysis

- **Portfolio Management**

- Credit quality upgrades/downgrades
- “Rack & Stack”
- Exposure identification/mitigation/collateral request or return

- **Sovereign /Country Risk**

# MasterCard Customer Risk Management

## Origination

- **Accuracy**

- Pricing/deal term/incentives
- Exposure limit

- **Efficiency**

- Credit ratings/accessible financial information helps pre-screen deals
- Speed of decision is key

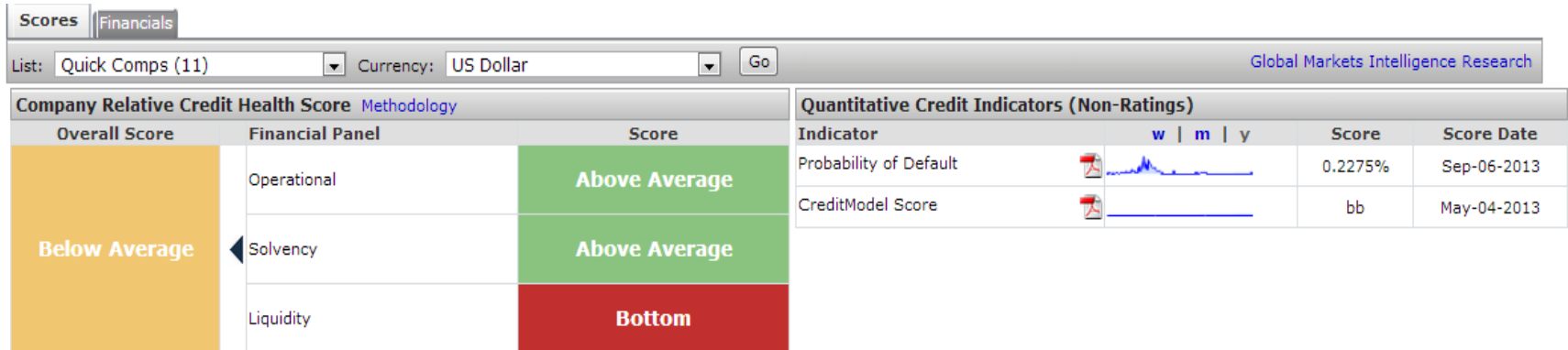
- **Consistency**

- Financial database, models, ratings process across global operations
- Consistent definitions
- Peer group/benchmarks
- Utilizes S&P Capital IQ tools for public/implied ratings
  - Professional judgment may require an adjustment to the rating
  - Allows for assessment of qualitative factors by risk manager

# Origination

## Case Study – Peer Comparison

### Genesco, Inc.



- ‘Above Average’ Operational and Solvency measures amongst peer group but ‘Bottom’ score indicates very weak liquidity score compared to peers
- Mixed signals warrant deeper analysis
- Quantitative absolute score of ‘bb’

Source: S&P Capital IQ, Credit Health Panel as of Sep 16, 2013. Lowercase nomenclature is used to differentiate these scores from actual Standard & Poor’s Rating Services credit ratings, these cores differ significantly from Standard & Poor’s rating criteria. For illustrative purposes only.

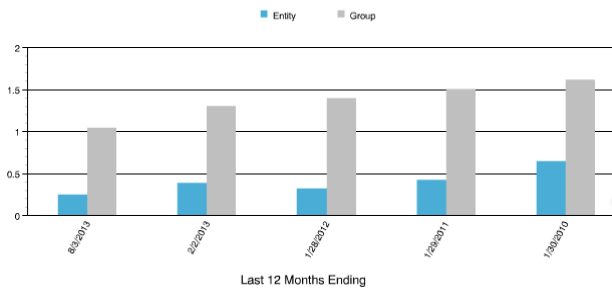
# Case Study

## Genesco Inc. – Deeper Dive Into Liquidity Metrics

- **Basic Defense Interval and Quick Ratio are of concern**
- **Cash, short-term investments and receivables cover approximately 14 days' worth of interest expense, taxes, and other operating expenses**
- **Quick Ratio is low and declining**

$$\frac{((\text{Total Cash and Short Term Investments} + \text{Total Receivables} + \text{Finance Division Accounts Receivable} + \text{Finance Division Cash and Cash Equivalents} + \text{Finance Division Short Term Investments}) / (\text{Other Operating Expenses, Total} + \text{Interest Expense} + \text{Income Taxes}))}{365}$$

Quick Ratio (x) - (USDollar)



Source: S&P Capital IQ as of Sep 16, 2013. For illustrative purposes only.

Weight (%)	Metric	Score	Company Group Mean*	
<b>Operational[10173] (USD mm)</b>				
2.78	Total Revenue	2	2,627.29	2,286.60
2.78	Total Equity	2	833.19	797.28
2.78	Return on Capital (%)	2	18.44	17.97
2.78	Recurring Earnings/Total Assets (%)	3	11.47	12.38
2.78	Net Working Capital/Revenue (x)	2	0.15	0.14
2.78	Asset Turnover (x)	3	1.80	1.83
2.78	Intangible Assets/Revenue (x)	3	0.14	0.09
2.78	Net Working Capital/Total Assets (x)	2	0.26	0.23
2.78	Payables/Receivables (x)	3	4.88	7.56
2.78	Management Rate of Return (%)	3	26.60	27.71
2.78	Gross Margin (%)	1	49.47	39.35
2.78	EBITDA Margin (%)	3	8.88	10.00
<b>Solvency[10174]</b>				
4.76	FFO Interest Coverage (x)	3	32.10	69.85
4.76	EBITDA/Interest Exp. (x)	3	46.67	101.37
4.76	FFO to Total Debt (x)	1	2.19	0.67
4.76	Net Debt/EBITDA (x)	1	0.12	1.79
4.76	Total Debt to Capital (%)	2	8.07	10.06
4.76	Total Debt/Total Liabilities (%)	3	11.72	12.48
4.76	Total Debt/Revenue (x)	2	0.03	0.07
<b>Liquidity[10175]</b>				
6.67	(FFO + Cash) to Short Term Debt (x)	1	38.86	19.73
6.67	FFO to Gross Profit (x)	4	0.12	0.19
6.67	Basic Defense Interval (days)	4	14.20	49.84
6.67	Current Ratio (x)	4	2.10	2.68
6.67	Quick Ratio (x)	4	0.25	0.97



# Case Study

## Genesco Inc. – Absolute Credit Score

- Quantitative score ‘bb’
- ‘bb’ rated firms have shown a default frequency of
- 0.71%, 4.29% and 8.05% over 1, 3, and 5-year periods
- Rank of sensitivity shows key metrics
  - Total Assets
  - Asset Turnover
  - EBITDA/Revenues
  - Return on Capital

Company & Model Information	
Company Name:	Genesco Inc.
Company ID:	005109
Country:	United States of America
Industry:	Apparel Retail-25504010
Currency:	USD

Score & Observed Default Frequency %				
Score Type	Credit Score	1 Year	3 Year	5 Year
Sovereign Capped Score	bb	0.71%	4.29%	8.05%
Standalone Score	bb	0.71%	4.29%	8.05%

Single Score Financial Items				
Item Name		Item Value	Rank of Sensitivity	Sensitivity
<b>Group: Date</b>				
Financial Statement Date	(MM/DD/YYYY)	04/30/2013		
<b>Group: Financial Items</b>				
Operating Income (before D&A) / Revenues	(Decimal)	0.0989	3	0.008
Return on Capital	(Decimal)	0.2314	4	0.0078
EBIT Interest Coverage	(Decimal)	37.9622	5	0.0006
FFO Interest Coverage	(Decimal)	33.5001	7	0
Free Operating Cash Flow / Debt	(Decimal)	1.1905	8	0
Debt / (Debt + Equity)	(Decimal)	0.0612	6	0.0002
Total Assets	(Millions)	1307.219	1	0.0161
Acid - Test Ratio	(Decimal)	0.6002	8	0
Gearing Ratio1	(Decimal)	0.0585	8	0
Asset Turnover	(Times)	1.9859	2	0.0083

Source: S&P Capital IQ Statement Date April 30, 2013. Lowercase nomenclature is used to differentiate these scores from actual Standard & Poor's Rating Services credit ratings, these cores differ significantly from Standard & Poor's rating criteria. For illustrative purposes only.

# Takeaways

## Origination

- **Fundamentals Based View**
  - View Relative to Peers; Trends in Key Credit Metrics
  - Absolute Measure of Credit Worthiness
- **Market's View**
  - CDS Market Based
  - Equity Market Based
- **Incorporate credit thresholds in initial screening**
  - Size, profitability, leverage, debt service capacity etc. depending on Industry and Region
- **Unrated entities merit closer analysis**
  - Peer comparison, trends, absolute credit scores

# MasterCard Customer Risk Management

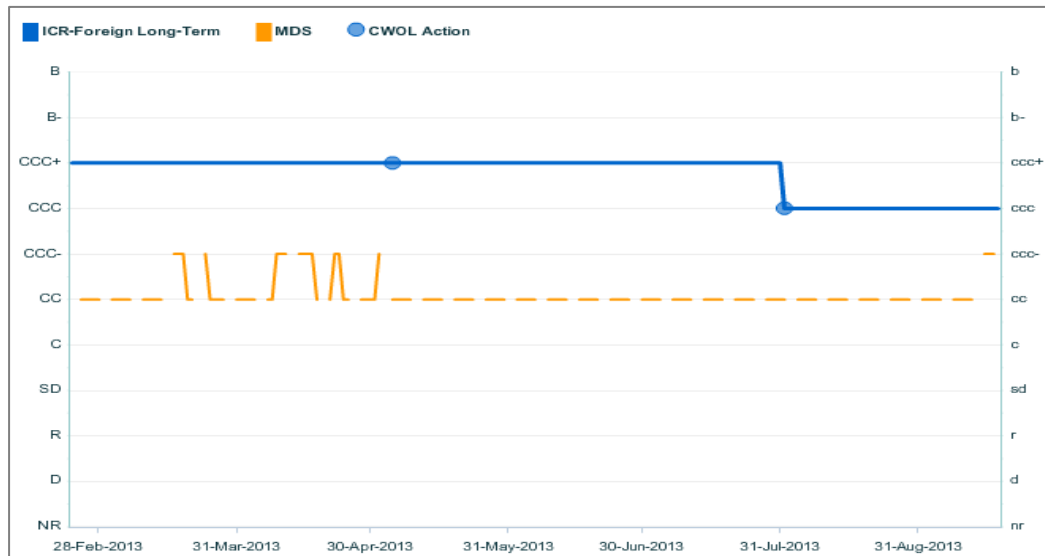
## Portfolio Management

- **“My Portfolio” on home page – news, current events, rating changes, etc.**
- **Quarterly assessments of existing customer credit risk**
  - Ensure ratings are current, update private company model if appropriate
  - Compare ratings to risk management policies, downgrades may require collateral
  - Review current exposure vs. credit limit
- **Portfolio Reviews**
  - “Rack & Stack” the portfolio using ratings, exposure, other factors
  - Evaluate changes to portfolio risk due to customer or country concentration
  - Focus risk mitigation process on the riskier accounts

# Surveillance

## Early Warning From Standard & Poor's Ratings Market Derived Signals

### Norske Skogindustrier ASA Market Derived Signal (CDS signal mapped to Standard & Poor's Ratings Services ratings scale)



- **The Market Derived Signals were below the Rating, suggesting the market's view of a possible downgrade**
- **Nov. 21st, 2012 and Aug. 2nd, 2013 ratings downgrades**

Source: S&P Capital IQ. Lowercase nomenclature is used to differentiate these scores from actual Standard & Poor's Rating Services credit ratings, these cores differ significantly from Standard & Poor's rating criteria. For illustrative purposes only.

# Surveillance

## Early Warning From Market Measures – Probability Of Default (PD)

- PD coverage is much greater than CDS universe
- PD changes reflects daily news in between financial reporting dates
- Sustained increases could signal fundamental deterioration in credit

PD Moves Prior to WatchNeg Action in 2012/2013

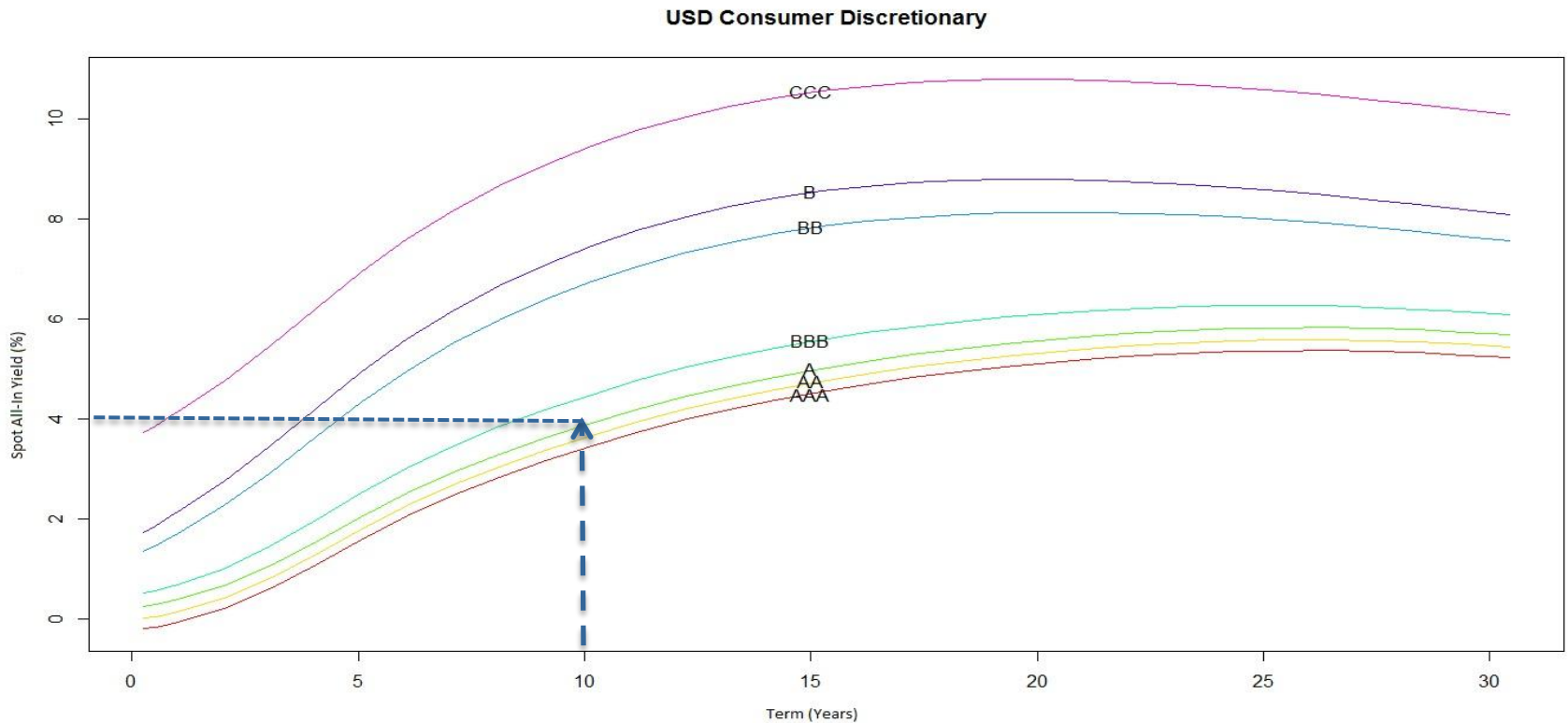
Entity Name	Country	PD 7 Weeks Prior to Watch Neg (%)	PD 1 Day Prior to Watch Neg (%)	PD Increase (%)	Rating When Put on Watch	Credit Watch	CW Date	Eventual Rating	Eventual Rating Action Date
DBA Telecommunication (Asia) Holdings Ltd.	CYM	0.009	0.854	9,266	BB-	NEG	06/21/2013	B	08/07/2013
Exide Technologies	USA	0.480	9.948	1,973	CCC+	NEG	05/03/2013	D	06/11/2013
Qantas Airways Ltd.	AUS	0.669	7.551	1,028	BBB	NEG	06/07/2012	BBB-	09/07/2012
Navistar International Corp.	USA	0.489	5.332	991	B+	NEG	06/07/2012	B	07/09/2012
Valeant Pharmaceuticals International Inc.	CAN	0.005	0.049	933	BB	NEG	05/28/2013	BB-	06/19/2013
Asahi Glass Co. Ltd.	JPN	0.408	3.549	769	A	NEG	07/18/2012	A-	08/09/2012
PT Bakrie Sumatera Plantations Tbk.	IDN	2.396	17.949	649	CC	NEG	06/27/2012	CCC-	07/18/2012
James River Coal Co.	USA	4.299	24.488	470	B	NEG	02/29/2012	B-	03/22/2012
Hidili Industry International Development Ltd.	CYM	1.714	9.444	451	B+	NEG	06/26/2012	B	09/11/2012
Lonking Holdings Ltd.	CYM	0.998	5.030	404	BB	NEG	06/05/2012	BB-	07/04/2012
Abengoa S.A.	ESP	0.698	3.044	336	B+	NEG	12/27/2012	B	04/02/2013
Booz Allen Hamilton Inc.	USA	0.160	0.677	322	BB+	NEG	07/12/2012	BB	07/23/2012
Chesapeake Energy Corp.	USA	1.039	4.319	316	BB	NEG	04/26/2012	BB-	05/15/2012
Corporacion GEO S.A.B. de C.V.	MEX	12.790	49.421	286	CCC+	NEG	04/12/2013	D	04/29/2013
Norske Skogindustrier ASA	NOR	3.154	11.449	263	CCC+	NEG	11/21/2012	SD	02/12/2013
J.C. Penney Co. Inc.	USA	1.005	3.204	227	BB-	NEG	05/17/2012	B+	07/17/2012
USEC Inc.	USA	4.766	15.419	224	CCC+	NEG	05/15/2012	CCC	08/15/2012
Exide Technologies	USA	0.870	2.733	214	B-	NEG	04/09/2013	CCC+	05/03/2013

- Sharp increase in PD values in the weeks prior to a CreditWatch Negative action

Source: S&P Capital IQ. For illustrative purposes only.

# Surveillance

## Early Warning From Market Measures



**Example:** Yield rising above 4% for USD denominated bond with 10 years remaining to maturity could signal credit quality lower than 'BBB'

Source: S&P Capital IQ. For illustrative purposes only.

# Surveillance

## Portfolio View

### Multiple credit indicators, thresholds and alerts

Sub-Sector	5 Yr CDS Spread (Bps)	S&P Rating/Outlook	CDS Market Derived Signal Score	PD Market Derived Signal Score	PD Market Signal	Credit Model Score	S&P Rating Change	Trend Analysis					
								Outlook / Credit Watch (Prior/Current)	Credit Model Score Change	CDS Market Derived Signal Score Change	PD Market Derived Signal Score Change	PD Market Signal % Change	Share Price % Change
Integrated Oil and Gas	18.1	AAA/Stable	aaa	aa-	0.006%	aa-	0 Notches	-	-1 Notches	0 Notches	1 Notches	-14.3%	0.27%
Systems Software	35.3	AAA/Stable	aa	aa	0.005%	aa+	0 Notches	-	0 Notches	0 Notches	1 Notches	-28.6%	20.77%
Internet Software and Services	29.3	AA/Stable	aa+	aa	0.005%	a+	0 Notches	-	-1 Notches	0 Notches	0 Notches	-28.6%	10.85%
Hypermarkets and Super Centers	31.9	AA/Stable	a+	a	0.006%	a+	0 Notches	-	0 Notches	0 Notches	0 Notches	-25.0%	-0.45%
Pharmaceuticals	25.8	AAA/Stable	aa+	aa	0.005%	aa+	0 Notches	-	0 Notches	1 Notches	-1 Notches	-16.7%	5.31%
Integrated Oil and Gas	24.4	AA/Stable	aaa	aa-	0.006%	aa	0 Notches	-	0 Notches	0 Notches	0 Notches	-14.3%	-0.40%
IT Consulting and Other Services	41.7	AA-/Stable	aa-	a-	0.009%	a	0 Notches	-	0 Notches	-2 Notches	-2 Notches	28.6%	-10.40%
Packaged Foods and Meats	33.3	AA/Stable	aa	aa	0.035%	aa-	0 Notches	-	0 Notches	-1 Notches	0 Notches	775.0%	-9.76%
Household Products	41.6	AA-/Stable	a	aa-	0.008%	a+	0 Notches	-	0 Notches	-1 Notches	0 Notches	14.3%	-0.09%
Integrated Oil and Gas	48.4	AA/Stable	aa	a+	0.024%	aa+	0 Notches	-	0 Notches	1 Notches	1 Notches	140.0%	-1.36%
Pharmaceuticals	-	AA/Stable	aa	a+	0.019%	aa	0 Notches	-	0 Notches	0 Notches	-1 Notches	375.0%	6.33%
Pharmaceuticals	40.6	AA/Stable	a+	aa-	0.056%	aa	0 Notches	-	0 Notches	0 Notches	-1 Notches	600.0%	-2.95%
Integrated Telecommunication	70.8	A-/Stable	bbb+	bbb+	0.074%	bbb+	0 Notches	-	-1 Notches	0 Notches	-1 Notches	111.4%	-3.52%
Automobile Manufacturers	41.3	AA-/Stable	a	a+	0.063%	a	0 Notches	Stable/Neg	0 Notches	-1 Notches	0 Notches	152.0%	23.25%
Soft Drinks	36.0	AA-/Stable	a	a+	0.009%	a+	0 Notches	-	0 Notches	0 Notches	-1 Notches	28.6%	-0.82%
Pharmaceuticals	29.8	AA-/Stable	aa+	aa	0.011%	aa-	0 Notches	-	0 Notches	-1 Notches	0 Notches	175.0%	-0.52%
Diversified Metals and Mining	83.9	A+/Stable	a+	a	0.076%	bbb+	0 Notches	-	0 Notches	1 Notches	1 Notches	744.4%	-4.24%
Systems Software	39.0	A+/Stable	aa	a+	0.007%	a	0 Notches	-	0 Notches	1 Notches	0 Notches	0.0%	-5.01%
Semiconductors	66.8	A/Positive	aa	aa-	0.108%	aa-	0 Notches	-	0 Notches	0 Notches	0 Notches	208.6%	-12.12%
Tobacco	51.6	A/Stable	a-	a-	0.011%	a	0 Notches	-	-1 Notches	0 Notches	-1 Notches	57.1%	-6.57%
Brewers	63.4	A/Stable	a-	a	0.208%	a-	0 Notches	-	0 Notches	0 Notches	-1 Notches	766.7%	-11.47%
Integrated Telecommunication	63.0	A-/Stable	a-	a-	0.127%	a	0 Notches	-	1 Notches	1 Notches	-1 Notches	1311.1%	2.42%

Source: S&P Capital IQ data as-of Dec 2012. Lowercase nomenclature is used to differentiate these scores from actual Standard & Poor's Rating Services credit ratings, these cores differ significantly from Standard & Poor's rating criteria. For illustrative purposes only.

# Stress Testing

## Default Rates

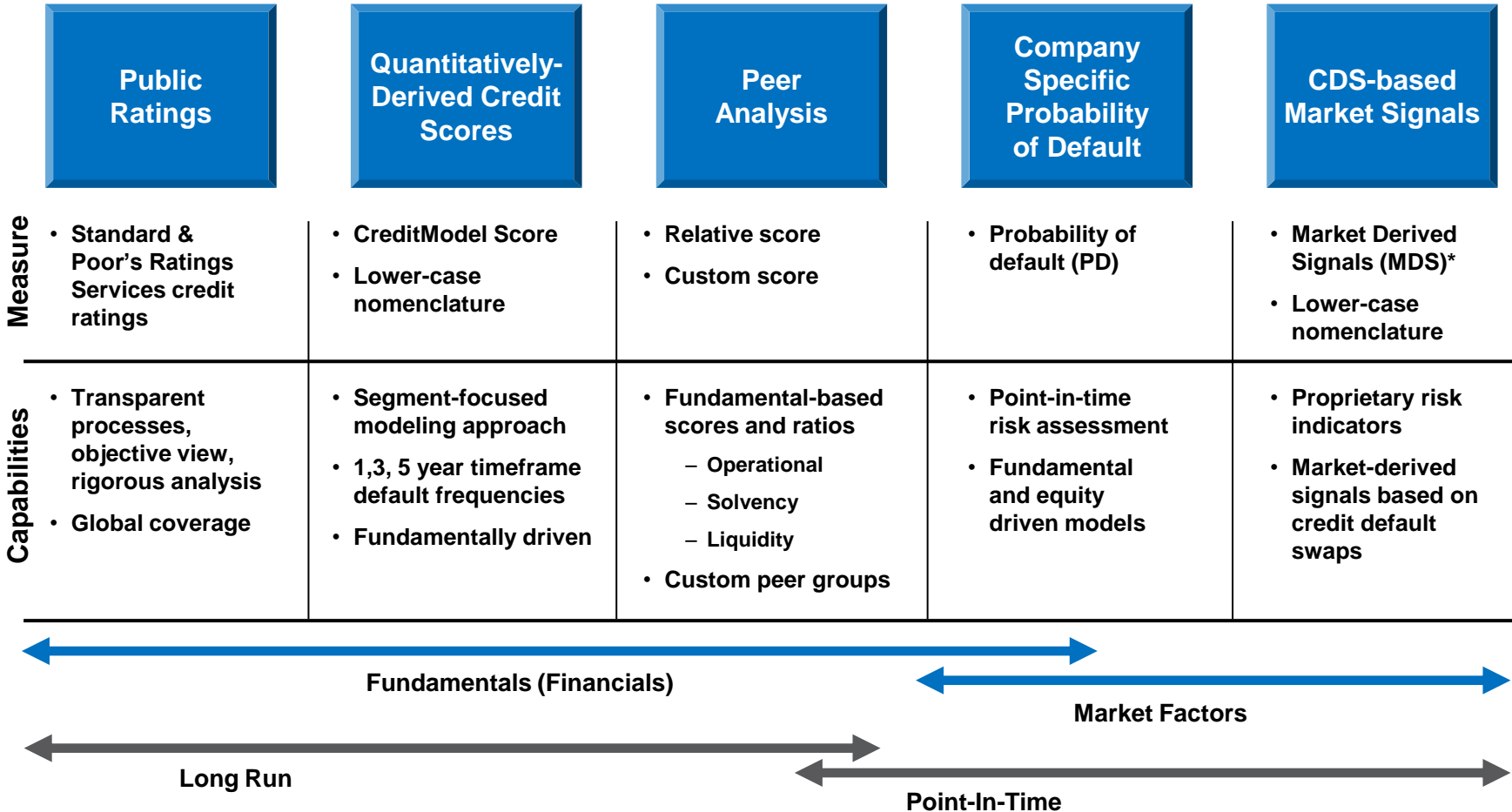
Rating	Default Rates (%)		
	2005-2007	2008-2010	
AAA	0.00	0.44	0.44
AA+	0.00	0.00	0.00
AA	0.21	0.18	-0.03
AA-	0.14	0.14	0.00
A+	0.10	0.20	0.10
A	0.07	0.34	0.27
A-	0.19	0.19	0.00
BBB+	0.13	0.34	0.21
BBB	0.29	0.55	0.26
BBB-	0.34	1.24	0.90
BB+	0.74	1.34	0.60
BB	0.83	1.71	0.88
BB-	1.13	2.70	1.57
B+	2.09	6.28	4.19
B	2.87	11.91	9.04
B-	5.82	16.28	10.46
CCC+	15.31	31.70	16.39
CCC	20.59	50.00	29.41
CCC-	44.44	50.00	5.56
CC	43.75	74.07	30.32
C	100.00	100.00	0.00

- Significant rise in default rates during 2008-2010 period over the 2005-2007 period across the ratings spectrum
- Some industry participants like to compare against the long-run averages and also look at industry specific default rates

Default rates for corporates globally; two-year horizon.  
Source: S&P Capital IQ. For illustrative purposes only.



# Navigating The Credit Landscape Through The Spectrum Of Risk Measures



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# MasterCard Customer Risk Management

## Sovereign/Country Risk

- **Increasing focus on sovereign/country risk in the last few years**
  - Eurozone crisis...sovereign risk rising in regions/countries that were traditionally considered more stable
  - Emerging markets...global operations add more riskier countries to the portfolio
- **Sovereign risk is primarily related to the commercial risk of the sovereign and its ability to fulfill its financial obligations**
- **Country risk relates primarily to other risk factors of a country, i.e. ability to repatriate funds, business practices, corruption, etc...**
- **Weaker sovereigns can impact exposure levels, collateral, business growth**
- **Sovereign and country risk must be considered**

# Takeaways

## Real Time – FX Rates, Index And Commodity Futures; News; Alerts

Cross rates													
	1 EUR	1 USD	1 GBP	1 CHF	1 SEK	1 DKK	1 NOK	1 JPY	1 HKD	1 CAD	1 AUD	1 NZD	1 MXN
EUR		0.7502	1.1921	0.8081	0.1161	0.1340	0.1289	0.0076	0.0987	0.7266	0.6980	0.6119	0.0579
USD	1.3329		1.5897	1.0776	0.1638	0.1789	0.1683	0.0101	0.1280	0.9878	0.9311	0.8161	0.0773
GBP	0.8385	0.6290		0.6775	0.0968	0.1125	0.1065	0.0063	0.0811	0.6093	0.5852	0.5132	0.0486
CHF	1.2365	0.9276	1.4746		0.1424		0.1668	0.0093	0.1196	0.8982	0.8637	0.7572	0.0717
SEK	8.6867	6.5121	10.3530	7.0224		1.1940	1.1014	0.0657	0.8373	6.3068	6.0635	5.3115	0.5028
DKK	7.4577	5.5905	8.8890	6.0298	0.8591		0.9458	0.0564	0.7211	5.4230	5.2083	4.5635	0.4324
NOK	7.8776	5.9066	9.3885	6.3684	0.9079	1.0567		0.0596	0.7625	5.7213	5.5024	4.8238	0.4583
JPY	132.2040	99.1650	157.6510	106.9030	15.2253	17.7290	16.7720		12.7668	96.0440	92.3420	80.8890	7.6552
HKD	10.3420	7.7542	12.3270	8.3583	1.1943	1.3867	n.a.	0.0780		7.5097	7.2280	6.3361	0.6003

Futures													
Indexes Pre Market	Ticker	Name	Exchange	Last Price	Net Chg	High	Low	High 1y	Low 1y	Settlement	Open interest	Last trading Date	Last Time & Date
ZDC1	DOW JONES INDUSTRIAL AVERAGE (DJI) INDEX FUTURE (\$10)(Z...		Chicago Board of Trade - Globex	15,670.00	+188.00	15,670.00	15,526.00	15,595.00	12,476.00	15,382.00	27308.00	09/20/13	05:27:35 09/16/13
SPF1	S&P 500 FUTURE (SP) - CMR (FLOOR)Y1		Chicago Mercantile Exchange - Globex	1,896.20	+7.60	1,702.80	1,696.20	1,704.80	1,344.70	1,682.00	314154.00	09/19/13	14:47:38 09/16/13
ND1	NASDAQ-100 (ND) - CM6 (ELECTRONIC)Y1		Chicago Mercantile Exchange - Globex	3,196.00	+24.00	3,211.25	3,194.75	3,188.25	2,513.75	3,171.50	4485.00	12/12/13	08:55:10 09/16/13
DJ1	DOW JONES INDUSTRIAL AVERAGE (DJI) INDEX FUTURE (\$10)(D...		Chicago Board of Trade - RT	15,604.00	+122.00	15,600.00	15,604.00	15,600.00	12,440.00	15,382.00	27308.00	09/20/13	13:55:16 09/16/13
SP1	S&P 500 FUTURE (SP) - CMR (FLOOR)Y1		Chicago Mercantile Exchange - RT	1,896.20	+7.60	1,702.80	1,696.20	1,705.00	1,340.30	1,688.60	314154.00	09/19/13	14:47:38 09/16/13
ND1	NASDAQ-100 (ND) - CMR (FLOOR)Y1		Chicago Mercantile Exchange - RT	3,187.00	+0.75	3,204.00	3,167.00	3,190.00	2,491.00	3,177.75	9410.00	09/19/13	14:46:39 09/16/13
ZB1	U.S. TREASURY BOND FUTURE (ZB) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	131.82	-0.31	132.88	131.90	152.68	129.78	131.51	22413.00	09/16/13	14:13:14 09/16/13
ZM1	10 YEAR U.S. TREASURY NOTES (ZM) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	125.11	+0.44	125.80	125.65	134.95	123.33	124.67	46392.00	09/16/13	14:37:44 09/16/13
ZF1	5 YEAR U.S. TREASURY NOTES (ZF) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	120.45	+0.35	120.97	120.48	125.00	119.20	120.00	40340.00	09/20/13	14:55:43 09/16/13
ZT1	2 YEAR U.S. TREASURY NOTES (ZT) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	110.08	+0.59	110.16	110.08	110.34	109.80	109.98	72294.00	09/20/13	14:31:44 09/16/13
ZDC1	30 DAY FEDERAL FUNDS (ZD) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	99.92	+0.00	99.92	99.92	99.92	99.83	99.92	37511.00	09/20/13	14:48:03 09/16/13
GLB1	1-MONTH EURO DOLLAR FUTURES (GLB) - CM6 (ELECTRONIC)Y1		Chicago Mercantile Exchange - Globex	99.82	+0.00	99.82	99.82	99.82	99.77	99.82	481.00	09/16/13	17:10:33 09/06/13
Metals													
	GOLD / US DOLLAR (XAU/USD)	over the counter World		1,209.20	-0.72	1,332.90	1,207.20	1,795.90	1,179.83				15:11:37 09/16/13
	SILVER / US DOLLAR (XAG/USD)	over the counter World		21.77	-0.50	22.28	21.03	35.38	18.18				15:11:39 09/16/13
GDC1	GOLD FUTURES (GC) - CXE (ELECTRONIC)Y1		NYMEX Comex Division - Globex	1,211.00	+2.50	1,334.90	1,207.20	1,794.80	1,179.40	1,308.40	21077.00	10/29/13	15:00:53 09/16/13
SIC1	SILVER FUTURES (SI) - CXE (ELECTRONIC)Y1		NYMEX Comex Division - Globex	21.90	+0.23	22.25	21.70	35.44	18.18	21.67	373.00	09/26/13	14:00:57 09/16/13
HOC1	COPPER FUTURE (HG) - CXE (ELECTRONIC)Y1		NYMEX Comex Division - Globex	3.23	+0.02	3.38	3.22	3.85	3.01	3.21	6508.00	09/26/13	14:31:46 09/16/13
PLC1	PLATINUM FUTURES (PL) - NMX (ELECTRONIC)Y1		NYMEX - Globex	1,437.70	-8.50	1,492.90	1,437.20	1,744.50	1,295.40	1,444.50	49577.00	10/29/13	15:00:34 09/16/13
Energy													
CLC1	LIGHT SWEET CRUDE OIL FUTURE (WT)(CL) - NMX (ELECTRONIC)...		NYMEX - Globex	106.27	-1.94	108.00	106.10	112.24	84.05	108.21	172960.00	09/20/13	15:01:37 09/16/13
HOC1	HEATING OIL FUTURE (HO) - NMX (ELECTRONIC)Y1		NYMEX - Globex	3.06	-0.05	3.12	3.05	3.27	2.73	3.11	68631.00	09/30/13	15:01:31 09/16/13
NGC1	HENRY HUB NATURAL GAS FUTURES (NG) - NMX (ELECTRONIC)Y1		NYMEX - Globex	3.74	+0.08	3.75	3.62	4.44	2.74	3.68	130253.00	09/26/13	15:00:56 09/16/13
RBC1	RBOB GASOLINE FUTURES (RB) - NMX (ELECTRONIC)Y1		NYMEX - Globex	2.72	-0.05	2.76	2.71	3.43	2.55	2.77	63212.00	09/30/13	15:01:37 09/16/13
Agriculture													
CCC1	COCOA (CC) - NYB/C1		ICE Futures U.S.	2,639.00	+38.00	2,642.00	2,596.00	2,674.00	2,046.00	2,636.00	104805.00	12/13/13	13:59:57 09/16/13
CTC1	COTTON NO.2 (CT) - NYB/C1		ICE Futures U.S.	84.91	-0.30	85.00	84.80	93.93	69.03	85.00	96.00	1009/13	14:27:04 09/16/13
QFC1	FEEDER CATTLE FUTURES (QF) - CM6 (ELECTRONIC)Y1		Chicago Mercantile Exchange - Globex	157.50	+0.20	157.85	157.40	158.40	131.50	157.30	6837.00	09/26/13	14:57:38 09/16/13
HEC1	LEAN HOGS (HE) - CM6 (ELECTRONIC)Y1		Chicago Mercantile Exchange - Globex	91.90	+1.20	92.22	91.08	102.50	73.02	90.70	144292.00	10/14/13	15:01:33 09/16/13
KCC1	COFFEE "C" (KC) - NYB/C1		ICE Futures U.S.	114.80	+0.75	114.80	114.80	185.45	111.55	114.80	24.00	09/18/13	13:37:34 09/16/13
LEC1	LIVE CATTLE (LE) - CM6 (ELECTRONIC)Y1		Chicago Mercantile Exchange - Globex	125.50	+0.25	125.80	125.20	134.32	118.15	125.25	137780.00	10/31/13	14:57:48 09/16/13
OUJ1	FROZEN CONCENTRATED ORANGE JUICE (OJ) - NYB/C1		ICE Futures U.S.	135.00	-5.50	140.35	134.70	155.75	104.50	136.70	13679.00	11/08/13	13:59:50 09/16/13
SB1	SUGAR NO.11 (SB) - NYB/C1		ICE Futures U.S.	18.94	-0.16	17.03	16.91	21.77	15.93	18.94	214379.00	09/30/13	13:59:56 09/16/13
ZC1	CORN FUTURES (ZC) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	466.50	+2.50	462.00	464.00	792.00	450.00	466.50	712212.00	12/13/13	14:30:29 09/16/13
ZDC1	DATS FUTURES (ZC) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	311.50	-92.25	316.00	306.25	431.00	328.50	311.50	7974.00	12/13/13	14:30:46 09/16/13
ZRC1	ROUGH RICE FUTURES (ZR) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	15.58	-0.59	15.62	15.40	16.70	14.38	15.58	16695.00	11/14/13	14:31:12 09/16/13
ZSC1	SOYBEANS FUTURES (ZS) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	1,348.25	-150.50	1,389.00	1,342.75	1,780.25	1,271.00	1,348.25	353992.00	11/14/13	14:31:12 09/16/13
ZWC1	WHEAT FUTURES (ZW) - CB6 (ELECTRONIC)Y1		Chicago Board of Trade - Globex	641.25	+19.50	649.75	639.75	626.50	623.00	641.25	251933.00	12/13/13	14:31:14 09/16/13

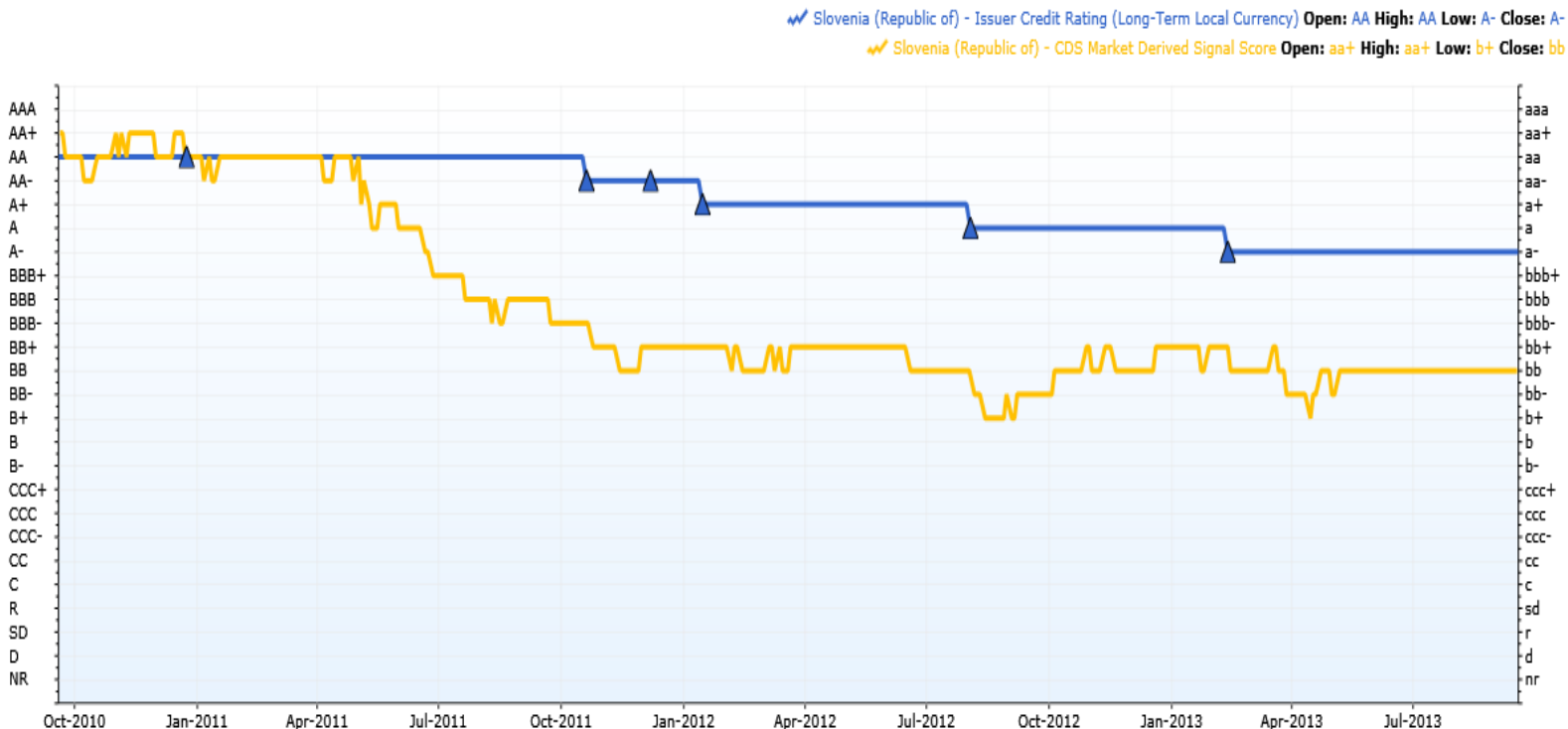
Corporates with global exposures increasingly monitoring or setting up alerts in real time for market data such as FX rates, market indices, futures etc.

Source: S&P Capital IQ.

# Sovereign Risk

## Sovereign Ratings And CDS Spread

- **Slovenia's CDS-Implied score was below S&P Ratings level, which was on Outlook Negative, before series of downgrades**



Source: S&P Capital IQ. Lowercase nomenclature is used to differentiate these scores from actual Standard & Poor's Rating Services credit ratings, these cores differ significantly from Standard & Poor's rating criteria. For illustrative purposes only.

# Country Risk

## Country Risk Distinct from Sovereign Risk

Input:	Source:
Corruption Perceptions Index	Transparency International
Ease of Doing Business	Copublication of the World Bank and IFC
Global Competitiveness Index	World Economic Forum
Distribution of Family Income - Gini Index	CIA World Factbook
Human Development Index	United Nations Development Programme

Country	Country Risk Signal	CDS-Implied Signal	Local Currency S&P Rating	Outlook
China	bb+	a-	AA-	Stable
Russia	bb-	bbb-	BBB+	Stable
Chile	a-	a-	AA+	Stable
Philippines	b+	bbb+	BBB-	Stable
Kazakhstan	bb	bbb-	BBB+	Stable
Czech Republic	a	aa-	AA	Stable
Morocco	bb	bbb-	BBB	Negative
Saudi Arabia	a-	a+	AA-	Positive
India	bb-	bb	BBB-	Negative

Source: S&P Capital IQ. Lowercase nomenclature is used to differentiate these scores from actual Standard & Poor's Rating Services credit ratings, these cores differ significantly from Standard & Poor's rating criteria. For illustrative purposes only.

# Takeaways

## Sovereign Risk

- **Globalization has led to expansion of business operations in many new countries over the past two to five years**
- **In many cases, one needs to monitor conditions real time**
  - FX rates, stock indices
- **MDS (Market Derived Signal)**
  - CDS market signals complement ratings
- **Country Risk Distinct From Sovereign Risk**
  - Ease of doing business
  - Corruption perception
  - Global competitiveness
  - Human Development Index

# Discussion And Q&A

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# S&P Capital IQ

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