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A hidden risk: Counterparty credit risk in the supply chain

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Speaker introductions

Michael Denton, Partner
Oliver Wyman

- **Oliver Wyman** is an international management consulting firm that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, organizational transformation, and leadership development.
- **Michael J. Denton**, PhD, is a New York based Partner in Oliver Wyman's Corporate Risk practice, with specialized experience in energy, agriculture and the commodities risk and trading sector. As a practitioner and as a consultant, he has worked extensively in market risk modeling, portfolio dynamics, and risk-based decision frameworks. Recent projects have focused on due diligence evaluations, competitive contracting, and counterparty credit risk mitigation
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Jose M Carrera Panizzo, CFO
Petróleos Mexicanos Internacional (PMI)

- **PMI** is the commercial arm of PEMEX in the international energy market. PMI manages PEMEX imports and exports of crude oil, refined products, and petrochemicals, dealing with counterparties around the world.
- **Jose M Carrera Panizzo**, PhD, became the CFO of PMI in March, 2010. Prior to that, he spent 8 years as Corporate Risk Manager for PEMEX, dealing with financial and operational risks. He designed and implemented the supplier risk mitigation process of the company in 2008. Recent projects include the implementation of the carbon emissions trading desk and the design of pricing formulas for complex projects.
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Presentation objectives and contents

- | | |
|---|-------------------|
| 1. In focus: Supplier defaults | 20 minutes |
| <ul style="list-style-type: none">– Overview of credit risk landscape– Developing predictive analytics– Improving supply chain management | |
| 2. Discussion of market perspectives | 20 minutes |
| 3. Session wrap-up with Q&A | 10 minutes |

The deteriorating financial strength of companies is exacerbating a weak link in supply chains both domestically in the US and globally

Downgrades¹

- Corporate downgrades affected a record 26.7% of Fitch-rated issuers in 2009, topping the previous peak of 23.7% set in 2002
- Corporate upgrades, not surprisingly, remained subdued, with 4.7% of issuers on the receiving end of positive rating actions compared with 6.5% a year earlier

Defaults¹

- Fitch-rated global corporate finance issuer defaults reached a high of 73 in 2009, nearly doubling the 37 recorded in 2008
- The Fitch-rated annual issuer-based default rate was 2.59% in 2009, up from 1.29% in 2008
- The investment grade default rate was 0.24%

2010 year-to-date defaults have shown a dramatic turnaround – on pace for a full-year default rate of 1%²

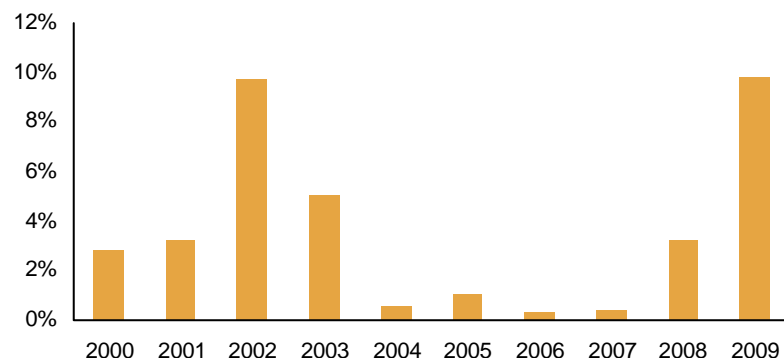
¹Fitch Ratings Global Corporate Finance 2009 Transition and Default Study

²The Extreme Credit Cycle – Making Sense of a 1% High Yield Default Rate, Fitch Ratings, June 21, 2010

Rating Actions by Sector¹

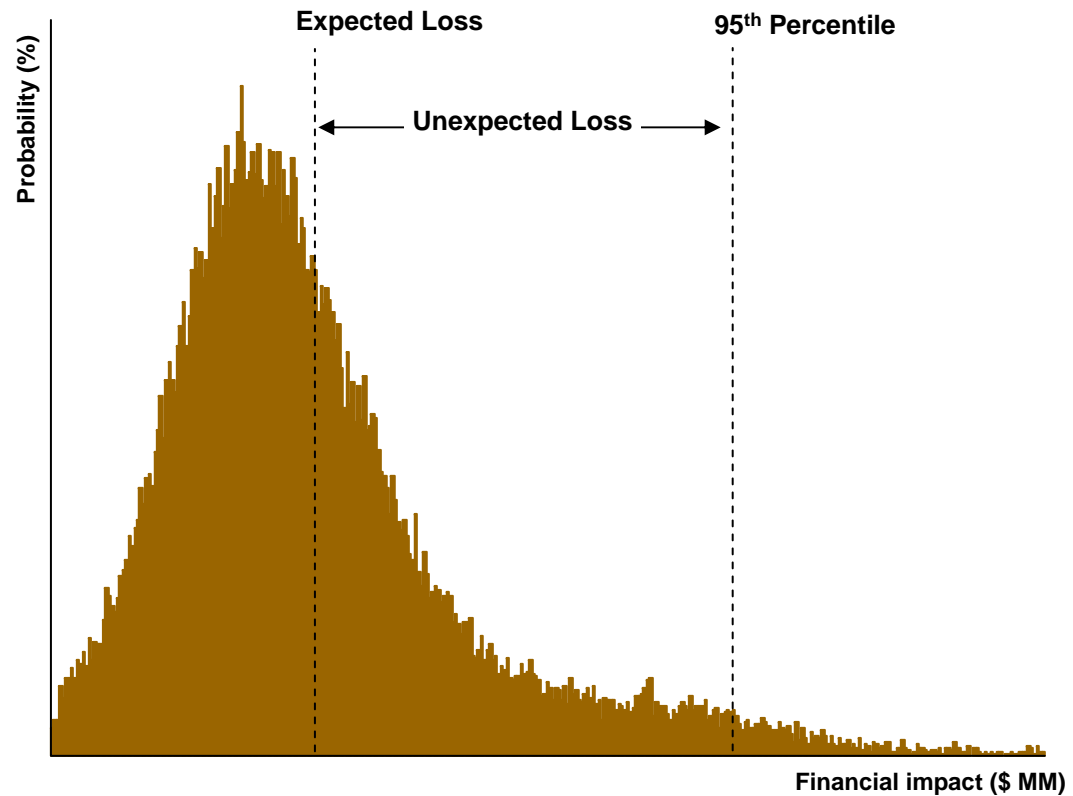
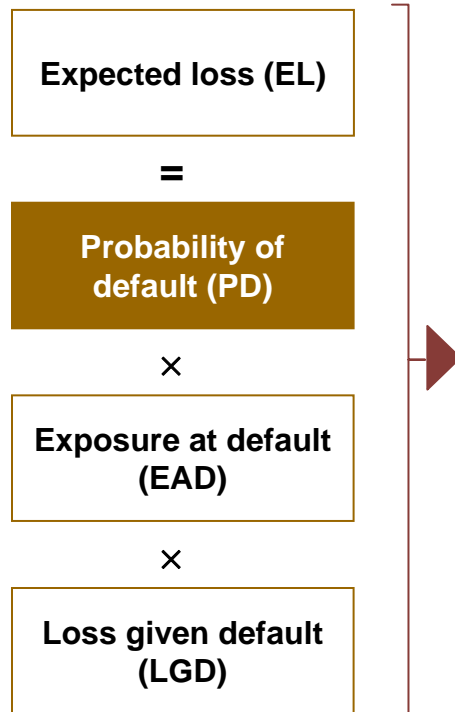
Sector	Downgrades		Upgrades	
	No.	% of Sector Ratings	No.	% of Sector Ratings
Banking and Finance	356	31.6%	48	4.3%
Industrials	235	23.2%	67	6.6%
Power and Gas	22	8.9%	7	2.8%
Insurance	74	39.2%	0	0.0%
All	687	26.7%	122	4.7%

Percentage of companies with speculative grade credit ratings that are defaulting¹



Probability of default represents a critical input to counterparty credit risk and loss distribution models

Factors influencing credit risk – Illustrative



Default correlations should also be considered – the coincidence of defaults by multiple counterparties in the portfolio, driven by common business risk factors (e.g. geography, industry, business model)

History indicates that >15% of speculative grade counterparties will default over a 10 year time horizon

Global average cumulative default rates (%), 1990-2009¹

Rating	1 Year	2 Years	5 Years	10 Years
AAA	0.0	0.0	0.0	0.0
AA	0.0	0.0	0.1	0.2
A	0.1	0.3	0.7	1.9
BBB	0.3	0.8	2.8	5.7
BB	1.5	3.6	7.5	14.3
B	2.7	5.3	9.3	12.7
CCC to C	26.4	29.4	35.3	48.8
Investment grade	0.1	0.4	1.2	2.3
Non-Investment grade	3.7	6.0	10.3	15.8
All Corporates	0.9	1.5	2.7	4.1

Comments

- While speculative grade counterparties are susceptible to high probabilities of default over time, investment grade cumulative default probabilities can be significant as well
- Lower tier Investment grade (BBB) firms show a probability of default of roughly 6% over a 10 year horizon

¹Fitch Ratings Global Corporate Finance 2009 Transition and Default Study

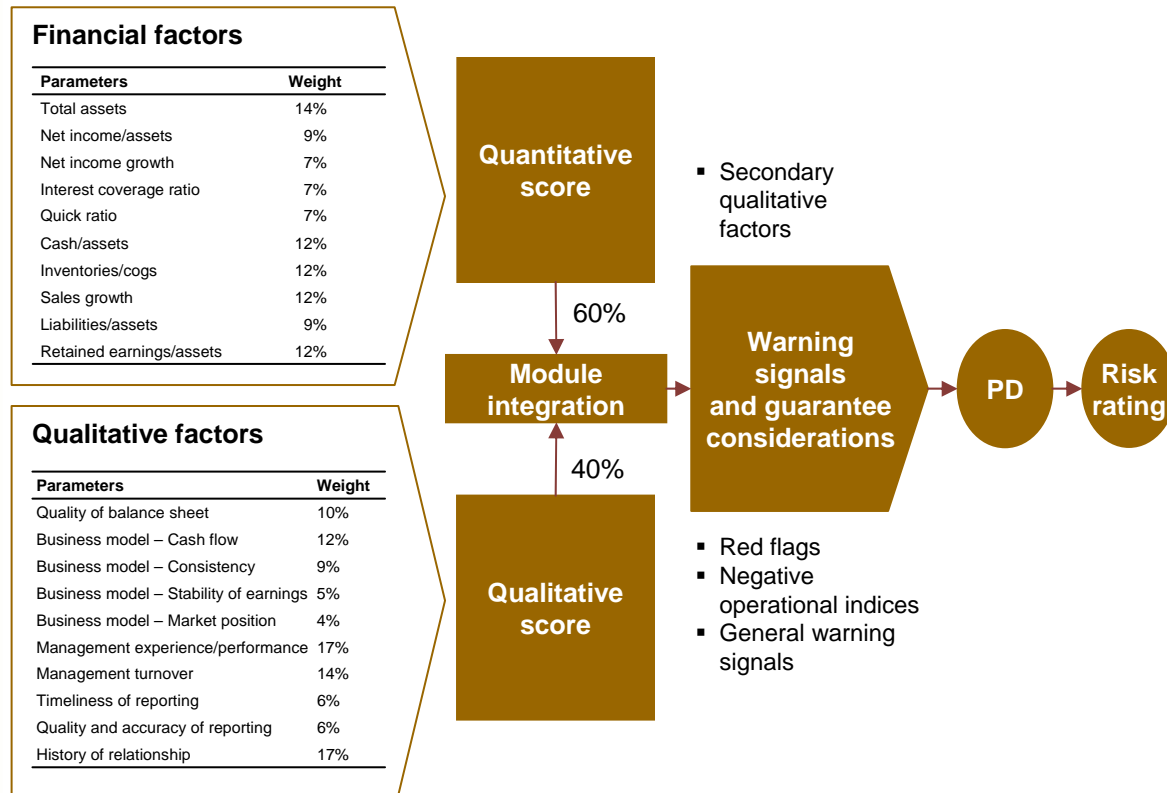
Evaluating the creditworthiness of suppliers requires information and analyses that are distinctly different from those utilized by rating agencies

	Counterparty credit evaluation needs	Rating agency information
Probability of default information	Absolute probability of default information to calculate absolute cost impacts	Provides relative credit rating information
	Incorporation of systemic risk into creditworthiness evaluation	Demonstrated inability to forecast systemic risk
Timing	Short term accuracy of ratings (60-100 days)	Uses through-the-cycle methodology, for a long-term view of default risk
	Early warning information	Slow to downgrade to avoid procyclical effects and erosion of reputation
	Indication of default probability over defined time horizon	Indicates risk over multiple horizons, rather than a single, defined horizon
Confidence	Full understanding and confidence in the ratings methodology	Investigations have revealed material weaknesses in agency methodologies

Due to limitations in the ability of agency ratings to fulfill supplier creditworthiness monitoring needs, firms are increasingly developing in-house credit risk assessment capabilities

Predictive analytics are crucial to developing a more realistic picture and plan of action to avoid supplier defaults

Supplier credit rating tool – Illustrative



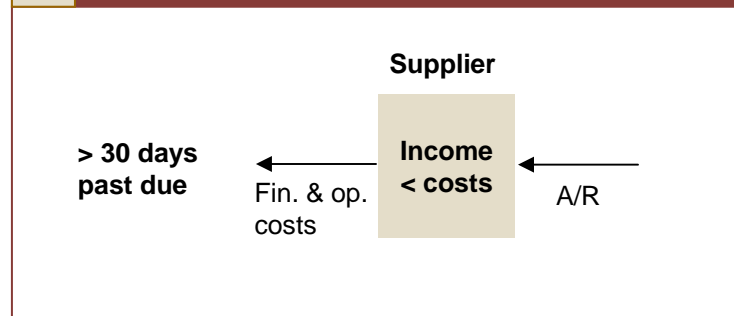
Comments

- Best practice risk ratings tools incorporate both financial and qualitative factors
- Challenges remain due to the number of factors
 - Complexity of supply chains
 - Increase in offshore outsourcing
 - Number of unrated suppliers with less reliable financial data
- Methods for evaluating the impact of supplier failure are too simplistic
 - Supplier dependency on company balance sheet
 - Company exposure to default from other supplier customers

The challenge is determining which available factors have real “predictive power”

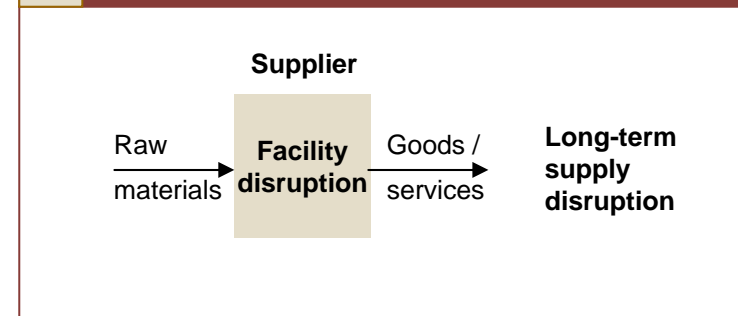
Two of the most critical risks in the value chain are supplier financial default and physical disruption

1 Supplier financial default



- Supplier becomes insolvent
 - Unable to continue to make liability payments
 - Ultimately leading to chapter 11 bankruptcy
- Receiver typically appointed to administer workout/recovery
 - Impact is typically increased cost of goods/services (e.g. reduced production, nullified contracts)
 - Alternatively, a company can bail out the supplier through financial injection – essentially bringing the supplier in-house

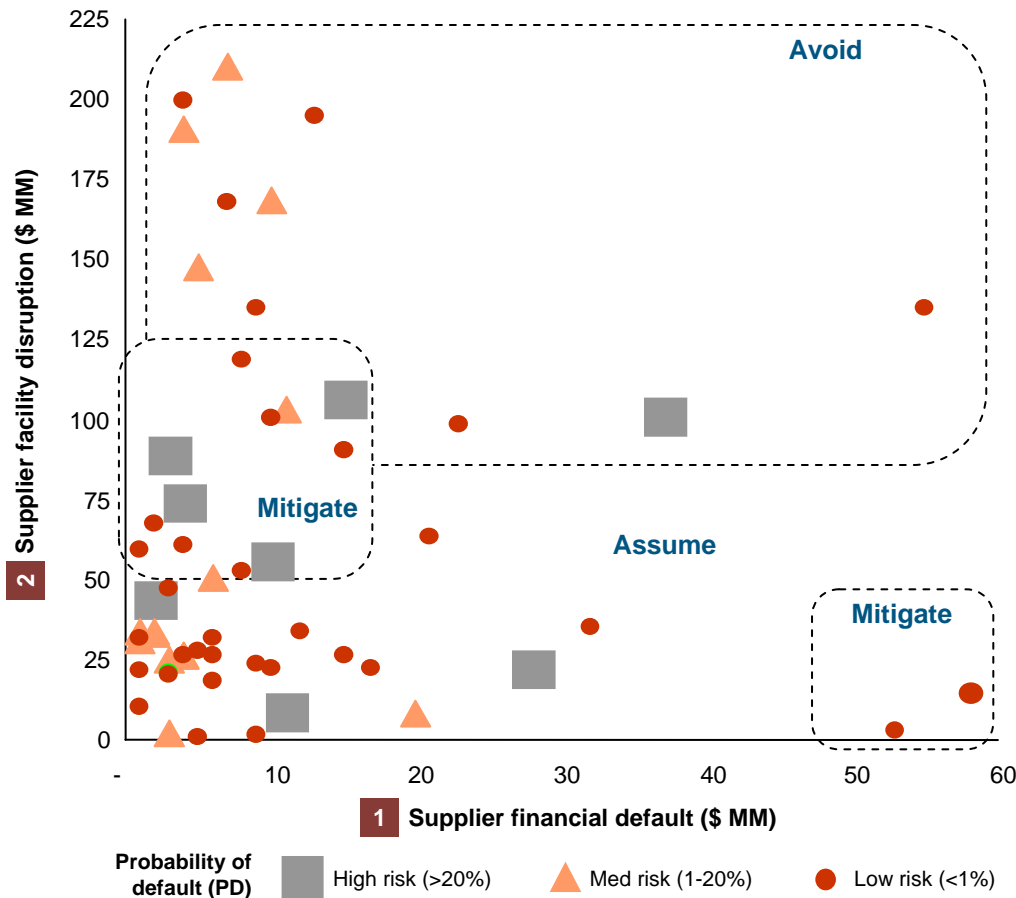
2 Supplier facility disruption



- Supplier facility experiences catastrophic event (e.g. fire, flood, terrorism, etc.) rendering it unusable for a significant period of time
- If the facility is unique, then production will be halted until the facility can be rebuilt or an alternative supplier becomes able to provide the product
- Impact can be catastrophic based on critical nature of feedstocks/parts supplied
 - Manufacturing process is halted
 - Revenues are pushed out
 - Penalties and fines levied
 - Future orders/reputation damaged

Developing an information platform for supplier credit ratings will help prioritize and focus available resources on high impact suppliers

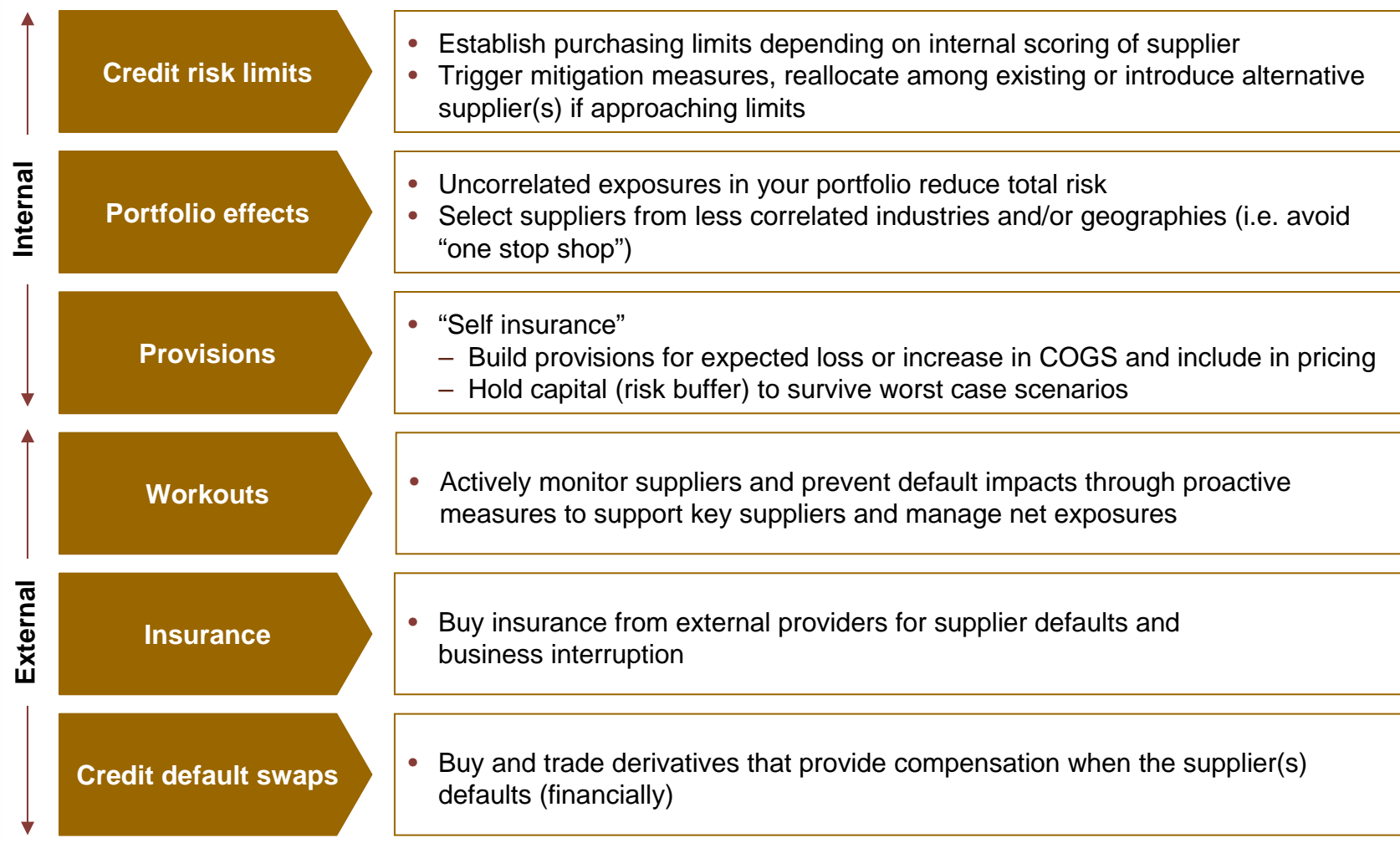
Supplier credit risk portfolio – Illustrative



Comments

- Provides a heat map of both the financial and physical risks in the supply-chain
- Enables better risk oversight and monitoring of existing suppliers
- Supports strategy formulation regarding future supply-chain development
- Dependent upon several developments
 - Rating of suppliers
 - Assessment of supplier switching times
 - Consolidation of purchasing/exposure data
 - Establishment of a reporting process

Following thorough supply chain diagnostics, a range of risk management strategies can be evaluated from a cost-benefit perspective



Companies need to behave more like their own credit rating agencies

Summary

- Suppliers' weaker balance sheets are posing just as great a risk to companies as suppliers' potential operational problems
- By rationalizing supply chains during the recession, many companies have inadvertently become more reliant on fewer suppliers at exactly the moment when their finances have become shaky
- Those same suppliers are seeking to use companies' balance sheets to fund their working capital requirements
- As a result, supply chain risks have moved from the province of engineers into the realm of chief financial officers and treasurers
- To emerge from the global recession unscathed, companies should **rethink their approach to supply chains by behaving much more like their own credit rating agencies – and quickly**



Dealing with supplier credit risk in key projects

- Not having a critical project on time can be quite costly
- Dealing with a supplier default is painful: legally, operationally and economically
- Reliable suppliers can design a very poor proposal for a key project
- Very solid proposals can come from unsuspected suppliers
- Complex projects require not only financially sound sponsors, but also:
 - Project management capacity
 - Good tracking record
 - Reasonable technology
 - Adequate capitalization
- Mitigating supplier credit risk can be very profitable in terms of business continuity
- It can be done in a pragmatic manner

The PEMEX experience

- In order to mitigate supplier credit risk in key projects, PEMEX designed a risk mitigation process with the support of the three key credit rating agencies

Publish the requirements of the project, including a minimum rating for the proposal

PEMEX



BIDDERS

Prepare a proposal focusing on:

- Technology
- Contractors
- Experience
- Financials



BIDDERS

Modify the proposal until the required (desired) rating is reached

RATING AGENCIES

Perform a detailed financial analysis based on the characteristics of the project, the sponsors, the proposal and on their own rating criteria



Final thoughts

- Companies need to behave more like their own rating agencies
- Getting there is not easy and rating agencies can help pave the road
- The credit rating process can be adapted to different types of projects, either capital intensive or not
 - Pipeline integrity and maintenance
 - Upgrades in refinery processes for clean products
 - Drilling wells for non-associated on-shore gas fields
- The credit rating process of suppliers (proposals, bids) is flexible
 - Minimum rating to bid
 - Part of the evaluation process with a specific weight
 - A combination of both
- Suppliers are initially reluctant, but in the end adapt relatively quickly to the new process
 - Preparing more financially- conscious proposals
 - Creating joint-ventures for a project, exploiting synergies
 - Creating SPVs that can be have a better rating than the sponsors

Questions, comments?
