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Using Hedge Accounting to Better Reflect Risk Mitigation Strategies

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Agenda

Benefits / Requirements /
Challenges of Hedge Accounting

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Risk Management / What Other
Companies Are Doing?

Jeff Craft

Case Studies

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Benefits of Hedge Accounting

- To reduce earning volatility
- To accurately represent the entity's risk management activities in the financial statements

Requirements of Hedge Accounting

- To qualify for hedge accounting, a company must:
 - Put in place well documented, specific and contemporaneous documentation at inception
 - Prove effectiveness of the hedging relationship
 - Prove and monitor the probability of the forecasted event (in the case of a cash flow hedge)
- **IMPORTANT**
 - No documentation means no hedge accounting
 - Uncertainty & non-occurrence of forecasted transaction: discontinue hedge accounting

Challenges of Hedge Accounting

- Hedge criteria are strict –
“it’s not a right, it’s a privilege”
- Hedging mitigates **Economic Risk** but can create **Accounting/Audit Risk**:
 - Strict FASB Hedge documentation requirements
 - SEC focus area as this is a very complex topic
 - Calculating the ineffective /effective hedge balance (Proxy & Cross commodity hedges)
 - Reporting hedge balances / disclosure requirements
 - Monitoring compliance with hedge strategy
 - Additional time & cost burden (People, Process, policy, System)

Hedge Types Summary

Cash Flow Hedge

Hedging Instrument



Mark to Market
Asset/Liability and **OCI**

Hedged Item (Floating Price
Physical Contract)



No Accounting

Fair Value Hedge

Hedging Instrument



Mark to Market
Asset/Liability through **P&L**

Hedged Item (Fixed Price
Physical Contract)



Change in Fair Value
Asset/Liability through **P&L**

Cash Flow Hedge Accounting Model

Measurement of derivative

Change in Fair Value*

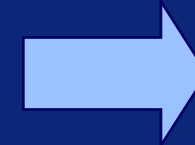


Equity†



Measurement of hedged item

After forecast occurs and impacts
Earnings



Earnings

* Hedge ineffectiveness always reported in current earnings

† Defer in equity until hedged transaction affects earnings; if transaction no longer probable, immediately recognize in earnings

Cash Flow Hedges

Accounting hedges commonly used:

- Generally used to hedge the exposure of price movements in future cash flows (i.e., lock the price of forecasted transactions)
- Designation must be well documented, specific and contemporaneous (no retroactive designation)
- A cash flow hedge converts a “floating” cash flow stream (i.e., forecasted future transaction) into a “fixed” stream

Hedge Requirements - Documentation

Hedge Documentation Requirements

- Specific Documentation Requirements
 - Contemporaneous designation and documentation of the hedging relationship must occur before hedge accounting can be applied, including documentation of the following:
 - A description of the hedging relationship and the risk management objective and strategy for undertaking the hedge
 - Identification of the hedging instrument
 - Identification of the hedged item
 - A description of the nature of the risk being hedged
 - A description of how the effectiveness will be assessed
 - A description of how the effectiveness will be measured

Requirements – Hedged Item

Hedged Item (Forecast)

- Hedged Item examples
 - The forecasted transaction (hedged item) could be identified as:
 - The first 15,000 units purchased/sold during a specified 3-month period
 - The first 5,000 units purchased/sold in each of the 3 specified months
 - The forecasted transaction (hedged item) cannot be identified as:
 - The last 15,000 units purchased/sold during a specified 3-month period
 - These could not be identified until after the period has ended

Hedge Requirements - Probability

Is Probability a Problem?

- At each reporting date, evaluate whether the hedged transaction is *still* probable
 - If still probable, continue hedge accounting
- If it is probable that it will NOT occur
 - Recognize amounts in OCI into earnings immediately
 - Recognize changes in the fair value of the derivative through earnings prospectively
- If probability is uncertain
 - Freeze OCI and discontinue hedge accounting prospectively

Hedge Requirements – Probability *(cont.)*

What if a forecasted transaction does not occur when expected to?

- If the expected date of occurrence is missed, but the transaction is still probable of occurring within a 2-month period of the original date,
 - OCI does not need to be reclassified if the forecasted transaction's occurrence will be within 60 days
 - Must be de-designated per DIG G-18 (ASC 815-30-55-129-133)
 - In rare circumstances (i.e., never), time periods may be extended beyond the additional 60 days
- For forecasted transactions whose timing involves some uncertainty and have been documented within a range (DIG G-16 (ASC 815-20-55-102)), if originally estimated timing changes, ineffectiveness “catch up” adjustment required for change in expected future cash flows (due to new timing)

Hedge Requirements - Effectiveness

- FASB declined to quantify “highly effective”
 - Intended to be similar to “high correlation” under SFAS 80
 - Standard dictates that the movement in value (or the risk being hedged) in the hedging instrument and the movement in value (or the risk being hedged) of the hedged item must correlate between 80% to 125%. (In statistical regression analysis terms, R^2 must be 0.8 or greater and the slope must be between 80% and 125%, as well as consideration for F and T statistics.)

Hedge Requirements – Effectiveness

(cont.)

- Assessing Effectiveness
 - The assessment of hedge effectiveness is required to be performed on both a prospective and retrospective basis at both:
 - The inception of the hedge, and
 - At the end of each reporting period (at least quarterly)

Hedge Requirements – Effectiveness

(cont.)

- Prospective Assessment
 - Assessment of hedge effectiveness necessary to qualify for hedge accounting in the upcoming period
 - Forward look at the hedging relationship
- Retrospective Assessment
 - Assessment of hedge effectiveness required to qualify for hedge accounting in the period just ended
 - Backward look at the hedging relationship
- Methods Used for Assessment
 - Regression Analysis
 - Ratio Dollar Offset (period-to-period or cumulative)
 - Other reasonable statistical methodology)

Cash Flow Hedging - Ineffectiveness

- Sources of Ineffectiveness

- The following are all potential sources of ineffectiveness:

- Basis (location and grade)
 - Cross-commodity/cross-currency
 - Delta Hedging
 - Timing (difference between period in item and period in instrument)
 - Spot/Forward differences (if using spot method in a FV hedge)
 - Time Value
 - Option exists to exclude time value from effectiveness assessment and measurement (would go to income statement)
 - If terms don't match, it may be necessary to exclude time value

Measurement of Ineffectiveness

- Measuring Ineffectiveness
 - Recording Ineffectiveness
 - Amounts included in OCI are limited to the lesser of:
 - The cumulative change in fair value of the derivative from inception OR
 - The portion of the cumulative change on the derivative necessary to offset the expected future cash flows of the hedged item from inception
 - Dollar-offset method required

Measurement of Ineffectiveness (*cont.*)

- Measuring Ineffectiveness
 - Examples
 - Derivative increases \$100, expected future cash flows decrease by \$90
 - How much is recorded to OCI?
 - How much is recorded in earnings as ineffectiveness?
 - Derivative increases \$90, expected future cash flows decrease by \$100
 - How much is recorded to OCI?
 - How much is recorded in earnings as ineffectiveness?

What Other
Companies Are
Doing?



A Robust Hedge Program Considers all Categories of Hedges

Hedge programs can take many forms; however, most hedging decisions can be traced back to four (4) basic business rules or justifications to hedge

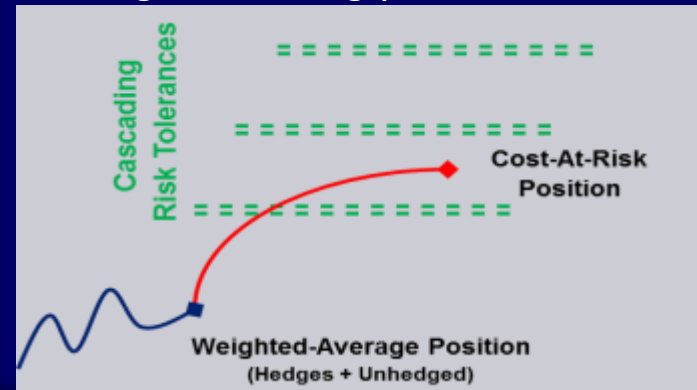
Price Stability Hedges: Reduce effects of price volatility



Proactive hedge strategy:

- 5% per month
- beginning 36 months prior to settlement
- up to 30%

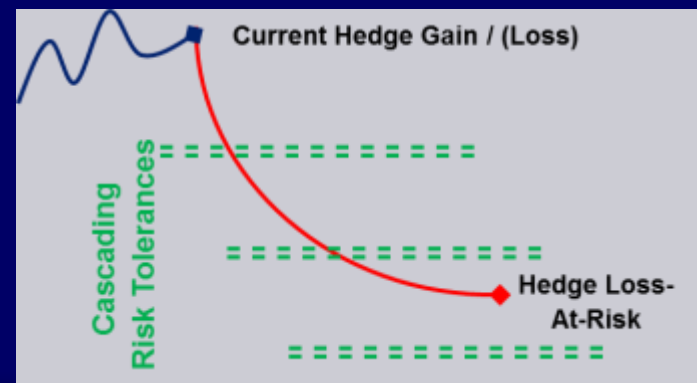
Price Protective Hedges: Protects against rising prices



Management-directed Hedges



Loss Mitigation Hedges: Protects against falling prices



Risk Management (Industry Practice)

We see following risk management strategies in place:

Hedge Type	Risk	Product	Hedge Instrument	Risk Management objective
Cash Flow Hedges	Commodity price fluctuations	Renewable Energy (Wind / Solar Power)	Physical and financial contracts such as forwards, futures, swaps and options.	Fix sale price to hedge the risk of power price fluctuations
Cash Flow Hedges	Variable interest rate exposure	Variable-rate debt	Interest rate swap	Fix the floating interest rate component
Fair Value Hedges	Change in fair value of debt	Fix rate long term debt	Interest rate swap	Convert fix rate debt to floating (pay variable & receive fix)
Cash Flow Hedges	Exchange rate fluctuations	Foreign currency transactions	Forward contract, swaps and foreign currency options	Hedge the foreign exchange fluctuations

In addition to derivative instruments that are designated and qualify for hedge accounting, Companies also use certain derivatives contracts as economic hedges of foreign currency, variable interest rate and commodity exposure. The risk management objectives for these derivatives are similar to the objectives stated above.

Case Studies



Cash Flow Hedge – Case Study

- Generating Co. wants to hedge the risk of decreasing power prices associated with the future sale of power produced from its solar power assets (October 2016)
- The applicable generation asset is located in the PJM market and it is expected to generate 1000 megawatts per month to supply its customers

Cash Flow Hedge – Case Study *(cont.)*

- How could Generating Co. hedge this price risk?
 - Fixed for float swap for October of 2016
- What information would be expected to be included in the hedge documentation?
 - Hedge relationship → Hedge of anticipated sale of power
 - Hedge instrument → Forward to sale power at fix price at PJM West
 - Hedged item → Forecasted sale of power in PJM market
 - Amount hedged → 1000 Megawatts
 - Period hedged → October 2016
 - Assessment type → Regression (perfect hedge)

Cash Flow Hedge – Effectiveness

Is it a highly effective relationship?

SUMMARY OUTPUT

<i>Regression Statistics</i>					
Multiple R	0.9998				
R Square	0.9997	Correlation			
Adjusted R Square	0.9711				
Standard Error	0.0871				
Observations	36				

ANOVA					F-stat
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	806.1028717	806.1028717	106374.7602	5.12388E-61
Residual	35	0.265228335	0.007577952		
Total	36	806.3681			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.9765	0.002993874	326.1514375	1.49929E-62	0.970378409

Slope **T-stat**

Cash Flow Hedge – Ineffectiveness

Examples

- Derivative increases \$100, expected future cash flows decrease by \$90
 - How much is recorded to AOCI?
 - How much is recorded in earnings as ineffectiveness?
- Derivative increase \$90, expected future cash flows decrease by \$100
 - How much is recorded to AOCI?
 - How much is recorded in earnings as ineffectiveness?

Cash Flow Hedge – Case Study *(cont.)*

Assume the following price information:

<u>Date</u>	<u>PJM West (Forward)</u>	<u>PJM (buses)</u>
Period 0	\$50	\$50
Period 1	\$55	\$56
Period 2	\$58	\$60

What are the accounting entries for periods 0, 1, and 2?

Cash Flow Hedge – Case Study (*cont.*)

- Period 0
 - No entries necessary
- Period 1
 - Dr. Derivative Asset 5,000
 - Cr. OCI 5,000
- Period 2
 - Dr. Derivative Asset 2,000
 - Cr. OCI 2,000
 - Cr. P&L 5,000



Questions?



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