Hedging Interest Rate Risk: Permanent Rate Considerations and Strategies

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Permanent Pricing

- ***An example***
  - ***18 month construction term (July 2012 takeout date)***
  - ***10yr permanent financing term (July 2022 maturity of loan)***
- ***Pricing components***
  - ***Credit spread***
    - ***Add-on for borrower-specific risk, market or lender determined***
  - ***Market index (base rate)***
    - ***Treasury, FHLB or Swap Rate, market determined***

- ***Rate determination if today***

COMPONENT	*RATE*
10yr Credit spread	*2.00%*
10yr Market index - 10yr Treasury	*3.40%*
All-in funding	*5.40%*

Rate Risk Depends On Type Of Takeout

RATE RISK	*Fixed takeout*	*Floating takeout*
Credit spread	*None*	*Moderate or None*
Market index	*None*	*High*

- ***Fixed takeout***
  - ***Lender locks both credit spread and market index***
  - ***Pricing variations – may be surprisingly good, or quite off market***
  - ***Fees, early termination, or change terms may be onerous***
- ***Floating takeout***
  - ***Market index is determined at time of takeout***
  - ***Lender may agree to fix credit spread at inception***
  - ***Even if credit spread is left floating, market index risk remains the larger unknown***

To Hedge Or Not To Hedge

- ***Credit spread***
  - *Typically static (absent market dislocations or drastic changes to borrower)*
  - *Given recent market dislocations, risk should not be overlooked*
  - *Can be prohibitively expensive to hedge*
- ***Market index***
  - *Typically 2/3^{rds} or more of the overall rate*
  - *Can be highly volatile*
  - *Has recently been in a historically low yield range*
  - *"Cost" of hedge largely depends on rate expectations for takeout date*

HEDGE	*AVAILABILITY*	*TRANSPARENCY*	*COST-ADJUSTED VALUE*
Credit	*Limited*	*Low*	*Low*
Market	*Broadly Available*	*High*	*Worth Considering*

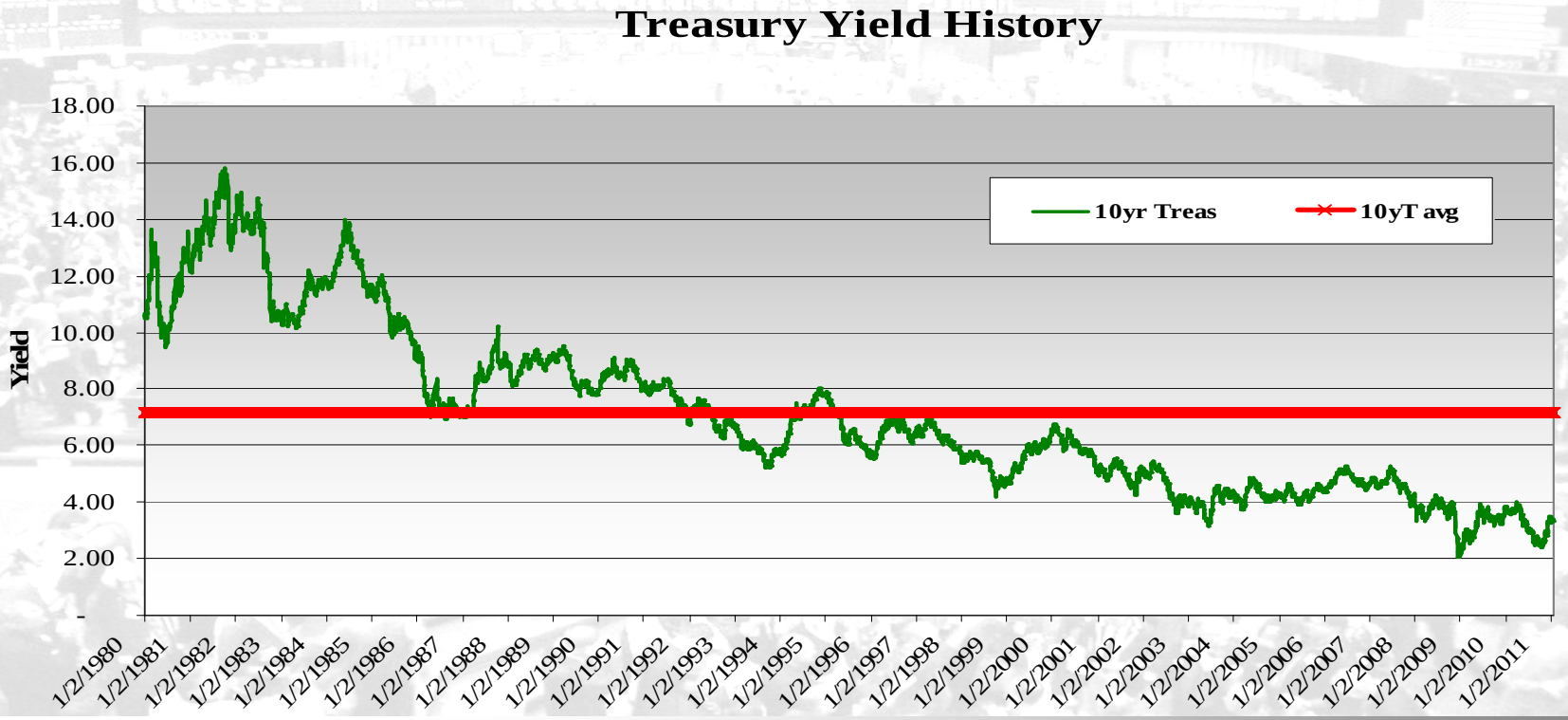
Takeaways And Recommendations

RATE RISK	*Fixed takeout*	*Floating takeout*
Credit spread	*ASK*	*NEGOTIATE UPFRONT*
Market index	*ASK*	*CONSIDER HEDGING*

- ***Fixed takeout***
  - ***Try your luck – see if all-in pricing is in your favor***
- ***Floating takeout***
  - ***Try and commit lender to lock credit spread during construction***
  - ***Determine if the cost of a market index hedge is reasonable***
  - ***Take your interest rate views, risk tolerance, and project needs into account to determine if a hedge is cost-effective***
  - ***Take credit spread risk if it is left to float - hedging it will probably be cost-prohibitive***

Hedge Analysis – Timing

- ***Where are rates in a historical context?***



Hedge Analysis – Utility

- ***How much could rates be expected to move?***

10 YEAR TREASURY				
	MIN	MAX	RANGE	AVG
1980	9.47	13.65	4.18	11.43
1981	12.11	15.84	3.73	13.92
1982	10.32	14.95	4.63	12.99
1983	10.12	12.20	2.08	11.10
1984	11.24	13.99	2.75	12.46
1985	8.99	12.02	3.03	10.61
1986	6.95	9.49	2.54	7.67
1987	7.01	10.23	3.22	8.39
1988	8.11	9.41	1.30	8.85
1989	7.74	9.53	1.79	8.49
1990	7.91	9.09	1.18	8.55
1991	6.71	8.36	1.65	7.86
1992	6.23	7.71	1.48	7.01
1993	5.19	6.76	1.57	5.87
1994	5.60	8.05	2.45	7.09
1995	5.58	7.89	2.31	6.57
1996	5.53	7.06	1.53	6.44
1997	5.72	6.98	1.26	6.35
1998	4.16	5.81	1.65	5.26
1999	4.63	6.43	1.80	5.64
2000	5.02	6.79	1.77	6.03
2001	4.22	5.54	1.32	5.02
2002	3.61	5.44	1.83	4.61
2003	3.13	4.61	1.48	4.01
2004	3.70	4.89	1.19	4.28
2005	3.89	4.66	0.77	4.29
2006	4.34	5.25	0.91	4.79
2007	3.84	5.25	1.41	4.63
2008	2.08	4.26	2.19	3.70
2009	2.20	3.95	1.74	3.69
2010	2.38	3.99	1.60	3.68
AVG	6.06	8.07	2.01	7.14

- ***Range***
  - ***Yield movements have recently been about 1.50% to 2.00% per year. The 10yr Treasury in calendar 2010 started at 3.83% and ended at 3.29%, but touched a 2.38% low and a 3.99% high.***
- ***Outlook***
  - ***Treasury yields have risen in anticipation of a pick-up in economic activity, despite the Fed's stated desire to keep the long end of the yield curve low. When quantitative easing ends, they could keep going.***

Hedge Analysis – Cost

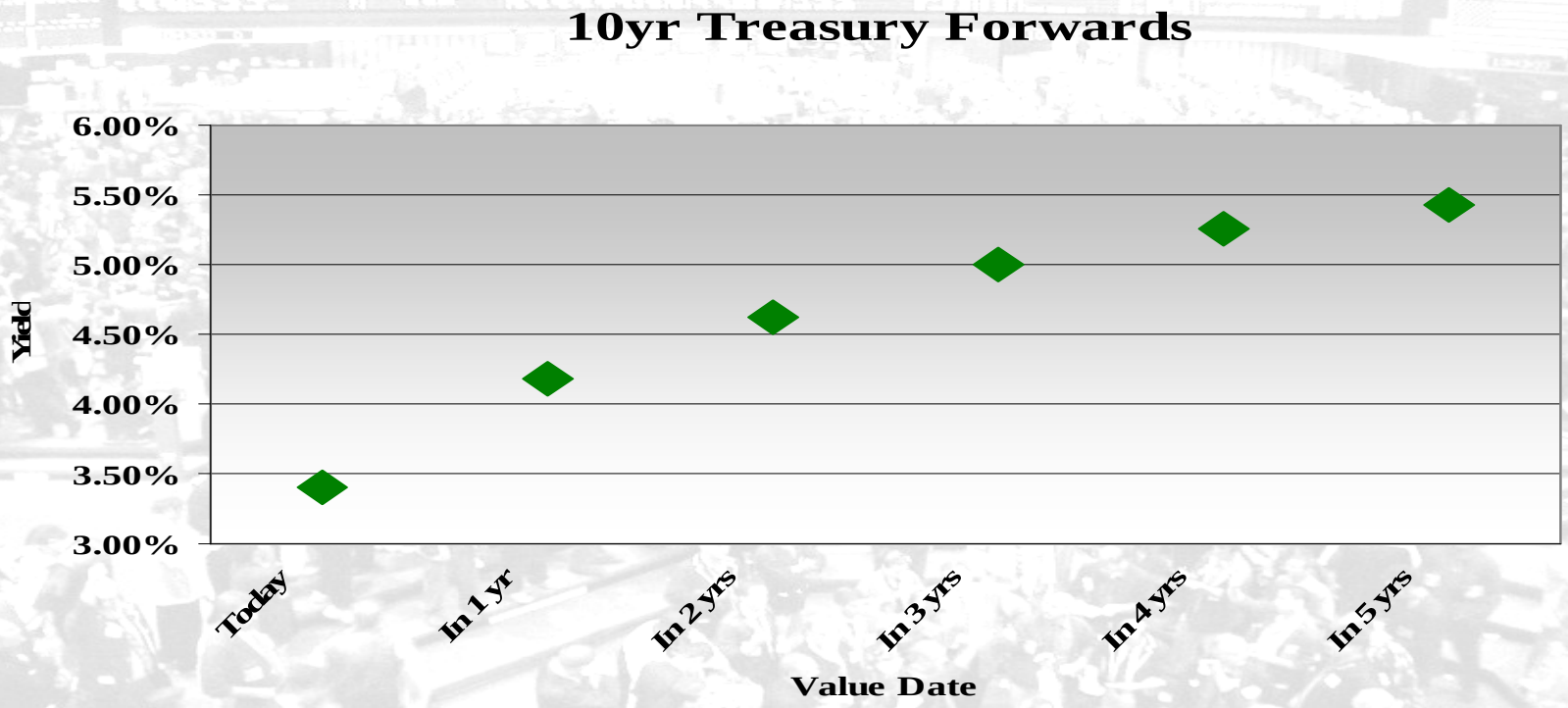
- ***How much does it "cost" to lock in the market index?***

COMPONENT	*TODAY*	*JULY 2012*
10yr Credit spread	*2.00%*	*2.00%*
10yr Market index - 10yr Treasury	*3.40%*	*4.40%*
All-in funding	*5.40%*	*6.40%*

- ***What is a "forward rate"***
  - ***The rate that the market expects the index to be on a future date***
  - ***In our example: market expects the 10yr Treasury in July 2012 to be 4.40%***
    - ***Market expects rates to increase (upward sloping yield curve)***
    - ***Differential between today's rate and forward rate is "cost" of lock***
    - ***The locked-in rate is the forward rate, not today's rate***

A Look At Forward Rates

- ***How does the market expect the index to move over time?***



Considerations When Hedging Rates

- ***Current forward rates represent the current expectation***
  - ***This means that there is a 50% chance that rates could be higher, and 50% chance that rates could be lower***
  - ***This does not mean that the market expects rates to be exactly at that yield, but it is the "equilibrium" level at which the balance of risks (higher vs. lower in the future) is 50-50***
  - ***Expectations will move and change, but market rates will always represent that "equilibrium" level***
- ***Forward rates reflect uncertainty about the economic future***
  - ***The longer the term, the higher the probability of increased rates***
  - ***<u>If you think the economy could recover sooner and rates might rise faster than expected, current rates represent attractive lock-in levels</u>***
  - ***The relative attractiveness of the cost of the hedge depends on your view***

Hedging With Rate Locks

- ***Rate Locks hedge against a single rate setting at a particular time***
  - *A rate in the future is hedged by locking in at today's forward rate*
  - *At settlement:*
    - *If rates rise, higher financing costs are offset by <u>receiving</u> payment from the hedge*
    - *If rates fall, lower financing costs are offset by <u>making</u> payment on the hedge*
- ***Rate Locks are best for those who…***
  - *Can satisfy any potential hedging payment at settlement*
  - *Are comfortable with profitability at today's rates, and are willing to forego the potential upside of lower rates*
- ***Rate Locks are flexible hedging products***
  - *They can be terminated at the replacement value, and can be restructured*
  - *They are separate from the financing*

Two Possible Rate Lock Types

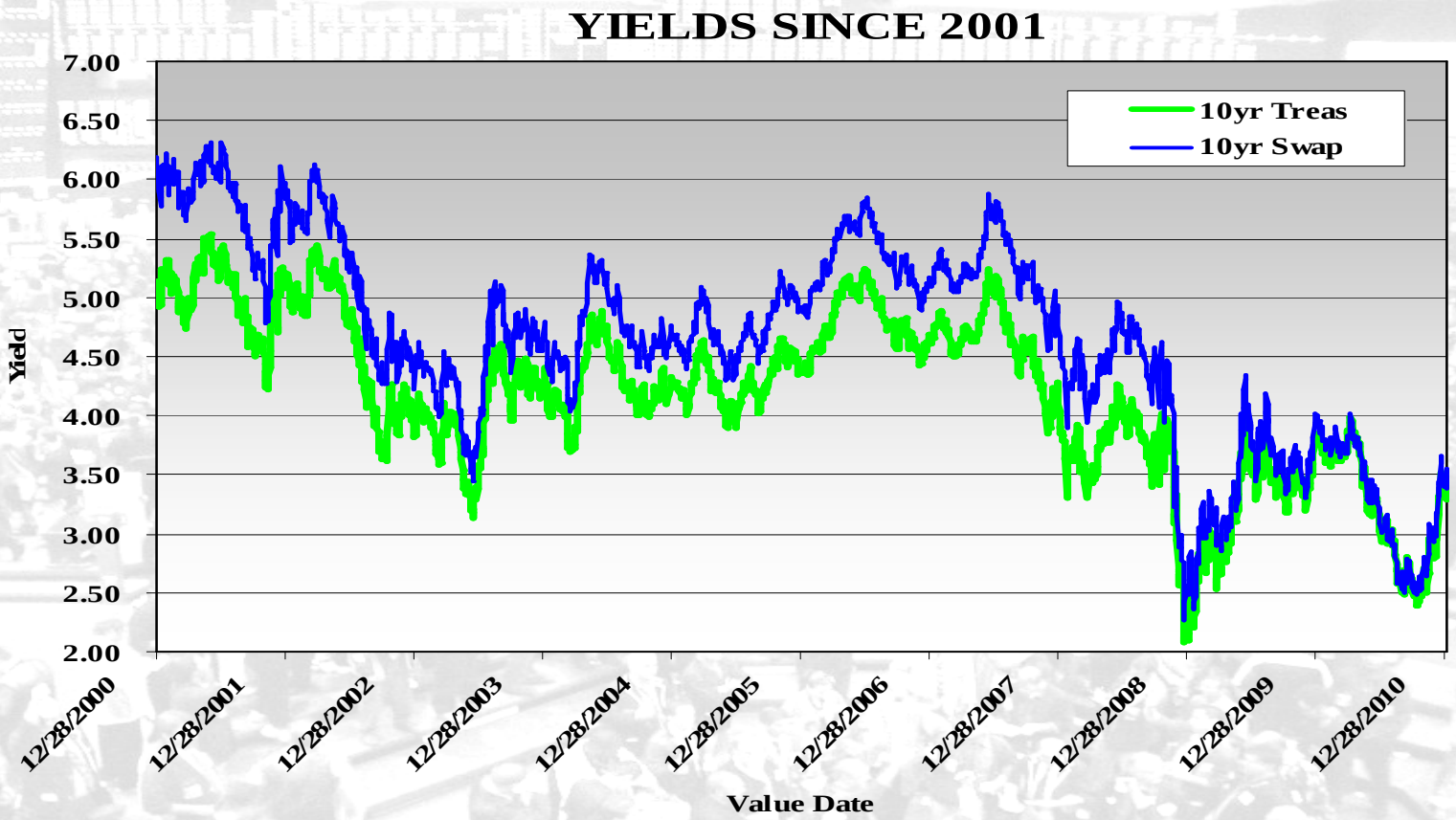
- ***Treasury Lock***
  - *Enter into a contract to lock-in the Treasury, settling at the time of permanent loan pricing (Example: 10yr Treasury yield settling July 2012)*
  - *Rate is locked at forward yield, and there are no upfront costs*
  - *Cash settle yield difference on settlement date - if Treasury yield is higher than the fixed contract yield, bank pays; if lower, bank is owed*

- ***Swap Lock***
  - *Enter into a contract to lock-in the swap rate, settling at the time of permanent loan pricing (Example: 10yr swap rate settling July 2012)*
  - *Rate is locked at forward yield, and there are no upfront costs*
  - *Cash settle yield difference on settlement date - if swap rate is higher than the fixed contract yield, bank pays; if lower, bank is owed*

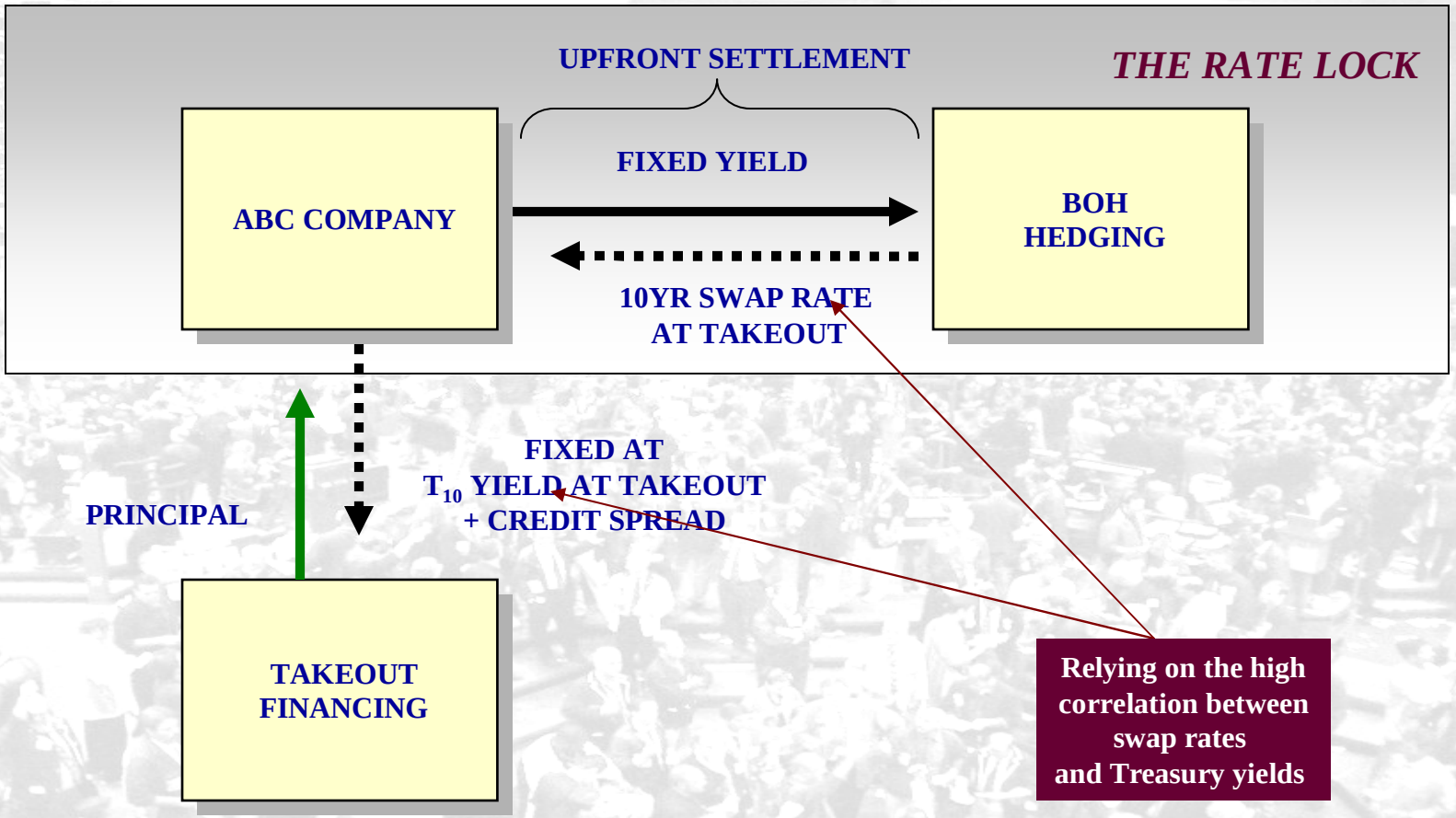
Benefits Of Swap Locks

- ***Swap Rates are as liquid if not more so than Treasuries***
  - ***Swap rates are not subject to the supply-demand and funding complications of securities markets, and are widely quoted and available***
- ***Swap Rates include a spread component***
  - ***If the credit spread remains unhedged, swap rates – representing a term borrowing rate for financials – include a spread component whose change could partly reflect the potential change in the credit spread of a borrower, although the correlation is far from assured***
- ***Swaps are more flexible in terms of timing***
  - ***If the construction phase runs long, the swap lock can kept in place and used as a continuing hedge against rising rates***
- ***Swaps can be used as a hedge if the permanent loan is floating***
  - ***They can be tailored to mimic the forecasted loan transaction, including amortizations, in order to hedge more exactly, in case the hedge stays in place***

Treasury Yields vs. Swap Rates



How A Swap Lock Works



Pricing & Settlement, Economic Impact

Rate lock pricing on earlier example:

PRICING	AMOUNT	SETTLE DATE	CURRENT YIELD	SPREAD TO TREASURY	FORWARD COST	FORWARD RATE
10yr Swap Rate	*$5,000,000*	*July 2012*	*3.50%*	*0.10%*	*1.00%*	*4.50%*

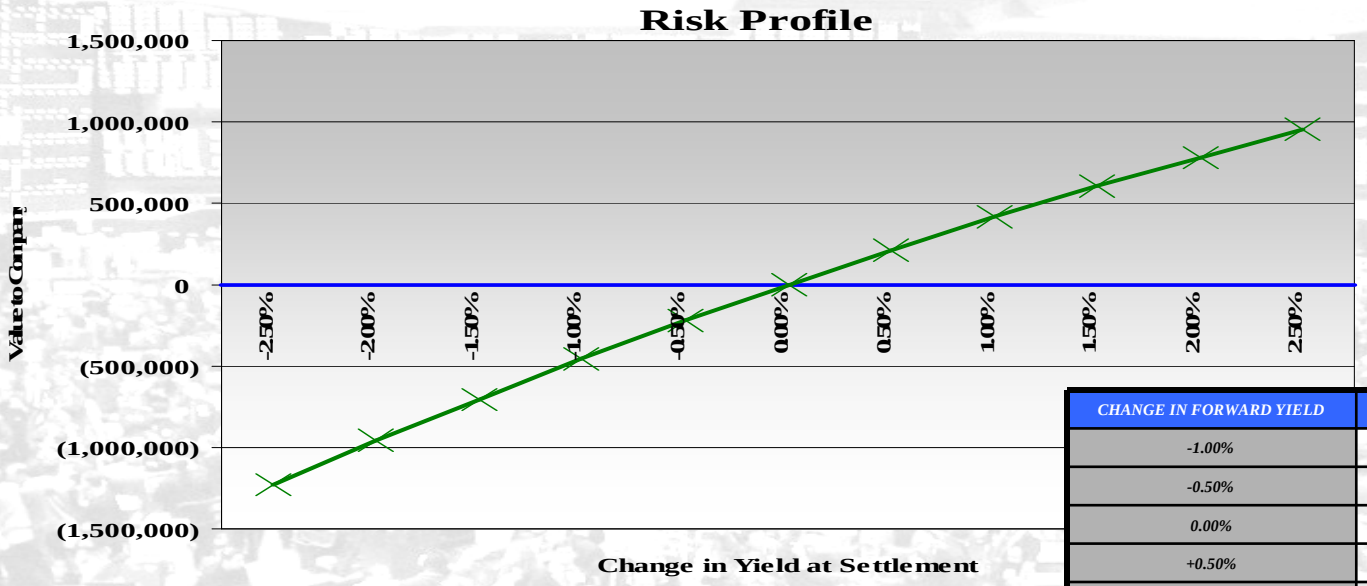
Cashflow – 10yr Swap Rate observed, settled on differential

- ***Example 1 – Locked at 4.50%, Rate is 5.50% on settlement date***
  - *$5,000,000 * (5.50% - 4.50%) * 10 yrs, discounted at 5.50% = ~$380,000 owed*
- ***Example 2 – Locked at 4.50%, Rate is 3.50% on settlement date***
  - *$5,000,000 * (4.50% - 3.50%) * 10 yrs, discounted at 3.50% = ~($420,000) due*

Cash settlement, if rolled into the loan, results in a hedged expense:

- ***Example 1 – 4.50% on $5,000,000 as compared to 5.50% on $4,620,000***
- ***Example 2 – 4.50% on $5,000,000 as compared to 3.50% on $5,420,000***

Sensitivity Analysis At Settlement



CHANGE IN FORWARD YIELD	TERMINATION AMOUNT
-1.00%	~($420,000)
-0.50%	-($205,000)
0.00%	0
+0.50%	185,000
+1.00%	380,000

Rate Locks can be terminated prior to maturity at their market value

- ***In example above, negative number: bank is due; positive number: bank owes***

Termination value is the same as the projected settlement amount

Considerations

- ***Collateral***
  - *If hedge provider is also construction lender, loan collateral will also secure the hedge*
  - *If hedge provider and construction lender are separate, different collateral (normally cash) will have to be used to secure the hedge*
- ***Credit risk***
  - *Your risk if the hedge provider fails to make future payments according to the transaction terms. Amount can be estimated by MTM replacement cost.*
- ***Matching permanent loan average life***
  - *The rate lock notional is set at inception, and does not change with any changes in takeout loan requirements. Any difference in the average life of the hedge with the average life of the permanent financing need to be resolved at inception.*