EXAMPLES OF THE APPLICATION OF ISSUE 04-7 For Discussion Purposes Only

For analysis purposes all entities described in the examples are presumed to be considered variable interest entities (VIEs)

Example 1: VIE 1

- VIE 1 purchases \$2,000,000 of fixed-rate assets with a 1-year maturity and a coupon of 2.44%.
- VIE 1 enters into an at-market, 1-year interest rate swap (pay fixed (2.26%), receive 1year LIBOR minus 20 bps).
 - The interest rate swap has a notional amount of \$1,900,000 and is senior to the equity and the senior notes in the event of default of the underlying assets.
- VIE 1 issues \$2,000,000 of 1-year senior notes and equity to finance the purchase of the fixed-rate assets:
 - o \$1,900,000 of floating-rate senior notes (1-year LIBOR) and
 - o \$100,000 of equity.
- VIE 1 is not actively managed.

The following is VIE 1's balance sheet at inception of the transaction:

VIE 1 Balance Sheet <u>Assets:</u> Investments - Fixed-Rate (2.44%)	2,000,000	<u>Liabilities and Equity:</u> Senior Notes - Floating-Rate (1-year LIBOR) Total Liabilities	1,900,000 1,900,000
Total Assets	2,000,000	<u>Equity:</u> Common Stock Total Equity Total Liabilities and Equity	100,000 100,000 2,000,000

The credit rating of the assets is not known for this specific example. However, the following are the possible credit loss rates and the probability of each credit loss rate (rounded for presentation purposes), as well as the possible LIBOR scenarios at the end of each year:

Credit Loss		7	1-year LIBOR
Rates	Probability		minus 20bps
0.00%	24.93%	1	1.06%
0.00%	24.93%		1.90%
0.00%	24.93%		2.50%
0.65%	24.93%		3.55%
5.00%	0.16%		3.70%
15.00%	0.13%		3.90%

VIE 1 – Risk Approach Consolidation Analysis

Step 1 – Gain an understanding of the rights and obligations of the variable interest entity's counterparties.

Under the Risk Approach, the first step in the FIN 46R consolidation analysis is to identify the creators of variability and the absorbers of variability (the latter being the variable interests). This analysis is performed based on the following factors:

- The entity's activities,
- The terms of the rights and obligations of the entity's assets, liabilities, equity, and other contracts, and their respective roles with the VIE, and
- Whether contractual arrangements create and/or absorb variability.

In this transaction, there are two *possible* creators:

- 1. The fixed-rate assets and
- 2. The receive floating leg from VIE 1's perspective of the interest rate swap (or the interest rate swap in its entirety).

After identifying the possible creators of variability, the *possible* absorbers of variability or the variable interests were identified:

- 1. The senior notes,
- 2. The pay fixed leg from VIE 1's perspective of the interest rate swap (if the interest rate swap is not included as a creator in its entirety), and
- 3. The equity.

Step 2 – Determine and measure the variability of the entity that creates the significant risk(s) to the entity's subordinated variable interest(s).

Before measuring the variability of VIE 1, the Risk Approach first considers whether all of the variability of the *possible* creators (for example, the fixed-rate assets and the receive floating leg of the interest rate swap¹) disproportionately affects and creates significant risk(s) to the entity's subordinated interest(s). For example, the receive floating leg of the interest rate swap creates

¹ For simplicity, the remainder of the example assumes that the swap is not a creator of variability in its entirety (a view held by some industry participants—because both legs relate to the same risk—and which produces the same outcome as the Risk Approach). Rather, each leg of the swap is bifurcated and separately assessed in the example.

cash flow variability in VIE 1. However, that variability does not affect the subordinate variable interest holder (the equity investor) disproportionately. Thus, the Risk Approach excludes the variability created by the receive floating leg of the interest rate swap by excluding the cash flows of the swap from the cash flows of the net assets. The Risk Approach also excludes the accrued interest expected to be received in one-year on the fixed-rate assets from the measurement and allocation of VIE 1's variability because variability in the accrued interest disproportionately affects the senior note holders not the equity holders.²

In measuring the variability of VIE 1, the Risk Approach also considers whether the entity is structured to buy and hold the assets it has purchased and whether the maturity of its assets principally matches with the maturity of the variable interests in VIE 1. In this example, VIE 1 is created to buy and hold the fixed-rate assets, and those assets mature at the same time as the variable interests in VIE 1.³ Consequently, in measuring the variability of VIE 1, the Risk Approach also excludes changes in fair value of the fixed-rate assets during the term of the transaction due to changes in interest rates. Those changes in fair value do not affect the subordinate interest holder (the equity investor) disproportionately.

Under the Risk A	nnroach the	variability of	VIF 1 is	measured as	follows ⁴ .
Under the KISK A	approach, me	variaulity of	VIL 1 15	incasured as	Ionows .

Estimated Cash Flows	Probability	Expected Cash Flows
2,000,000	24.93%	498,534
2,000,000	24.93%	498,534
2,000,000	24.93%	498,534
1,987,000	24.93%	495,294
1,900,000	0.16%	3,040
1,700,000	0.13%	2,264
	100.00%	1,996,200
	Estimated Cash Flows 2,000,000 2,000,000 1,987,000 1,900,000 1,700,000	Estimated Cash Flows Probability 2,000,000 24.93% 2,000,000 24.93% 2,000,000 24.93% 1,987,000 24.93% 1,900,000 0.16% 1,700,000 0.13% 100.00% 100.00%

						Expected	PV of	PV of Expected
	Estimated	Expected Cash			Expected	Residual	Expected	Residual
Scenario	Cash Flows	Flows	Difference	Probability	Losses	Returns	Losses	Returns
1	2,000,000	1,996,200	3,800	24.93%	0	947	0	926
2	2,000,000	1,996,200	3,800	24.93%	0	947	0	926
3	2,000,000	1,996,200	3,800	24.93%	0	947	0	926
4	1,987,000	1,996,200	(9,200)	24.93%	(2,293)	0	(2,243)	0
5	1,900,000	1,996,200	(96,200)	0.16%	(154)	0	(151)	0
6	1,700,000	1,996,200	(296,200)	0.13%	(395)	0	(386)	0
					(2,842)	2,842	(2,779)	2,779

The varying estimated cash flows on the fixed-rate assets of VIE 1 result from the possible credit loss scenarios.

² When attempting to determine the primary beneficiary of a VIE, the Risk Approach excludes variability that does not disproportionately affect the subordinate interest holders. Therefore, the Risk Approach excludes accrued interest expected to be received on an entity's assets when measuring and allocating variability.

³ Insignificant differences between the maturity of the assets and the maturity of the variable interests may occur; for example, due to the availability of the assets in the market. Judgment should be applied to determine whether a specific mismatch would significantly impact the subordinated interest holders.

⁴ One-year present value (PV) calculations assume a discount rate of 2.25%.

Step 3 – Determine which enterprise is the primary beneficiary by analyzing expected losses/expected residual returns based on the types of variability identified in Step 2 and the variable interest holders that absorb the variability.

The variability calculated in Step 2 is then allocated to the variable interest holders. This allocation may be performed by taking each expected loss and expected residual return scenario and allocating those individual scenarios to the variable interest holders based on the variable interest holders' contractual rights and obligations.⁵ The following tables demonstrate how the variability of VIE 1 may be allocated under the Risk Approach:

			Allocation to	Allocation to Note Investor Alloc		Equity Investor	Tot	al VIE
				Expected		Expected		Expected
			Expected	Residual	Expected	Residual	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Returns	Losses	Returns
1	3,800	24.93%	0	0	0	947	0	947
2	3,800	24.93%	0	0	0	947	0	947
3	3,800	24.93%	0	0	0	947	0	947
4	(9,200)	24.93%	0	0	(2,293)	0	(2,293)	0
5	(96,200)	0.16%	0	0	(154)	0	(154)	0
6	(296,200)	0.13%	(261)	0	(133)	0	(395)	0
			(261)	0	(2.580)	2.842	(2.842)	2.842

			Allocation to	Allocation to Note Investor Allocation to Equity Investor		То	tal VIE	
				PV of Expected	PV of	PV of Expected	PV of	PV of Expected
	PV of		PV of Expected	Residual	Expected	Residual	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Returns	Losses	Returns
1	3,717	24.93%	0	0	0	926	0	926
2	3,717	24.93%	0	0	0	926	0	926
3	3,717	24.93%	0	0	0	926	0	926
4	(8,998)	24.93%	0	0	(2,243)	0	(2,243)	0
5	(94,087)	0.16%	0	0	(151)	0	(151)	0
6	(289,695)	0.13%	(256)	0	(130)	0	(386)	0
			(256)	0	(2,524)	2,779	(2,779)	2,779

The equity investor absorbs all of the variability of VIE 1. Consequently, the equity investor consolidates VIE 1 under the Risk Approach.⁶

⁵ In each of the examples presented herein, one allocation method under the Risk Approach is assumed. More than one allocation method has been used in practice, and no specific allocation methodology is endorsed in this Supplement.

⁶ If the entity were structured such that the equity did not absorb a majority of the expected losses (residual returns), the Risk Approach would allocate the excess losses (returns) to the next most subordinate interest holder.

VIE 1 – Presumption Approach Consolidation Analysis

Step 1 – Determine whether the entity is a Financial or Non-financial VIE that derives its value from the active management of the assets.

The first step of the Presumption Approach provides for the determination of whether the fair value method should be used to measure the variability of VIE 1. VIE 1 is a *Financial VIE* that does not derive its value from the active management of its assets. As such the cash flow method should be used to measure the variability of VIE 1 (and the variable interests).

Step 2 – Measure the variability (fair value or cash flow only) of the VIE.

We assume that the variability of VIE 1 under the Presumption Approach would be based solely on the cash flow variability of the entity's assets. The Presumption Approach measures and allocates all variability, including variability that does not disproportionately affect the subordinate interest holders. That variability measured in the following table is calculated with the inclusion of the cash flows of certain swap transactions as part of the entity's estimated cash flows from net assets.

					PV of
	Estimated		PV of Est. Cash		Expected
Scenario	Cash Flows	Discount Rate	Flows	Probability	Cash Flows
1	2,025,920	2.25%	1,981,430	24.93%	493,905
2	2,042,062	2.25%	1,997,217	24.93%	497,840
3	2,053,462	2.25%	2,008,367	24.93%	500,620
4	2,060,095	2.25%	2,014,854	24.93%	502,237
5	1,973,822	2.25%	1,930,476	0.16%	3,089
6	1,772,742	2.25%	1,733,812	0.13%	2,309
					2,000,000

					PV of	PV of Expected
	PV of Est.	PV of Expected			Expected	Residual
Scenario	Cash Flows	Cash Flows	Difference	Probability	Losses	Returns
1	1,981,430	2,000,000	(18,570)	24.93%	(4,629)	0
2	1,997,217	2,000,000	(2,783)	24.93%	(694)	0
3	2,008,367	2,000,000	8,367	24.93%	0	2,086
4	2,014,854	2,000,000	14,854	24.93%	0	3,703
5	1,930,476	2,000,000	(69,524)	0.16%	(111)	0
6	1,733,812	2,000,000	(266,188)	0.13%	(355)	0
					(5,788)	5,788

Note that the VIE-level variability (\$5,788) under the Presumption Approach is different from the VIE-level variability (\$2,779) under the Risk Approach. The two are different solely because the estimated cash flows of the Presumption Approach include the interest received on the fixed-rate assets net of the interest rate swap. (See discussion under Step 2 of the Risk Approach.)

Step 3 – Measure the variability (fair value or cash flow only) of the variable interests.

The next step of the Presumption Approach requires the independent calculation of the variability of each of the variable interests that absorb cash flow variability. Because the senior notes are floating-rate, the senior notes are considered to absorb cash flow variability.

The cash flow variability is based on changes in LIBOR (minus 20 bps). Using these possible LIBOR scenarios, the variability of the senior notes shown below is reflected in the estimated cash flows that are calculated by multiplying the notional amount of the senior notes outstanding by 1 + the variable rate, and then subtracting the amount of credit losses to be absorbed by the senior note holders:

					PV of
	Estimated		PV of Est. Cash		Expected
Scenario	Cash Flows	Disc. Rate	Flows	Probability	Cash Flows
1	1,920,050	2.25%	1,877,885	24.93%	468,095
2	1,936,192	2.25%	1,893,673	24.93%	472,030
3	1,947,592	2.25%	1,904,822	24.93%	474,809
4	1,967,542	2.25%	1,924,334	24.93%	479,673
5	1,970,392	2.25%	1,927,122	0.16%	3,083
6	1,772,742	2.25%	1,733,812	0.13%	2,309
				100.00%	1,900,000

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	1,877,885	1,900,000	(22,115)	24.93%	(5,513)	0
2	1,893,673	1,900,000	(6,327)	24.93%	(1,577)	0
3	1,904,822	1,900,000	4,822	24.93%	0	1,202
4	1,924,334	1,900,000	24,334	24.93%	0	6,066
6	1,927,122	1,900,000	27,122	0.16%	0	43
4	1,733,812	1,900,000	(166,188)	0.13%	(221)	0
				100.00%	(7,311)	7,311

The equity investor also absorbs cash flow variability because the equity investor absorbs credit losses related to the fixed-rate assets of VIE 1. The estimated cash flows for the equity holders are calculated as the difference between the estimated cash flows of the entity and the estimated cash flows of the senior note holders. The variability of the equity investor under the Presumption Approach is measured as follows⁷:

⁷ Note that the equity investor does not absorb any cash flow variability due to changes in interest rates because the residual interest paid to the equity investor is fixed. (The notional amount of the interest rate swap is \$1,900,000, not \$2,000,000.)

					PV of
	Estimated		PV of Est. Cash		Expected
Scenario	Cash Flows	Disc. Rate	Flows	Probability	Cash Flows
1	105,870	2.25%	103,545	24.93%	25,810
2	105,870	2.25%	103,545	24.93%	25,810
3	105,870	2.25%	103,545	24.93%	25,810
4	92,553	2.25%	90,520	24.93%	22,564
5	3,430	2.25%	3,354	0.16%	5
6	0	2.25%	0	0.13%	0
				100.00%	100,000

a .	PV of Est.	PV of Expected	5100		PV of Expected	PV of Expected Residual
Scenario	Cash Flows	Cash Flows	Difference	Probability	Losses	Returns
1	103,545	100,000	3,545	24.93%	0	884
2	103,545	100,000	3,545	24.93%	0	884
3	103,545	100,000	3,545	24.93%	0	884
4	90,520	100,000	(9,480)	24.93%	(2,363)	0
5	3,354	100,000	(96,646)	0.16%	(155)	0
6	0	100,000	(100,000)	0.13%	(133)	0
				100.00%	(2,651)	2,651

Step 4 – Reconcile the differences between the variability calculated in Steps 2 and 3.

Because the Presumption Approach measures the variability of the VIE and the variable interests separately, it is necessary to perform a reconciliation. The following table illustrates the difference between the two variability measures:

Senior Note Investor		Equity 1	Investor	Total EL and	ERR of VIs	Total EL and	ERR of the VIE
(5,513)	0	0	884	(5,513)	884	(4,629)	0
(1,577)	0	0	884	(1,577)	884	(694)	0
0	1,202	0	884	0	2,086	0	2,086
0	6,066	(2,363)	0	(2,363)	6,066	0	3,703
0	43	(155)	0	(155)	43	(111)	0
(221)	0	(133)	0	(355)	0	(355)	0
(7,311)	7,311	(2,651)	2,651	(9,962)	9,962	(5,788)	5,788

A reconciliation process for the Presumption Approach is not assumed. However, that reconciliation will determine the *initial* consolidation conclusion for VIE 1 under the Presumption Approach.

Step 5 – Reconsider the consolidation conclusion from Step 5 if the initial consolidation conclusion "results in the consideration of variability that the potential VIE was not clearly designed to be exposed to."

Depending on the reconciliation process employed in Step 4, the consolidation conclusion under the Presumption Approach could result in the initial determination that the senior note investor

consolidates VIE 1. The Presumption Approach includes a provision enabling the reconsideration of the initial consolidation conclusion if the Presumption Approach results in an initial consolidation conclusion based upon variability that the entity was not clearly designed to be exposed to. Depending on how one interprets the "design" of the entity, one could conclude that the entity was designed to distribute credit risk, and the equity investor absorbs the credit risk of VIE 1. Step 5 would require the re-measurement of the variability of the variable interests using the fair value method.

Example 2: VIE 2

- VIE 2 purchases \$10,000,000 of fixed-rate assets with a 10-year maturity and a coupon of 5.32%.
- VIE 2 issues \$10,000,000 of 1-year senior notes and equity to finance the purchase of the fixed-rate assets:
 - o \$9,850,000 of fixed-rate senior notes (3.16%) and
 - o \$150,000 of equity.
- VIE 2 is actively managed.

The following is VIE 2's balance sheet at inception of the transaction:

VIE 2 Balance Sheet <u>Assets:</u> Investments - Fixed Rate (5.32%)	10,000,000	Liabilities and Equity: Senior Debt - Fixed Rate (3.16%) Total Liabilities	9,850,000 9,850,000
		<u>Equity:</u> Common Stock Total Equity	<u> 150,000 </u> 150,000
Total Assets	10,000,000	Total Liabilities and Equity	10,000,000

At the end of one year, the assets of VIE 2 will be sold, and the proceeds received from the sale are distributed first to the senior note to pay off its principal. The remainder is distributed to the equity investor. There are two important factors that we consider in this example that affect the sales proceeds: (a) changes in the long-term risk-free interest rate and (b) credit losses. Those two factors will impact the cash available for distribution to the investors at the end of one-year. The following table provides the long-term risk-free interest rate and credit loss assumptions for VIE 2, and it also shows the expected sale proceeds (which are determined based upon the present value of the interest and principal payments received on the notes discounted using the long-term risk-free rates provided) from the fixed-rate assets at the end of one year:

	Long-term Risk-			
	Free Interest	Credit Loss		Cash Received
Sale Scenarios	Rate Scenarios	Rates	Probability	From Sale
1	5.00%	0.00%	10%	10,229,108
2	5.50%	1.38%	40%	9,740,253
3	6.00%	2.30%	40%	9,319,780
4	6.50%	2.76%	10%	8,961,891

VIE 2 – Risk Approach Consolidation Analysis

Step 1 – Gain an understanding of the rights and obligations of the variable interest entity's counterparties.

In this transaction, the only creator of variability in VIE 2 is the fixed-rate assets. The following are the possible absorbers of variability or the variable interests:

- 1. The senior notes and
- 2. The equity.

Step 2 – Determine and measure the variability of the entity that creates the significant risk(s) to the entity's subordinated variable interest(s).

Again, before measuring the variability of VIE 2, the Risk Approach first considers whether *all* of the variability of the creators (the fixed-rate assets) disproportionately affects the subordinate variable interest holders. Note that unlike VIE 1 described above, the maturity of VIE 2's assets do <u>not</u> principally match the maturity of the variable interests in VIE 2. As a result, in measuring the variability of VIE 2, the Risk Approach includes changes in fair value of the fixed-rate assets during the term of the transaction because those changes in fair value affect the subordinate interest holders disproportionately. (Upon liquidation of the fixed-rate assets of VIE 2, gains or losses from the sale of the assets are absorbed by the equity holder disproportionately. Those gains or losses are driven by changes in fair value of the assets.)

Under the Risk Approach, the variability of VIE 2 is measured as follows using estimated cash flows that reflect the sales proceeds⁸:

	Estimated Cash		Expected
Scenario	Flows	Probability	Cash Flows
1	10,229,108	10.00%	1,022,911
2	9,740,253	40.00%	3,896,101
3	9,319,780	40.00%	3,727,912
4	8,961,891	10.00%	896,189
		100.00%	9,543,113

							PV of	
	Estimated Cash	Expected Cash			Expected	Expected Residual	Expected	PV of Expected
Scenario	Flows	Flows	Difference	Probability	Losses	Returns	Losses	Residual Returns
1	10,229,108	9,543,113	685,995	10.00%	0	68,599	0	67,093
2	9,740,253	9,543,113	197,140	40.00%	0	78,856	0	77,124
3	9,319,780	9,543,113	(223,333)	40.00%	(89,333)	0	(87,371)	0
4	8,961,891	9,543,113	(581,222)	10.00%	(58,122)	0	(56,846)	0
				100.00%	(147,455)	147,455	(144,217)	144,217

Step 3 – Determine which enterprise is the primary beneficiary by analyzing expected losses/expected residual returns based on the types of variability identified in Step 2 and the variable interest holders that absorb the variability.

The variability calculated in Step 2 is then allocated to the variable interest holders. This allocation may be performed by taking each expected loss and expected residual return scenario and allocating those individual scenarios to the variable interest holders based on the variable interest holders' contractual rights and obligations.⁹

⁸ See footnote 2.

⁹ See footnote 5.

The following tables demonstrate how the variability of VIE 2 may be allocated under the Risk Approach:

			Allocation	Allocation to Note Investor		Allocation to Equity Investor		Total VIE	
Scenario	Difference	Probability	Expected Losses	Expected Residual Returns	Expected Losses	Expected Residual Returns	Expected Losses	Expected Residual Returns	
1	685,995	10.00%	0	0	0	68,599	0	68,599	
2	197,140	40.00%	0	0	0	78,856	0	78,856	
3	(223,333)	40.00%	(29,333)	0	(60,000)	0	(89,333)	0	
4	(581,222)	10.00%	(43,122)	0	(15,000)	0	(58,122)	0	
		100.00%	(72,455)	0	(75,000)	147,455	(147,455)	147,455	
			Allocation	to Note Investor	Allocation	to Equity Investor	Т	otal VIE	
			PV of		PV of		PV of		
			Expected	PV of Expected	Expected	PV of Expected	Expected	PV of Expected	

			Anocation	Anocation to Note Investor		o Equity Investor	TOTAL ALE	
			PV of		PV of		PV of	
			Expected	PV of Expected	Expected	PV of Expected	Expected	PV of Expected
Scenario	Difference	Probability	Losses	Residual Returns	Losses	Residual Returns	Losses	Residual Returns
1	670,930	10.00%	0	0	0	67,093	0	67,093
2	192,811	40.00%	0	0	0	77,124	0	77,124
3	(218,429)	40.00%	(28,689)	0	(58,682)	0	(87,371)	0
4	(568,458)	10.00%	(42,175)	0	(14,671)	0	(56,846)	0
		100.00%	(70,864)	0	(73,353)	144,217	(144,217)	144,217

Based on the allocation shown here in Step 3 of the Risk Approach, the equity investor absorbs a majority of the variability of VIE 2.

VIE 2 – Presumption Approach Consolidation Analysis

Step 1 – Determine whether the entity is a Financial or Non-financial VIE that derives its value from the active management of the assets.

The first step of the Presumption Approach provides for the determination of whether the fair value method should be used to measure the variability of VIE 2. VIE 2 is a *Financial VIE* that derives its value from the active management of its assets. As such, the fair value method should be used to measure the variability of VIE 2.

Step 2 – Measure the variability (fair value or cash flow only) of the VIE.

In addition to the two factors that impact the variability of VIE 2 (changes in the long-term risk-free interest rate and credit losses), under the Presumption Approach, changes in the one-year risk-free rate also impact the measurement of the variability of VIE 2. This additional factor is included in the Presumption Approach because the fair value method requires the use of varying discount rates when discounting future expected variability.

The following table provides the long-term and one-year risk-free interest rate scenarios and the credit loss assumptions for VIE 2. It also shows the expected sale proceeds, including accrued interest income, from the fixed-rate assets at the end of one year¹⁰:

¹⁰ The sale proceeds under the Presumption Approach are different from the sales proceeds under the Risk Approach because the Presumption Approach includes changes in fair value of the fixed interest (5%) that will be received by VIE 2 at the end of year one (prior to the assets being sold). Changes in the fair value of that fixed interest received are measured using the one-year risk-free interest rate scenarios.

Sale Scenarios	Long-term Risk-Free Interest Rate Scenarios	1-year Risk-Free Interest Rate Scenarios	Credit Loss Rates	Probability	Cash Received From Sale and Interest
1	5.00%	1.50%	0.00%	10%	10,761,341
2	5.50%	2.00%	0.15%	40%	10,393,102
3	6.00%	2.50%	0.25%	40%	10,046,126
4	6.50%	3.00%	0.30%	10%	9,719,120

Based on those sales proceeds assumptions (inclusive of accrued interest income), the variability of VIE 2 is measured in the following table:

					PV of
	Estimated		PV of Est.		Expected Cash
Scenario	Cash Flows	Discount Rate	Cash Flows	Probability	Flows
1	10,761,341	1.50%	10,602,306	10.00%	1,060,231
2	10,393,102	2.00%	10,189,315	40.00%	4,075,726
3	10,046,126	2.50%	9,801,098	40.00%	3,920,439
4	9,719,120	3.00%	9,436,039	10.00%	943,604
				100.00%	10,000,000

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	10,602,306	10,000,000	602,306	10.00%	0	60,231
2	10,189,315	10,000,000	189,315	40.00%	0	75,726
3	9,801,098	10,000,000	(198,902)	40.00%	(79,561)	0
4	9,436,039	10,000,000	(563,961)	10.00%	(56,396)	0
				100.00%	(135,957)	135,957

Step 3 – Measure the variability (fair value or cash flow only) of the variable interests.

The following table measures the variability of the senior notes (with estimated cash flows computed as the notional amount of the notes outstanding multiplied by (1 + the variable rate), then subtracting the credit losses the senior notes are exposed to) under the Presumption Approach:

a .	Estimated		PV of Est.	B 1 1 1 1	PV of Expected Cash
Scenario	Cash Flows	Disc. Kate	Cash Flows	Probability	Flows
1	10,161,341	1.500%	10,011,173	10.00%	1,001,117
2	10,161,341	2.000%	9,962,099	40.00%	3,984,839
3	10,046,126	2.500%	9,801,098	40.00%	3,920,439
4	9,719,120	3.000%	9,436,039	10.00%	943,604
				100.00%	9,850,000

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	10,011,173	9,850,000	161,173	10.00%	0	16,117
2	9,962,099	9,850,000	112,099	40.00%	0	44,839
3	9,801,098	9,850,000	(48,902)	40.00%	(19,561)	0
4	9,436,039	9,850,000	(413,961)	10.00%	(41,396)	0
				100.00%	(60,957)	60,957

The following table measures the variability of the equity (which represents the difference between variability of the entity and variability of the senior notes) under the Presumption Approach:

	Estimated		PV of Est.		PV of Estimated
Scenario	Cash Flows	Disc. Rate	Cash Flows	Probability	Cash Flows
1	600,000	1.500%	591,133	10.00%	59,113
2	231,761	2.000%	227,217	40.00%	90,887
3	0	2.500%	0	40.00%	0
4	0	3.000%	0	10.00%	0
				100.00%	150,000

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	591,133	150,000	441,133	10.00%	0	44,113
2	227,217	150,000	77,217	40.00%	0	30,887
3	0	150,000	(150,000)	40.00%	(60,000)	0
4	0	150,000	(150,000)	10.00%	(15,000)	0
				100.00%	(75,000)	75,000

Step 4 – Reconcile the differences between the variability calculated in Steps 2 and 3.

The following table illustrates the difference between the two variability measures:

Senior Note Investor Equity Investor		Total EL and	Total EL and ERR of VIs		Total EL and ERR of the VIE		
0	16,117	0	44,113	0	60,231	0	60,231
0	44,839	0	30,887	0	75,726	0	75,726
(19,561)	0	(60,000)	0	(79,561)	0	(79,561)	0
(41,396)	0	(15,000)	0	(56,396)	0	(56,396)	0
(60,957)	60,957	(75,000)	75,000	(135,957)	135,957	(135,957)	135,957

Unlike Example 1, a reconciliation process for the Presumption Approach is not required in Example 2. The Equity Investor consolidated VIE 2 under the Presumption Approach.

Step 5 – Reconsider the consolidation conclusion from Step 4 if the initial consolidation conclusion "results in the consideration of variability that the potential VIE was not clearly designed to be exposed to.

Assuming the initial consolidation conclusion for VIE 2 in Step 4 is consistent with the variability the entity was designed to be exposed to, Step 5 of the Presumption Approach is not required for this example.

Example 3: VIE 3

- VIE 3 issues \$5,000,000 of 5-year fixed-rate (3.5%), credit-linked notes referenced to Company XYZ (AA-rated company).
- VIE 3 purchases \$5,000,000 of fixed-rate (3.1%) assets (AAA-rated) with a 5-year maturity.
- VIE 3 enters into a credit default swap ("CDS") with Bank in which VIE 3 sells credit protection to Bank on Company XYZ.
 - In exchange for the credit protection provided under the CDS, Bank pays VIE 3 40 basis points per annum.
- VIE 3 is not actively managed.

The following is VIE 3's balance sheet at inception of the transaction:

VIE 3 Balance Sheet			
Assets:		Liabilities and Equity:	
AAA Investments - Fixed-Rate (3.1%)	5,000,000	Credit-linked Notes - Fixed-Rate (3.5%)	5,000,000
Total Assets	5,000,000	Total Liabilities and Equity	5,000,000

At the end of five years if no defaults have occurred, the assets of VIE 3 mature, and the proceeds received are distributed to the credit-linked note investor(s). However, to the extent that the referenced credit (Company XYZ) defaults, the CDS will be net cash settled. That is, in the event of a Company XYZ default, specific obligations of Company XYZ are priced in the market. VIE 3 pays to Bank the difference between the price of the specific Company XYZ obligations and the par value of those obligations by selling its AAA investments in the market. The remainder of the cash after settling the CDS is paid to the credit-linked note investor(s).

Additionally, if the collateral (the AAA investments) defaults during the term of the transaction, the investor(s) in the credit-linked notes absorb the loss.

There are two important factors to consider in this example that affect the variability of VIE 3: (a) credit losses related to Company XYZ and (b) credit losses related to the AAA investments. Those two factors will impact the cash available for distribution to the investors and the CDS counterparty. The following table provides the five-year average default rates for AAA-rated and AA-rated securities and credit loss assumptions for VIE 3¹¹:

¹¹ The probabilities for each scenario are calculated based on four possible scenarios (1-No defaults, 2-default of AAA-rated investments only, 3-default of Company XYZ only, 4-default of both).

	Ave. Default	Ave. Default		
Scenario	Rate - AAA	Rate - AA	Credit Losses	Probability
1	0.190%	0.820%	0.000%	98.992%
2			35.000%	0.188%
3			35.000%	0.818%
4			70.000%	0.002%
				100.000%

VIE 3 – Risk Approach Consolidation Analysis

Step 1 – Gain an understanding of the rights and obligations of the variable interest entity's counterparties.

In this transaction, there are two creators of variability in VIE 3:

- 1. The Company XYZ referenced obligation and
- 2. The AAA investments held as collateral in VIE 3.

After identifying the creators of variability, the possible absorbers of variability or the variable interests are identified:

- 1. The credit-linked notes and
- 2. The CDS.

Step 2 – Determine and measure the variability of the entity that creates the significant risk(s) to the entity's subordinated variable interest(s).

VIE 3 is structured to buy and hold the assets it has purchased. Further, the maturity of its assets principally matches the maturity of the variable interests in VIE 3. As a result, in measuring the variability of VIE 3, the Risk Approach excludes changes in fair value of the fixed-rate assets during the term of the transaction due to changes in interest rates because those changes in fair value do not affect the subordinate interest holders (the credit-linked note investors) disproportionately.¹²

¹² See footnote 2.

Under the Risk Approach, the variability of VIE 3 is measured (using estimated cash flows equal to the cash flows of the assets held as collateral, plus the cash flows from the CDS, less the expected credit losses) as follows¹³:

Scenario	Estimated Cash Flows	Probability	Expected Cash Flows
1	10,000,000	98.992%	9,899,156
2	6,500,000	0.188%	12,249
3	6,500,000	0.818%	53,199
4	3,000,000	0.002%	47
		100.000%	9,964,650

							PV of	PV of Expected
	Estimated	Expected Cash			Expected	Expected	Expected	Residual
Scenario	Cash Flows	Flows	Difference	Probability	Losses	Residual Returns	Losses	Returns
1	10,000,000	9,964,650	35,350	98.992%	0	34,994	0	30,186
2	6,500,000	9,964,650	(3,464,650)	0.188%	(6,529)	0	(5,632)	0
3	6,500,000	9,964,650	(3,464,650)	0.818%	(28,356)	0	(24,460)	0
4	3,000,000	9,964,650	(6,964,650)	0.002%	(109)	0	(94)	0
					(34,994)	34,994	(30,186)	30,186

Step 3 – Determine which enterprise is the primary beneficiary by analyzing expected losses/expected residual returns based on the types of variability identified in Step 2 and the variable interest holders that absorb the variability.

The variability calculated in Step 2 is then allocated to the variable interest holders. This allocation may be performed by taking each expected loss and expected residual return scenario and allocating those individual scenarios to the variable interest holders based on the variable interest holders' contractual rights and obligations. The following tables demonstrate how the variability of VIE 3 may be allocated under the Risk Approach:

			Allocation to Note Investor		Allocation to	CDS Counterparty	Total VIE	
				Expected				Expected
			Expected	Residual	Expected	Expected	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Residual Returns	Losses	Returns
1	35,350	98.992%	0	34,994	0	0	0	34,994
2	(3,464,650)	0.188%	(6,529)	0	0	0	(6,529)	0
3	(3,464,650)	0.818%	(28,356)	0	0	0	(28,356)	0
4	(6,964,650)	0.002%	(78)	0	(31)	0	(109)	0
			(34,963)	34,994	(31)	0	(34,994)	34,994

			Allocation to Note Investor		Allocation to CDS Counterparty		Total VIE	
				PV of Expected	PV of		PV of	PV of Expected
	PV of		PV of Expected	Residual	Expected	PV of Expected	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Residual Returns	Losses	Returns
1	35,350	98.992%	0	30,186	0	0	0	30,186
2	(3,464,650)	0.188%	(5,632)	0	0	0	(5,632)	0
3	(3,464,650)	0.818%	(24,460)	0	0	0	(24,460)	0
4	(6,964,650)	0.002%	(67)	0	(26)	0	(94)	0
			(30,159)	30,186	(26)	0	(30,186)	30,186

Based on the allocation shown here in Step 3 of the Risk Approach, the credit-linked note investor(s) absorbs a majority of the variability of VIE 3.

¹³ Five-year present value (PV) calculations assume a discount rate of 3.0%.

VIE 3 – Presumption Approach Consolidation Analysis

Step 1 – Determine whether the entity is a Financial or Non-financial VIE that derives its value from the active management of the assets.

The first step of the Presumption Approach provides for the determination of whether the fair value method should be used to measure the variability of VIE 3. VIE 3 is a *Financial VIE* that does not derive its value from the active management of its assets. As such the cash flow method should be used to measure the variability of VIE 3 (and the variable interests).

Step 2– Measure the variability (fair value or cash flow only) of the VIE.

The variability of VIE 3 is based solely on the cash flow variability of the entity. That variability is presented in the following table and measured as the cash received on the fixed rate assets plus interest income for five years plus the cash flow on the CDS:

			PV of					
	Estimated		Estimated Cash		Expected			
Scenario	Cash Flows	Discount Rate	Flows	Probability	Cash Flows			
1	10,875,000	3.00%	9,380,871	98.992%	9,286,270			
2	7,068,750	3.00%	6,097,566	0.188%	11,490			
3	7,068,750	3.00%	6,097,566	0.818%	49,905			
4	3,262,500	3.00%	2,814,261	0.002%	44			
				100.000%	9,347,709			

Scenario	PV of Estimated Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	9,380,871	9,347,709	33,161	98.992%	0	32,827
2	6,097,566	9,347,709	(3,250,143)	0.188%	(6,125)	0
3	6,097,566	9,347,709	(3,250,143)	0.818%	(26,601)	0
4	2,814,261	9,347,709	(6,533,448)	0.002%	(102)	0
				100.000%	(32,827)	32,827

Step 3 – Measure the variability (fair value or cash flow only) of the variable interests.

The variability of the credit-linked notes based on estimated cash flows equal to the principle amount of the notes multiplied by 3.5% for 5 years, is calculated below:

	Estimated		PV of Est. Cash		PV of Expected
Scenario	Cash Flows	Disc. Rate	Flows	Probability	Cash Flows
1	5,875,000	3.00%	5,067,827	98.992%	5,016,721
2	2,068,750	3.00%	1,784,522	0.188%	3,363
3	2,068,750	3.00%	1,784,522	0.818%	14,605
4	0	3.00%	0	0.002%	0
				100.000%	5,034,689

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	5,067,827	5,034,689	33,138	98.992%	0	32,804
2	1,784,522	5,034,689	(3,250,167)	0.188%	(6,125)	0
3	1,784,522	5,034,689	(3,250,167)	0.818%	(26,601)	0
4	0	5,034,689	(5,034,689)	0.002%	(78)	0
				100.000%	(32,804)	32,804

The variability of the credit default swap under the Presumption Approach based on the estimated cash flows equal to the amount due on the CDS less the expected credit losses, is calculated as follows:

					PV of
	Estimated		PV of Est. Cash		Expected
Scenario	Cash Flows	Disc. Rate	Flows	Probability	Cash Flows
1	5,000,000	3.00%	4,313,044	98.992%	4,269,549
2	5,000,000	3.00%	4,313,044	0.188%	8,128
3	5,000,000	3.00%	4,313,044	0.818%	35,300
4	3,262,500	3.00%	2,814,261	0.002%	44
				100.000%	4,313,021

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	4,313,044	4,313,021	23	98.992%	0	23
2	4,313,044	4,313,021	23	0.188%	0	0
3	4,313,044	4,313,021	23	0.818%	0	0
4	2,814,261	4,313,021	(1,498,759)	0.002%	(23)	0
				100.000%	(23)	23

Step 4 – Reconcile the differences between the variability calculated in Steps 2 and 3.

Credit-linked	Note Investor	Credit De	efault Swap		Total EL and ERR of VIs		Total EL and ERR of the VIE		
0	32,804	0	23		0	32,827		0	32,827
(6,125)	0	0	0		(6,125)	0		(6,125)	0
(26,601)	0	0	0		(26,601)	0		(26,601)	0
(78)	0	(23)	0		(102)	0		(102)	0
(32,804)	32,804	(23)	23		(32,827)	32,827		(32,827)	32,827

The following table illustrates the difference between the two variability measures:

Similar to Example 2, a reconciliation process for the Presumption Approach is not required in Example 3. The Credit-linked Note Investor consolidated VIE 3 under the Presumption Approach.

Step 5 – Reconsider the consolidation conclusion from Step 4 if the initial consolidation conclusion "results in the consideration of variability that the potential VIE was not clearly designed to be exposed to."

Assuming the initial consolidation conclusion for VIE 3 in Step 4 is consistent with the variability that the entity was designed to be exposed to, Step 5 of the Presumption Approach is not required for this example.

Example 4: VIE4

- VIE 4 purchases 1-year, fixed-rate (2.5%), JPY-denominated debt securities for JPY 204,772,514 (USD 2,000,000).¹⁴
- VIE 4 enters into an at-market foreign currency swap (JPY to USD) with Bank on both the principal and interest amount of the JPM-denominated assets.
 - The foreign currency swap has a notional amount of JPY 194,533,889 (USD 1,900,000) and is senior to the equity and the senior notes in the event of default of the underlying assets.
- VIE 4 issues USD 2,000,000 of 1-year senior notes and equity to finance the purchase of the fixed-rate, JPY assets:
 - o USD 1,900,000 of fixed-rate senior notes (2.4%) and
 - o USD 100,000 of equity.
- VIE 4 is not actively managed.

The following is VIE 4's balance sheet at inception of the transaction:

VIE 1 Balance Sheet Assets (<i>in USD</i>): Investments - Fixed-Rate, JPY (2.44%)	2,000,000	<u>Liabilities and Equity (<i>in USD</i>):</u> Senior Notes - Fixed-Rate, USD (2.26%) Total Liabilities	<u>1,900,000</u> 1,900,000
		<u>Equity:</u> Common Stock Total Equity	<u>100,000</u> 100,000
Total Assets	2,000,000	Total Liabilities and Equity	2,000,000

For this specific example, the credit rating of the fixed-rate assets is not given. However, the following are the possible credit loss rates and the probability of each credit loss rate:

Credit Loss	
Rates	Probability
0.00%	74.78%
0.65%	24.93%
5.00%	0.16%
15.00%	0.13%

¹⁴ This example assumes an exchange rate of 0.009767.

VIE 4 – Risk Approach Consolidation Analysis

Step 1 – Gain an understanding of the rights and obligations of the variable interest entity's counterparties.

In this transaction, there are two *possible* creators:

- 1. The fixed-rate, JPY assets and
- 2. The receive USD fixed leg from VIE 4's perspective of the foreign currency swap (or the foreign currency swap in its entirety).

After identifying the possible creators of variability, this approach identifies the *possible* absorbers of variability or the variable interests:

- 1. The USD senior notes,
- 2. The pay JPY, fixed leg from VIE 4's perspective of the foreign currency swap (if the foreign currency swap is not included as a creator in its entirety¹⁵), and
- 3. The equity.

Step 2 – Determine and measure the variability of the entity that creates the significant risk(s) to the entity's subordinated variable interest(s).

Before measuring the variability of VIE 4 under the Risk Approach, we first consider whether all of the variability of the *possible* creators (the fixed-rate, JPY assets and the receive USD leg of the foreign currency swap) disproportionately affects and creates significant risk(s) to the entity's subordinated interest(s). For example, the receive USD leg of the foreign currency swap creates variability in VIE 4. However, that variability does not affect the subordinate variable interest holder (the equity investor) disproportionately. Thus, the Risk Approach excludes the variability created by the receive USD leg of the foreign currency swap.¹⁶

In measuring the variability of VIE 4, the Risk Approach also considers whether the entity is structured to buy and hold the assets it has purchased and whether the maturity of its assets principally matches with the maturity of the variable interests in VIE 4. In this example, VIE 4 is created to buy and hold the fixed-rate assets, and those assets mature at the same time as the variable interests in VIE 4.¹⁷ Consequently, in measuring the variability of VIE 4, the Risk Approach also excludes changes in fair value of the fixed-rate assets during the term of the transaction due to changes in interest rates. Those changes in fair value do not affect the subordinate interest holder (the equity investor) disproportionately.

¹⁵ See footnote 1.

¹⁶ See footnote 2.

¹⁷ See footnote 3.

Under the Risk Approach, the variability of VIE 4 is measured as follows¹⁸:

	Estimated		Expected Cash
Scenario	Cash Flows	Probability	Flows
1	2,000,000	74.78%	1,495,602
2	1,987,000	24.93%	495,294
3	1,900,000	0.16%	3,040
4	1,700,000	0.13%	2,264
			1,996,200

						Expected	PV of	PV of Expected
	Estimated	Expected Cash			Expected	Residual	Expected	Residual
Scenario	Cash Flows	Flows	Difference	Probability	Losses	Returns	Losses	Returns
1	2,000,000	1,996,200	3,800	74.78%	0	2,842	0	2,779
2	1,987,000	1,996,200	(9,200)	24.93%	(2,293)	0	(2,243)	0
3	1,900,000	1,996,200	(96,200)	0.16%	(154)	0	(151)	0
4	1,700,000	1,996,200	(296,200)	0.13%	(395)	0	(386)	0
					(2,842)	2,842	(2,779)	2,779

The varying estimated cash flows on the fixed-rate assets of VIE 4 result from the possible credit loss scenarios.

Step 3 – Determine which enterprise is the primary beneficiary by analyzing expected losses/expected residual returns based on the types of variability identified in Step 2 and the variable interest holders that absorb the variability.

The variability calculated in Step 2 is then allocated to the variable interest holders. This allocation may be performed by taking each expected loss and expected residual return scenario and allocating those individual scenarios to the variable interest holders based on the variable interest holders' contractual rights and obligations. The following tables demonstrate how the variability of VIE 4 may be allocated under the Risk Approach:

			Allocation to	Allocation to Note Investor		Allocation to Equity Investor		al VIE
1				Expected		Expected		Expected
			Expected	Residual	Expected	Residual	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Returns	Losses	Returns
1	3,800	74.78%	0	0	0	2,842	0	2,842
2	(9,200)	24.93%	0	0	(2,293)	0	(2,293)	
3	(96,200)	0.16%	0	0	(154)	0	(154)	
4	(296,200)	0.13%	13,242	0	(13,637)	0	(395)	0
			13,242	0	(16,084)	2,842	(2,842)	2,842

			Allocation to Note Investor		Allocation t	Allocation to Equity Investor		stal VIE
				PV of Expected		PV of Expected	PV of	PV of Expected
	PV of		PV of Expected	Residual	Expected	Residual	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Returns	Losses	Returns
1	3,717	75%	0	0	0	2,779	0	2,779
2			0	0	(2,243)	0	(2,243)	0
3			0	0	(151)	0	(151)	0
4	(289,695)	0%	12,951	0	(13,337)	0	(386)	0
			12,951	0	(15,731)	2,779	(2,779)	2,779

The equity investor absorbs all of the variability of VIE 4. Consequently, the equity investor consolidates VIE 1 under the Risk Approach.

¹⁸ One-year present value (PV) calculations assume a discount rate of 2.25%.

VIE 4 – Presumption Approach Consolidation Analysis

Step 1 – Determine whether the entity is a Financial or Non-financial VIE that derives its value from the active management of the assets.

The first step of the Presumption Approach provides for the determination of whether the fair value method should be used to measure the variability of VIE 4. VIE 4 is a *Financial VIE* that does not derive its value from the active management of its assets. As such the cash flow method should be used to measure the variability of VIE 3 (and the variable interests).

Step 2 – Measure the variability (fair value or cash flow only) of the VIE.

Under the Presumption Approach, it would be necessary to determine the functional currency of VIE 4 before the consolidation analysis can be performed. Some have indicated that the functional currency of the entity should be based on the indicators listed in paragraph 42 of FAS 52. Those factors are as follows:

- Cash flow indicators
- Sales price indicators
- Sales market indicators
- Expense indicators
- Financing indicators
- Intercompany transactions and arrangements indicators.

Those indicators may be relevant for operating entities that fail to meet the requirements in paragraph 5 of FIN 46R. However, they are not determinative for non-operating VIEs. Thus, the functional currency for VIE 4 is not determinable.

Other Examples to Consider Under the Risk and Presumption Approaches

Example 5: VIE 5

- VIE 5 issues \$150,000,000 of 10-year fixed-rate, amortizing unsecured notes, composed of two tranches, to finance the purchase of an existing physically-settled forward contract.
 - o Tranche A Senior notes (5%) \$139,500,000
 - Tranche B Junior notes (11%) \$10,500,000
- VIE 5 uses the proceeds of the note issuance to purchase a 10-year physically-settled forward contract with an estimated fair value of \$150,000,000 from seller.
 - The forward contract requires VIE 5 to physically deliver electricity to Company A at a specified delivery location for a previously determined fixed price.
 - The seller has no further involvement with VIE 5 or any other party involved in this transaction.
- VIE 5 enters into an at-market, physically delivered forward contract with Dealer X in which VIE 5 is obligated to buy physical electricity from Dealer X for 10 years.
- VIE 5 is not actively managed.

Below is a diagram of the transaction.



The following is VIE 5's balance sheet at inception of the transaction:

VIE 5 Balance Sheet			
Assets:		Liabilities and Equity:	
Forward sales contract to Company A	150,000,000	Senior Notes, Tranche A - Fixed-Rate (5%)	139,500,000
Forward purchase contract from Dealer X		Jr. Notes, Tranche B - Fixed-Rate (11%)	10,500,000
Total Assets	150,000,000	Total Liabilities and Equity	150,000,000

As physical deliveries of electricity take place, the principal balance of both Tranches A and B are amortized. VIE 5 has a short forward position with Company A and an equal and offsetting long forward position with Dealer X. The difference between the forward prices is the effective interest cost on the debt. The credit losses related to a default by (a) Company A or (b) Dealer X will likely impact the cash available for debt service. Credit losses include the indirect impact of electricity price movements when a credit default occurs. The following table provides average default rates for Dealer X and Company A securities and credit loss assumptions for VIE 5.¹⁹

	Avg. Default Rate ·	Avg. Default Rate -		
Scenario	Dealer X	Company A	Credit Losses	Probability
1	0.541%	0.965%	0.000%	98.499%
2	Dealer X default	—	10.000%	0.536%
3	—	Company A default	15.000%	0.960%
4	Dealer X default	Company A default	40.000%	0.005%
				100.000%

VIE 5 – Risk Approach Consolidation Analysis

Step 1 – Gain an understanding of the rights and obligations of the variable interest entity's counterparties.

In this transaction, there are two *possible* creators:

- 1. The forward contract to sell electricity to Company A and
- 2. The forward contract to buy electricity from Dealer X.

After identifying the possible creators of variability, this approach then identifies the possible absorbers of variability or the variable interests:

- 1. The senior notes (Tranche A), and
- 2. The junior notes (Tranche B).

¹⁹ The rates assume a default event at the end of Year 1 of the arrangements for simplicity. Normally, multiple scenarios would be simulated or forecast giving consideration to default probabilities through time, loss rates over time, and the impact of the amortizing feature of the contractual arrangements.

Due to the fact that the VIE does not own the underlying electricity, each forward contract creates commodity price risk variability within the entity²⁰. In reviewing the economic substance of the VIE structure, the senior and junior note holders will derive the economic benefit of the difference between the fixed price of the forward with Company A and the fixed price of the forward with Dealer X. Economically, the short and long forwards (from the VIE's perspective) create a synthetic investment in a debt-like security that potentially exposes the senior and junior note holders to the expected variability of the aggregate credit risk of Company A and Dealer X.

Step 2 – Determine and measure the variability of the entity that creates the significant risk(s) to the entity's subordinated variable interest(s).

Before measuring the variability of VIE 5, the Risk Approach first considers whether the aggregate net variability of the creators (for example, the short and long forward contracts) disproportionately affects and creates significant risk(s) to the entity's subordinated interest(s). As described under Step 1 above, the variability associated with commodity price risk is excluded as such variability does not disproportionately impact the entity's subordinated interest(s).

Commodity price risk does not create variability that has a direct (first-order), disproportionate impact on the entity's subordinated interest(s) because the forward contract to buy and the forward contract to sell are at a fixed price and when viewed together are insulated from the impact of changes in commodity prices. Nevertheless, each forward contract may create indirect (second-order) variability in the event of a credit default. For example, a credit default by Company A, when electricity prices are lower than the contract price between Company A and VIE 5, creates variability in the entity. Likewise, a credit default by Dealer X, when electricity prices are higher than the contract price between Dealer X and VIE 5, also creates variability in the entity. This variability is second-order, that is, it is a contingency that is dependent on the outcome of two independent variables—credit risk and commodity price risk. This second-order variability is included in the measure of credit losses used to determine estimated cash flows of the entity.

In measuring the variability of VIE 5, the Risk Approach also considers whether the entity is structured to buy and hold the assets it has purchased and whether the maturity of its assets principally matches the maturity of the variable interests in VIE 5. In this example, VIE 5 is formed to (a) provide a fixed-rate cash flow annuity to variable interest holders via two offsetting forwards and (b) match the fixed-rate annuity to the term of the variable interest(s).²¹ Consequently, in measuring the variability of VIE 5, the Risk Approach also excludes changes in the fair value of the short and long forwards (creators) during the term of the transaction due to changes in electricity prices. Those changes in fair value do not disproportionately affect the subordinate interest holder (the junior notes).

²⁰ For simplicity, the remainder of the example assumes that both forward contracts create variability. However, some industry participants believe a forward contract to buy assets from a VIE can only absorb variability, because ownership of a forward contract is economically equivalent to ownership of the underlying asset (that is, a synthetic asset).

²¹ Insignificant differences between asset inflows and liability outflows may occur. Judgment should be applied to determine whether a specific mismatch would significantly impact the subordinated interest holders.

Under the Risk Approach, the variability of VIE 5 is measured as follows (the present values of the estimated cash flows were derived by applying a discount factor to the estimated cash flows, which included both principal and interest paid to the debt investors):²²

			PV of
	PV of Est. Cash		Expected
Scenario	Flows	Probability	Cash Flows
1	150,000,000	98.499%	147,748,057
2	135,000,000	0.536%	723,345
3	127,500,000	0.960%	1,224,333
4	90,000,000	0.005%	4,701
		100.000%	149,700,436

Scenario	PV of Est. Cash Flows	PV of Expected Cash Flows	Difference	Probability	PV of Expected Losses	PV of Expected Residual Returns
1	150,000,000	149,700,436	299,564	98.499%	0	295,067
2	135,000,000	149,700,436	(14,700,436)	0.536%	(78,767)	0
3	127,500,000	149,700,436	(22,200,436)	0.960%	(213,182)	0
4	90,000,000	149,700,436	(59,700,436)	0.005%	(3,119)	0
					(295,067)	295,067

The changes in the estimated cash flows on the fixed-rate annuity of VIE 5 result from the possible credit loss scenarios.

Step 3 – Determine which enterprise is the primary beneficiary by analyzing expected losses/expected residual returns based on the types of variability identified in Step 2 and the variable interest holders that absorb the variability.

The variability calculated in Step 2 is then allocated to the variable interest holders. This allocation may be performed by taking each expected loss and expected residual return scenario and allocating those individual scenarios to the variable interest holders based on the variable interest holders' contractual rights and obligations.²³ The following table demonstrates how the variability of VIE 5 may be allocated under the Risk Approach:

			Allocation to	Allocation to Sr. Note Investor		Jr. Note Investor	То	tal VIE
			PV of	PV of PV of Expected		PV of Expected	PV of	PV of Expected
			Expected	Residual	Expected	Residual	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Returns	Losses	Returns
1	299,564	98.499%	0	0	0	295,067	0	295,067
2	(14,700,436)	0.536%	(22,506)	0	(56,260)	0	(78,767)	0
3	(22,200,436)	0.960%	(112,355)	0	(100,827)	0	(213,182)	0
4	(59,700,436)	0.005%	(2,570)	0	(548)	0	(3,119)	0
			(137,431)	0	(157,636)	295,067	(295,067)	295,067

The junior note investor(s) (Tranche B) absorbs the majority of the expected variability of VIE 5. Consequently, the junior note investor(s) consolidate VIE 5 under the Risk Approach.²⁴

 $^{^{22}}$ Several simplifying assumptions have been made with respect to the calculations for the purpose of focusing the discussion on the fundamental concept outlined in Issue 2 of Issue Summary No. 1, which was discussed at the June 30–July 1, 2004 EITF meeting.

²³ In each of the examples presented herein, one allocation method is assumed; however, more than one allocation method has been used in practice, and no specific allocation methodology is endorsed in this Supplement.

²⁴ If the entity were structured such that the junior note investor(s) did not absorb a majority of the expected losses (residual returns), the Risk Approach would allocate the excess losses (returns) to the next most subordinate interest holder.

VIE 5 – Presumption Approach Consolidation Analysis

Step 1 – Determine whether the entity is a Financial or Non-financial VIE that derives its value from the active management of the assets.

The first step of the Presumption Approach provides for the determination of whether the fair value method should be used to measure the variability of VIE 5. VIE 5 does not derive its value from the active management of its assets since the activity of the VIE is limited. As such the cash flow method should be used to measure the variability of VIE 5 (and to determine the variable interests).

Step 2 – Measure the variability (fair value or cash flow only) of the VIE

Under the Presumption Approach, it is necessary to first determine whether the forward contract to sell electricity to Company A and/or the forward contract to buy electricity from Dealer X should be considered creators of variability. This has been an issue of debate that was highlighted in a letter presented to the FASB staff by ISDA early in 2004. The focal point of the debate is whether a forward contract to buy an asset should be considered in the same manner as actually owning the asset. If they are considered in that manner, then other forward contracts to sell those "assets" would not be considered creators of variability but, rather, absorbers of variability.

The existing guidance for forward contracts, which is found in paragraphs B12 and B13 of FIN 46R, states that most forward contracts to buy or sell assets not owned by the VIE are *not variable interests* in the entity (they are considered creators of variability), and most forward contracts to sell assets that are owned by the entity at a fixed price *are variable interests* with respect to the related assets.

If one does not consider the forward contract to buy an asset as an *asset owned*, then the analysis under paragraphs B12 and B13 would require the cash flow variability of the VIE to incorporate the cash inflows and outflows from the forward contracts to sell and buy assets since these forward contracts are creators of variability in the entity. In this case, the estimated cash flows of the entity for purposes of determining expected losses and expected residual returns would be the net cash flows of the two forwards (both creators), similar to the outcome under the Risk Approach.

If one does consider the forward contract to buy an asset as an *asset owned*, then the analysis under paragraphs B12 and B13 would consider the forward to buy as a creator and the forward to sell as a variable interest. In this case, the variability of the entity will include all of the variability identified in the Risk Approach related to the risk of default of the forward counterparties, plus variability (perhaps much greater) related to changes in the price of electricity created by the forward contract to buy, which will all be absorbed by the forward contract to sell. In the latter case, the potential primary beneficiaries would be the debt holders and Dealer X <u>Company A</u> (the counterparty to the forward to sell).

The FASB staff understands that there is diversity in practice as to whether a forward contract to buy an asset at a fixed price is equivalent to owning the asset in these circumstances and that such determination has a potentially significant effect on the variability in the entity. Therefore, until this issue is resolved, any illustration as to how the Presumption Approach would apply to this scenario will not be provided.

Example 6: VIE 6

- VIE 6 issues \$150,000,000 of 10-year fixed-rate, amortizing unsecured notes, composed of two tranches.
 - Tranche A Senior notes (5%) \$139,500,000
 - Tranche B Junior notes (11%) \$10,500,000
- VIE 6 uses the proceeds of the note issuance to prepay a 10-year forward purchase of natural gas with scheduled physical deliveries and an estimated fair value of \$150,000,000 from Company B.
 - The long forward contract requires Company B to physically deliver natural gas to VIE 6 at specified delivery locations on a monthly basis for a fixed price at each location.
- VIE 6 enters into an at-market, physically-delivered forward contract with Dealer Y in which VIE 6 is obligated to sell physical natural gas to Dealer Y for 10 years.
- VIE 6 is not actively managed.

Below is a diagram of the transaction:



The following is VIE 6's balance sheet at inception of the transaction:

	Liabilities and Equity:	
150,000,000	Senior Notes, Tranche A - Fixed-Rate (5%)	139,500,000
	Jr. Notes, Tranche B - Fixed-Rate (11%)	10,500,000
150,000,000	Total Liabilities and Equity	150,000,000
	150,000,000 - 150,000,000	Liabilities and Equity:150,000,000Senior Notes, Tranche A - Fixed-Rate (5%)

As physical deliveries of natural gas take place, the principal balance of both Tranches A and B are amortized. VIE 6 has a prepaid short forward position with Company B and an equal and

offsetting long forward position with Dealer Y. The difference between the forward prices is the effective interest cost on the debt. Under the Risk Approach, credit losses related to a default by (a) Dealer Y or (b) Company B will impact the cash available for debt service. The following table provides average default rates for Dealer Y and Company B securities and credit loss assumptions for VIE 6.²⁵

	Avg. Default Rate ·	Avg. Default Rate -		
Scenario	Dealer Y	Company B	Credit Losses	Probability
1	0.541%	0.965%	0.000%	98.499%
2	Dealer X default	—	10.000%	0.536%
3	—	Company A default	15.000%	0.960%
4	Dealer X default	Company A default	40.000%	0.005%
				100.000%

VIE 6 – Risk Approach Consolidation Analysis

Step 1 – Gain an understanding of the rights and obligations of the variable interest entity's counterparties.

In this transaction, there are two possible creators under the Risk Approach:

- 1. The prepaid forward contract to buy natural gas from Company B and
- 2. The forward contract to sell natural gas to Dealer Y.

After identifying the possible creators of variability, this approach then identifies the possible absorbers of variability or the variable interests:

- 1. The senior notes (Tranche A), and
- 2. The junior notes (Tranche B).

Due to the fact that the VIE does not own the underlying natural gas, each forward contract creates commodity price risk variability within the entity²⁶. In reviewing the economic substance of the VIE structure, the senior and junior note holders will derive the economic benefit of the difference between the fixed price of the long forward with Company B and the fixed price of the forward with Dealer Y. Economically, the long and short forwards (from the VIE's perspective) create a synthetic investment in a debt-like security that potentially exposes the senior and junior note holders to the expected variability of the aggregate credit risk of Company B and Dealer Y.

Step 2 – Determine and measure the variability of the entity that creates the significant risk(s) to the entity's subordinated variable interest(s)

²⁵ See footnote 19.

²⁶ See footnote 20.

Before measuring the variability of VIE 6, the Risk Approach first considers whether the aggregate net variability of the creators (for example, the long and short forward natural gas contracts) disproportionately affects and creates significant risk(s) to the entity's subordinated interest(s). As described under Step 1 above, the variability associated with commodity price risk is excluded as such variability does not disproportionately impact the entity's subordinated interest(s).

Commodity price risk does not create variability that has a direct (first-order), disproportionate impact on the entity's subordinated interest(s) because the forward contract to buy and the forward contract to sell are at a fixed price and when viewed together are insulated from the impact of changes in the commodity price. Nevertheless, each forward contract may create indirect (second-order) variability in the event of a credit default, as described in Step 2 of VIE 5. This variability is second-order, that is, it is a contingency that is dependent on the outcome of two independent variables—credit risk and commodity price risk. This second-order variability is included in the measure of credit losses used to determine the estimated cash flows of the entity.

For the same reasons described in Step 2 of VIE 5, in measuring the variability of VIE 6, the Risk Approach also excludes changes in the fair value of the long and short forward natural gas contracts (creators) during the term of the transaction due to changes in natural gas prices. Those changes in fair value do not disproportionately affect the subordinate interest holder (the junior notes).

Under the Risk Approach, the variability of VIE 6 is measured as follows (the present values of the estimated cash flows were derived by applying a discount factor to the estimated cash flows, which included both principal and interest paid to the debt investors)²⁷:

			PV of
	PV of Est. Cash		Expected
Scenario	Flows	Probability	Cash Flows
1	150,000,000	98.499%	147,748,057
2	135,000,000	0.536%	723,345
3	127,500,000	0.960%	1,224,333
4	90,000,000	0.005%	4,701
		100.000%	149,700,436

					PV of	PV of Expected
	PV of Est. Cash	PV of Expected			Expected	Residual
Scenario	Flows	Cash Flows	Difference	Probability	Losses	Returns
1	150,000,000	149,700,436	299,564	98.499%	0	295,067
2	135,000,000	149,700,436	(14,700,436)	0.536%	(78,767)	0
3	127,500,000	149,700,436	(22,200,436)	0.960%	(213,182)	0
4	90,000,000	149,700,436	(59,700,436)	0.005%	(3,119)	0
					(295,067)	295,067

The changes in the estimated cash flows on the fixed-rate annuity of VIE 6 result from the possible credit loss scenarios.

²⁷ See footnote 22.

Step 3 – Determine which enterprise is the primary beneficiary by analyzing expected losses/expected residual returns based on the types of variability identified in Step 2 and the variable interest holders that absorb the variability.

The variability calculated in Step 2 is then allocated to the variable interest holders. This allocation may be performed by taking each expected loss and expected residual return scenario and allocating those individual scenarios to the variable interest holders based on the variable interest holders' contractual rights and obligations.²⁸ The following table demonstrates how the variability of VIE 6 may be allocated under the Risk Approach:

			Allocation to Sr. Note Investor		Allocation to Jr. Note Investor		Total VIE	
			PV of PV of Expected		PV of	PV of Expected	PV of	PV of Expected
l			Expected	Residual	Expected	Residual	Expected	Residual
Scenario	Difference	Probability	Losses	Returns	Losses	Returns	Losses	Returns
1	299,564	98.499%	0	0	0	295,067	0	295,067
2	(14,700,436)	0.536%	(22,506)	0	(56,260)	0	(78,767)	0
3	(22,200,436)	0.960%	(112,355)	0	(100,827)	0	(213,182)	0
4	(59,700,436)	0.005%	(2,570)	0	(548)	0	(3,119)	0
			(137,431)	0	(157,636)	295,067	(295,067)	295,067

The junior note investor(s) (Tranche B) absorbs the majority of the expected variability of VIE 6. Consequently, the junior note investor(s) consolidates VIE 6 under the Risk Approach.²⁹

VIE 6 – Presumption Approach Consolidation Analysis

Step 1 – Determine whether the entity is a Financial or Non-financial VIE that derives its value from the active management of the assets.

The first step of the Presumption Approach provides for the determination of whether the fair value method should be used to measure the variability of VIE 6. VIE 6 does not derive its value from the active management of its assets since the activity of the VIE is limited. As such, the cash flow method should be used to measure the variability of VIE 6 (and to determine the variable interests).

Step 2 – Measure the variability (fair value or cash flow only) of the VIE.

Similar to VIE 5, VIE 6 is a party to offsetting forward contracts. The FASB staff understands that there is diversity in practice as to whether a forward contract to buy an asset at a fixed price is equivalent to owning the asset in these circumstances and that such determination has a potentially significant effect on the variability in the entity. Therefore, until this issue is resolved, any illustration as to how the Presumption Approach would apply to this scenario will not be provided. For more discussion on this, see the commentary made on VIE 5.

²⁸ See footnote 23.

²⁹ See footnote 24.