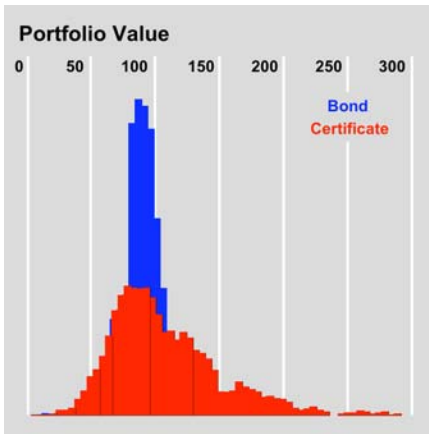


## Sales Certificate Valuation

Synterein works with a noted financial entrepreneur to value an innovative new financial security



It is difficult for investors to be fully informed as to the value of securities because, with the exception of government bonds and mortgages, the current set of securities available are residual claims on revenue. For example, corporate debt issues have prepayment, conversion, rollover and other features that are difficult to evaluate. And with respect to equities, it is a demanding task to understand both the accounting practices that generate the earnings per share figures and the linkage used to value equity securities on the basis of those reported earnings.

In order to respond to this situation, Evan Schulman, a noted financial entrepreneur, has conceived a new financial security, *Sales Certificates*, to provide a return that is a function of a firm's sales over a specified period of time in the future.

The security's return is more transparent than other instruments since there are no costs or other deductions made from the firm's reported sales figures before the payments to be made to the investor are calculated. No assets are segregated as collateral for the security, and the security expires worthless at maturity. Sales Certificates represent property interest in a firm's sales and would be bought and sold in a secondary market.

Synterein modified an approach developed by Longstaff and Schwarz for valuing risky corporate debt to develop an approach for valuing Sales Certificates<sup>1</sup>. The modified approach makes the following assumptions:

*Assumption 1:* The total sales of the firm,  $S$ , exhibit dynamics

$$dS = \mu_S S dt + \sigma_S S dZ_S \quad (1)$$

where  $\sigma_S$  is a constant and  $dZ_S$  is a standard Wiener process.

Note the American Institute of Certified Public Accountants (AICPA) Emerging Issues Task Force (EITF) published Issue No. 88-1.8, Sales of Future Revenues, which can be used to establish that the proceeds from the issue of Sales Certificates should be treated as debt. As a result, for any realization of the sales process, and based on this AICPA guideline, an operating profit results which, when discounted, determines the total value of the firm.

*Assumption 2:* The short-term risk-free interest rate,  $r$ , exhibits dynamics

$$dr = (\xi - \beta r)dt + \eta dZ_r \quad (2)$$

where  $\xi$ ,  $\beta$  and  $\eta$  are constants and  $dZ_r$  is also a standard Wiener process exhibiting correlation  $\rho$  with  $dZ_S$ .

*Assumption 3:* The value of the firm is independent of the capital structure of the firm.

*Assumption 4:* Financial distress occurs immediately when the total assets of the firm reach a threshold value.

*Assumption 5:* Reorganization follows financial distress resulting in a write-down in the value security holders receive.

*Assumption 6:* Perfect, frictionless markets in which securities trade in continuous time.

Synterein used its approach to compare the value of a comparable debt and Sales Certificate issue, and to compare the value of comparable debt and Sales Certificate portfolios. The result demonstrates that the distribution of value for Sales Certificates, or a portfolio of Sales Certificates, is broader than the distribution of value for comparable debt, or a portfolio of debt issues, and exhibits a significantly longer upside tail. It is possible, therefore, that in the near future investors will have a new, innovative and desirable investment opportunity.



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### Income statement for issuers of certificates.

	Percent of Sales Required to Service this Issue: 0.8022%										Present Value
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Sales	1000.0	1100.0	1210.0	1331.0	1464.1	1610.5	1771.6	1948.7	2143.6	2357.9	
Less											19.7
Participation>Amort	0.0	0.0	0.0	0.0	0.0	1.9	4.2	5.6	7.2	8.9	
Operating Costs	600.0	660.0	726.0	798.6	878.5	966.3	1062.9	1169.2	1286.2	1414.8	
Operating Profit	400.0	440.0	484.0	532.4	585.6	642.3	704.4	773.9	850.2	934.3	
Interest on Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Before Taxes	400.0	440.0	484.0	532.4	585.6	642.3	704.4	773.9	850.2	934.3	
Taxes	140.0	154.0	169.4	186.3	205.0	224.8	246.5	270.8	297.6	327.0	
Net After Taxes	260.0	286.0	314.6	346.1	380.7	417.5	457.9	503.0	552.7	607.3	
Certificate Amortization	8.0	8.8	9.7	10.7	11.7	11.0	10.0	10.0	10.0	10.0	
Cash Flow / Earnings	252.0	277.2	304.9	335.4	368.9	406.5	447.9	493.0	542.7	597.3	3148.0
Payable to Cert Holder	8.0	8.8	9.7	10.7	11.7	12.9	14.2	15.6	17.2	18.9	100.0

Firm with current annual sales of \$1,000 M seeks to raise \$100 M. Certificate expires in ten years and sales grow by 10% annually. Certificate discount rate equals 4.1% (consistent with a BBB rated bond). Certificate issue amount is amortized at the rate of 10% annually. Firm operating margin equals 40% and corporate tax rate equals 35%. The \$100 M raised is 8% of the present value of future sales.

<sup>1</sup> Longstaff, F.A. and E.S. Schwartz, 1995, A simple approach to valuing risky fixed and floating rate debt, *The Journal of Finance* 50 (3), 789-819.