VANDERBILT Ave.
ASSET MANAGEMENT

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SYNTHETIC SECURITY COMBINATION

Investors can create a synthetic security by using various combinations of interest only (IO) strips and long U.S. Treasury principal strip issues.

Independently, IOs and Treasury strips are considered volatile securities. When invested in a combined format their volatility characteristics are significantly reduced. Creating a synthetic security to achieve a specific targeted duration can produce meaningful returns under most interest rate scenarios. The synthetic combination does not have to influence the duration of the portfolio or interfere with a portfolio manager's point of view on the yield curve. Analysis reveals that the performance advantage of the combination appears very favorable across a variety of scenarios. The combination significantly outperforms six-month LIBOR in unchanged, parallel shifts, and flattening yield curve environments. The scenario results, very importantly, assume that the synthetic combination is being **actively managed** to maintain the appropriate weighted duration at all times.

The following is a description that explains IOs and Treasury principal strips and shows how creating and actively managing a synthetic security can produce desirable risk/return results.

Description

IOs are U.S. Government or agency in quality and represent a form of a mortgage strip. They are created by dividing the principal and interest from a pool of mortgages and then allocating the interest component to each IO strip. IOs receive all of the interest payments from the underlying collateral and none of the principal. The price movement of IO strips are quite sensitive to changes in interest rates. Falling interest rates lead to faster repayments as more people buy or refinance homes. Rising interest rates result in slower prepayments. Faster prepayments reduce the principal balance of the underlying collateral leading to smaller interest payments. Therefore, when interest rates fall and prepayments accelerate, IO strips decrease in value. When rates rise and prepayments slow, IO strips increase in value. The owner of an IO earns valuable income and may use the negative duration of an IO as a hedge against rising interest rates.

U.S. Treasury principal strips do not earn income but provide a principal payment at maturity. Treasury principal strips increase in value as interest rates decline and decrease in price when interest rates rise. They are generally used in a portfolio as a hedge against a decline in rates. In addition, they can offset the poor price performance of premium mortgage issues or callable corporates in a rally.

Trade Analysis

Table I details the securities used in the following analysis of the projected performance of a synthetic IO/Treasury principal strip security created by combining IOs off a FNMA 9% pass through with a May 15, 2009 Treasury principal strip. The market weightings for the combination, which are used to weight both the return and the yields, are shown. For comparison, a similar duration security, six-month LIBOR, is also detailed.

TABLE I

Synthetic Security Combination vs. Six-Month LIBOR
Portfolio Swap Analysis

Issue	Coupon (%)	Maturity	Price	Yield (%)	Option Adjusted Spread (OAS)	S&P Rating	Effective Duration (Yrs.)	Convexity	Amount Par Amount	($MM) Market Value
Treasury Principal Strip	0.000	5/15/2009	34.069	6.910	62	GOV	16.09	2.62	1,600	545
I/O	9.000	2/1/2017	19.312	7.122	1163	AGN	-18.23	4.89	2,300	455
Combination	*5.308*	*20.4*	*25.367*	*7.006*	*562*	*GOV*	*0.53*	*3.64*	*3,900*	*1000*
Six-Month LIBOR	3.500	1/15/1994	100.000	3.500	66	GOV	0.49	0.00	1,000	1,000
Difference	***1.808***	***19.9 Yrs.***	***-74.633***	***3.506***	***496***	***None***	***0.04***	***3.64***	***2,900***	***0***

- The Synthetic security combination has the same duration and quality as six-month LIBOR, but yields an additional 351 basis points with superior convexity.

The value of the synthetic combination becomes evident when you compare its yield-to-maturity versus six-month LIBOR rates. The yield on the combination exceeds six-month LIBOR for all but extreme prepayment speeds. Table II below summarizes the yield advantage of the combination.

TABLE II

Constant Prepayment Rate (CPR) (%)

	10	**15**	**20**	**25**	**30**	**35**	**40**	**45**
IO Yield	50.53%	43.98%	37.23%	30.25%	23.02%	15.51%	7.68%	-0.49%
Combo Yield	26.40%	23.43%	20.37%	17.21%	13.93%	10.53%	6.99%	3.28%
Six-Month LIBOR	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Yield Difference	***22.90%***	***19.93%***	***16.87%***	***13.71%***	***10.43%***	***7.03%***	***3.49%***	***-0.22%***

Parallel Shift of Yield Curve

Table III shows that if the yield curve retains its current shape the synthetic combination is projected to substantially outperform six-month LIBOR under different rate scenarios. This result is largely due to the higher yield and superior convexity of the combination.

TABLE III

Scenario Analysis Summary Report
Total ROR

Horizon Period: 6 Months
Volatility: 13%

Scenario	U.S. Treasury Principal Strip/IO Combination	Six-Month LIBOR	*Difference*
-150	12.839%	1.750%	***11.089%***
-100	7.861%	1.750%	***6.111%***
-50	4.688%	1.750%	***2.938%***
Unchanged	3.597%	1.750%	***1.847%***
+50	4.747%	1.750%	***2.997%***
+100	7.740%	1.750%	***5.990%***
+150	13.665%	1.750%	***11.915%***

Flattening of Yield Curve

If the yield curve flattens (Table IV), the IO/Treasury principal strip barbell will significantly outperform six-month LIBOR primarily due to the spread narrowing of the 2009 strips to the Treasury curve. In addition, the superior yield provides support on a secondary level.

TABLE IV

Scenario Analysis Summary Report
Total ROR

Horizon Period: 6 Months
Volatility: 13%

Scenario	IO/U.S. Treasury Principal Strip Combination	Six-Month LIBOR	*Difference*
FLTN 50	6.801%	1.750%	***5.051%***
FLTN 100	9.843%	1.750%	***8.093%***

Steepening Yield Curve

Table V demonstrates that even if the yield curve steepens by 25 basis points the synthetic combination is still projected to modestly outperform six-month LIBOR.

TABLE V

Scenario Analysis Summary Report Total ROR

Horizon Period: 6 Months
Volatility: 13%

Scenario	*Treasury Strip/IO Combination*	*Six-Month LIBOR*	*Difference*
STPN 25	***1.889%***	***1.750%***	***0.139%***

Clearly, a synthetic combination of IOs and Treasury strips can add return and should be considered in a portfolio when the bias is towards a static or a flattening yield curve. Separately, IOs and Treasury strips are volatile instruments. When combined to form a synthetic security, the overall volatility is substantially reduced. To achieve superior results the synthetic security combination must be continuously rebalanced to maintain the desired weighted duration.

Vanderbilt Research Team

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Emad is the Managing Partner and Chief Executive Officer of Vanderbilt Avenue Asset Management LLC. Vanderbilt's client base includes Multi-national Corporations, Public Funds, Foundations/Endowments, and Taft Hartley accounts.

Previously, Emad was Chairman of Institutional Business at Pioneer Investments. Pioneer investments has more than $300 Billion in assets under management. The parent of Pioneer, UniCredit S.p.A., is the largest bank in Italy and the second largest bank in Europe. Pioneer had purchased Vanderbilt Capital Advisors, of which Emad was the founder and Chief Executive Officer.

Emad has had numerous articles published in professional and academic journals such as The Journal of Forecasting, The American Economist and The Journal of Fixed Income. He is a Board member of The National Investment Company. Emad was a member of the Board of Advisors of the Pacific Institute, The Advisory Committee of Fulcrum Global Partners, The Chief Executive Officers Club and formerly a board member of The Foreign Policy Association. He also served on the Board of Directors of the University of Albany Foundation, NextGen Healthcare Inc., The Park Avenue Bank, AA Bank and The New Providence Fund and Associates LP.

Emad is an FINRA Arbitrator. He is also a member of the National Association for Business Economists and The Economic Club of New York. Emad served as an adjunct professor at the University of Kansas and St. John's University.

Emad holds a Bachelor of Science from the University of Albany, and a M.A. and Ph.D. in Economics from the University of Kansas.