



## Post Mortem – Reviewing the performance of 1994’s ‘Analyzing Yield Maintenance Provisions in Callable Commercial MBSs’

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In 1994, when I was the Senior Strategist of Nomura Securities’ MBS Strategies Group, I analyzed the cashflows of a Nomura-issued CMBS bond, and ran some scenarios. I noticed something unusual that led me to read the prospectus for the deal. **In it, I discovered an arbitrage – a hidden source of convexity that investors were not aware of or pricing correctly.** I subsequently wrote a research piece on this topic.

I recently found a copy of this article. I had thought this was lost forever, but fortunately I had stashed away a hard copy! A scan is linked here:

<http://www.mbsmantrallc.com/cmbs-ym.shtml>

**This article was never published** - it was blocked from publication by the CMBS desk as it highlighted a large arbitrage in prevailing CMBS deal documents. The gagging of this article (which was not the first such experience) made me question my values, and resulted in my abandoning a career in MBS Research. I decided to join smaller firms as an independent sales/trader, where I could add value to investors, and continued to privately and independently conduct and share my unbiased research and strategies directly with my clients. Those of you that benefited from my Crisis Notes from 2006 onwards can thank Nomura Securities for the path that led to them.

Subsequently, from 1997 to 2004, at Amherst Securities, I hunted down, traded and co-invested in many ‘Yield Maintenance’ CMBS and CMBS IOs with a handful of my clients (less than 10 – I covered around 30) from those that I alerted to this arbitrage. The returns were stunning for the clients and their investors.

It was not till 2004 that Lehman wrote an MBS Research piece about this topic, by which time, most of the bonds with this “document arbitrage” had already matured.

Some examples of “CMBS Yield Maintenance” bonds that I traded are: ACMF 97-C1 A1, DLJMA 96-CF2 A1B, GMACC 96-C1 A2A, GMACC 97-C1 A1, GMACC 97-C2 A2, GMACC 97-C1 A3, MLMI 98-C2 A2, JPMC 97-C5 A2, JPMC 97-C5 A3, JPMC 98-C6 A1, JPMC 98-C6 A2, FULB 97-C1 A2 FULB 97-C1 A3, FULBA 98-C2 A1, FULBA 98-C2 A2, LBMLT 98-C1 A1, LBCMT 98-C1 A2, MSC 97-ALIC A1A, MSC 97-ALIC A1B, CCMSC 98-2 A1, CCMSC 98-2 A2, MSC 99-WF1 A1, MSC 99-WF1 A2, MCFI 96-MC2 A1, NLFC 98-2 A1, and more.

From the variety of street shelf names, you can see that most Wall Street firms had this arbitrage feature in their deal documents, with most traders not aware of this mispricing. The market priced all these special bonds like any other CMBS, and one would have only spotted this arbitrage through analysis of cashflows, which is still not common in the MBS world. I traded most of these bonds multiple times.

This was a very scalable trade that could also have been leveraged. I tried to raise capital for a fund, but was told that I had ‘given up my pedigree’, and ‘did not have a track record’. A number of my clients did scale up this idea. I am aware of only one other asset manager that independently identified this arbitrage.



## Example 1: Fixed rate CMBS bond - JPMC 97-C5 A2, Cusip: 617059DD9

The next table shows the cash flows for JPMC 97-C5 A2, that I traded 26 times between 2001 and 2004 at prices ranging from \$103 to \$107. I was effectively the “market” for this bond – even JP Morgan’s traders called me for a bid whenever their customers needed liquidity on this bond. The last column shows the effective coupon rate for the bond due to the excess cashflow from Yield Maintenance prepayment penalty payments received. The deal received \$12+mm more in cashflow during the period we owned it (from 2001) than the market was anticipating or was aware of.

However, the excess cashflows were identifiable from 6/1998 onwards in the A1 tranche’s payment history and then in the A2 (this) tranche’s cashflows. Street traders and researchers presumably did not look at the historical payments received, where the excess cashflows were exposed

Compare the realized premiums to Table 4 from the 1994 research article.

Date	Principal Balance	Principal Paydowns	Prepayment & Maturities	Coupon Rate	Cash flow	Scheduled Interest	Prepay Penalty to A2	Penalty % to A2	Effective Coupon %
10/25/2001	305,885,000	281,593	281,593	7.07	2,111,409	1,801,918	27,898	9.9	7.18
11/25/2001	305,603,407	1,417,308	-	7.07	3,217,566	1,800,259			7.07
12/25/2001	304,186,099	24,684,466	23,267,159	7.07	27,710,129	1,791,910	1,233,753	5.3	11.94
1/25/2002	279,501,632	23,899,687	22,482,379	7.07	27,742,207	1,646,498	2,196,023	9.8	16.50
2/25/2002	255,601,946	12,794,813	11,377,506	7.07	15,306,260	1,505,708	1,005,738	8.8	11.79
3/25/2002	242,807,132	25,076,909	23,659,601	7.07	28,235,703	1,430,336	1,728,458	7.3	15.61
4/25/2002	217,730,223	32,070,836	30,653,528	7.07	33,816,609	1,282,612	463,161	1.5	9.62
5/25/2002	185,659,387	2,337,736	981,033	7.07	3,431,425	1,093,689			7.07
6/25/2002	183,321,651	1,355,916	(787)	7.07	2,435,833	1,079,917			7.07
7/25/2002	181,965,735	4,014,116	2,657,413	7.07	5,391,183	1,071,930	305,137	11.5	9.08
8/25/2002	177,951,619	5,628,392	4,271,688	7.07	6,859,282	1,048,283	182,607	4.3	8.30
9/25/2002	172,323,227	4,995,766	3,639,063	7.07	6,243,954	1,015,127	233,060	6.4	8.69
10/25/2002	167,327,461	1,356,703	-	7.07	2,342,401	985,698			7.07
11/25/2002	165,970,758	7,825,326	6,468,623	7.07	9,736,201	977,706	933,168	14.4	13.82
12/25/2002	158,145,432	8,519,606	7,162,902	7.07	9,451,214	931,608			7.07
1/25/2003	149,625,826	4,533,350	3,176,647	7.07	5,552,957	881,421	138,186	4.4	8.18
2/25/2003	145,092,477	12,576,301	11,219,598	7.07	13,778,489	854,716	347,472	3.1	9.94
3/25/2003	132,516,175	1,287,436	-	7.07	2,068,067	780,631			7.07
4/25/2003	131,228,739	2,171,962	884,525	7.07	2,945,008	773,047			7.07
5/25/2003	129,056,777	4,005,468	2,718,031	7.07	5,192,364	760,252	426,644	15.7	11.04
6/25/2003	125,051,310	1,291,678	-	7.07	2,028,335	736,656			7.07
7/25/2003	123,759,632	5,469,741	4,178,062	7.07	6,198,788	729,047			7.07
8/25/2003	118,289,891	1,384,572	92,894	7.07	2,081,398	696,826			7.07
9/25/2003	116,905,319	6,016,113	4,724,435	7.07	6,704,783	688,670			7.07
10/25/2003	110,889,206	1,432,864	-	7.07	2,086,094	653,230			7.07
11/25/2003	109,456,342	15,221,963	13,789,099	7.07	15,866,752	644,789			7.07
12/25/2003	94,234,380	18,290,064	16,917,705	7.07	19,222,907	555,119	377,724	2.2	11.88
1/25/2004	75,944,316	1,372,358	-	7.07	1,819,734	447,375			7.07
2/25/2004	74,571,958	7,711,491	6,339,132	7.07	8,397,143	439,291	246,362	3.9	11.03
3/25/2004	66,860,467	2,731,195	1,358,837	7.07	3,125,059	393,864			7.07
4/25/2004	64,129,272	8,814,277	7,441,919	7.07	9,526,198	377,775	334,146	4.5	13.32
5/25/2004	55,314,995	7,014,734	5,642,376	7.07	8,053,425	325,851	712,839	12.6	22.53
6/25/2004	48,300,261	19,276,230	17,903,872	7.07	19,979,785	284,529	419,026	2.3	17.48
7/25/2004	29,024,030	11,314,226	9,941,868	7.07	12,171,040	170,976	685,838	6.9	35.43
8/25/2004	17,709,804	6,278,450	4,528,367	7.07	6,626,035	104,326	243,260	5.4	23.55
9/25/2004	11,431,355	10,474,840	8,724,758	7.07	10,699,723	67,340	157,542	1.8	23.61
10/25/2004	956,514	956,514	956,514	7.07	1,012,074	5,635	49,925	5.2	69.70
<b>Totals</b>		<b>305,885,000</b>			<b>349,167,534</b>	<b>30,834,565</b>	<b>12,447,967</b>		



## Example 2: CMBS IO - JPMC 1996-C2 AX, CUSIP 617059AT7

This is an example of a CMBS IO that was offered on a dealer inventory in 2001. I traded this twice, first to a large college endowment in October 2001 (at \$3.95) and then to another salesperson's hedge fund client in January 2003 (at \$2.88). In both cases, I co-invested in a small piece with the client.

I did not trade many such CMBS IOs even though they were available – most of my clients were money managers, and their investment mandates did not include derivatives.

Most investors consider prepayments on IOs to be a negative. On the surface, this deal was paying fast, and was not expected to perform well. However, due to the Yield Maintenance deal structure, prepayments were a significant positive for this bond, adding massive convexity. It was very mispriced (cheap) as the majority of street traders were not aware of the arbitrage.

Again, the excess cashflows were easily identified – the first one came in 3/1997. In many of the months that we owned this IO, we received over 100% of our investment.

Date	Principal Balance	Principal Paydowns	Prepayments & Maturities	Coupon Rate	Cash Flow (IO)	Scheduled Interest	Prepay Penalty to AX	Penalty % to AX	Effective Coupon %
10/25/2001	77,298,591	3,297,912	2,971,587	2.07	133,116	133,116			2.07
11/25/2001	74,000,679	5,889,476	5,563,151	2.07	888,459	127,405	761,055	13.7	14.41
12/25/2001	68,111,203	317,711		2.09	118,802	118,801			2.09
1/25/2002	67,793,492	320,073		2.09	118,230	118,230			2.09
2/25/2002	67,473,419	322,452		2.09	117,655	117,655			2.09
3/25/2002	67,150,966	324,850		2.09	117,075	117,075			2.09
4/25/2002	66,826,116	2,666,897	2,342,048	2.09	116,489	116,489			2.09
5/25/2002	64,159,219	9,741,962	9,431,328	2.06	109,985	109,985			2.06
6/25/2002	54,417,257	2,227,068	1,930,650	2.06	106,327	93,284	13,043	0.7	2.34
7/25/2002	52,190,189	13,241,087	12,958,885	2.06	218,285	89,467	128,819	1.0	5.02
8/25/2002	38,949,102	1,571,352	1,303,366	2.06	235,983	66,768	169,214	13.0	7.27
9/25/2002	37,377,750	3,897,000	3,643,229	2.06	277,199	64,075	213,124	5.8	8.90
10/25/2002	33,480,750	2,608,912	2,369,357	2.06	249,812	57,394	192,418	8.1	8.95
11/25/2002	30,871,838	9,765,775	9,540,436	2.06	155,956	52,922	103,034	1.1	6.06
12/25/2002	21,106,063	239,555		2.04	35,850	35,850			2.04
1/25/2003	20,866,508	241,325		2.04	35,437	35,437			2.04
2/25/2003	20,625,183	243,108		2.04	35,022	35,021			2.04
3/25/2003	20,382,075	244,904		2.04	34,604	34,606			2.04
4/25/2003	20,137,171	246,714		2.04	34,181	34,182			2.04
5/25/2003	19,890,458	248,537		2.04	33,757	33,758			2.04
6/25/2003	19,641,921	250,373		2.04	33,331	33,332			2.04
7/25/2003	19,391,548	252,223		2.04	32,899	32,900			2.04
8/25/2003	19,139,325	6,046,641	5,808,634	2.04	698,102	32,472	665,630	11.5	43.77
9/25/2003	13,092,684	243,075		2.07	22,535	22,535			2.07
10/25/2003	12,849,609	4,874,088	4,631,014	2.07	627,325	22,117	605,208	13.1	58.58
11/25/2003	7,975,521	226,870		2.06	13,661	13,660			2.06
12/25/2003	7,748,651	7,748,651	7,521,781	2.06	615,675	13,272	602,403	8.0	95.35
<b>Totals</b>					<b>\$5,082,635.34</b>	<b>\$1,628,689.67</b>	<b>\$3,453,945.67</b>		



**I am sharing this analysis to emphasize the importance of the analysis of cashflows. Such analysis is the core of MBS Mantra's process to identifying Alpha in MBS.**

**We believe we are unique in our thinking and the systematic application of such a process, and have been honing this process and investing with it for 25+ years. It is this process that leads to our differentiated returns.**

While we have observed a minority of our former clients analyzing the cashflows of the bonds they own for due diligence purposes, this is usually for the identification of problems and rarely for the identification of Alpha. Most investors and traders continue to use models to project cashflows in order to make their investment decisions, as they are primarily purchasing or trading new issue bonds that do not have cashflows to analyze.

It is our experience that models mostly capture average behavior of collateral pools, and do not identify the aberrant behavior that might offer Alpha. In addition, model assumptions drift rapidly from reality - I migrated away from reliance on models as far back as 1993 for this reason alone. This will be evident from some of the other archived documents on my website.

**Most importantly, however, model reliance does not result in a mindset that asks questions.**

**We believe that all finance and economics can be explained and quantified by sequential broadening of the scope of the inquiry** – in other words, asking more questions if you still cannot understand an anomaly. When we identify aberrant or excess cashflows, we seek to understand why, and conduct fundamental analysis until we understand it. This usually leads us to new sources of Alpha.

**I would love to hear your comments.**

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