

INVESTING IN RARE COINS

FINDING THE EMPEROR'S CLOTHES

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Interest in portfolios of investment quality rare coins is on the rise, driven largely by wealthier investors seeking unique diversification alternatives. The specific diversification benefits provided by including rare U.S coins in an investment portfolio are well documented (Dr. Robert Brown, Dr. Raymond Lombra, Burnett Marus, myself, and others) and include:

- High returns (12.7% compounded annual return over the past 35 years)
- Short-term returns that are uncorrelated with stocks
- Protection against inflation
- Reduced portfolio volatility
- Hedge against longer-term equity market downturns
- Tax-deferred exchanges
- Limited downside risk
- Socially responsible

Like airbags in a car, most of these benefits are protective in nature, acting to counter inflation and market volatility. While sophisticated investors may desire rare coins equally for their exceptional historic returns and protective properties, typical investors cast an eye to potential returns first and foremost. And understandably so. How many other investments have provided a 6,642% return over the past 35 years?

The logical question to be asked those of us in the numismatic industry serving investors is, "Which coins should be included in a rare coin portfolio?" Any coin dealer or experienced collector when asked this question will invariably respond, "Buy the highest quality, rarest coins you can afford." Numismatic history is rich with stories of great collectors who amassed spectacular collections of the choicest coins that netted equally spectacular profits upon sale. If you possess even modest knowledge of numismatics you know that a high-grade rare coin is much more likely to go up in value than a common date coin in the same condition. The laws of supply and demand have not bypassed the rare coin industry: the rarer the coin and the higher its condition the greater the likelihood for appreciation.

These insights and industry truisms are helpful, but if the intent is to optimize an investor's return the question remains as to which coins to include. Should a portfolio be comprised of gold coins only? What about silver, nickel or copper coinage? Should the portfolio be restricted to specific series such as Morgan dollars, St. Gauden's \$20 gold, Indian cents, Walking Liberty halves, or a mix series and if so, which ones? Do moderns qualify for inclusion or only "classic" coins? Which grades should be selected? Which price ranges? How much should an investor spend on a portfolio and why? What benchmarks should be used for evaluating portfolio performance?

For the past year we have been finding answers to many of these questions. Like hedge funds and investment banks that develop proprietary methodologies, we cannot reveal details of our methodology. But, we can share important byproducts of our efforts and in doing so perhaps raise both the level of understanding and discussion in this relatively unexplored area of numismatics.

THE INDUSTRY'S CONNUNDRUM

Indisputably, the rarest of coins tend to appreciate in value more than their lesser brethren. Such is both blessing and curse. A blessing to the fortunate individuals possessing those extraordinarily rare coins whose values often climb to stratospheric levels. A curse to all the others who want to possess them but can't, because by definition they are extraordinarily rare. And therein lies the rub: The greatest returns accrue to the very few.

An example will help illustrate the issue. Consider the high-grade rare coins in Table 1 below that were selected from widely traded series - series that we focus on in our research and for which we have detailed historic price and population data (albeit for a limited time frame) and a comparison portfolio (K-Score Portfolio™) of less rare and generally available coins. Price data was taken from Professional Coin Grading Service (PCGS) and coin population data from both PCGS and Numismatic Guaranty Corporation (NGC). Although opinions may vary about which coins in general are considered the most rare, each selected coin is rare in its series.

Starting price data is from last fall (October 2005), current price data from September 15, 2006. Coin population data is from October and November 2005.

TABLE 1 HIGH-END RARE COIN PORTFOLIO COINS									
Type	Year/Mint/Variety	Grade	PCGS Pop 10/05	NGC Pop 11/05	Total Pop	Price 10/24/05	Price 9/15/06	Price Change	% Price Change
Liberty Nickel	1885	MS65	28	20	48	\$8,000	\$9,200	\$1,200	15.00%
Liberty Nickel	1885	MS66	13	13	26	\$17,500	\$17,500	\$0	0.00%
Liberty Nickel	1885	MS67	2	1	3	\$37,500	\$55,000	\$17,500	46.67%
Liberty Nickel	1912-S	MS65	67	75	142	\$8,000	\$8,000	\$0	0.00%
Liberty Nickel	1912-S	MS66	8	5	13	\$10,000	\$20,000	\$10,000	100.00%
Buffalo Nickel	1916 DD Obv	MS63	0	3	3	\$160,000	\$165,000	\$5,000	3.13%
Buffalo Nickel	1916 DD Obv	MS64	2	5	7	\$275,000	\$300,000	\$25,000	9.09%
Buffalo Nickel	1926-S	MS64	113	76	189	\$16,000	\$17,000	\$1,000	6.25%
Buffalo Nickel	1926-S	MS65	10	5	15	\$100,000	\$115,000	\$15,000	15.00%
Buffalo Nickel	1937-D 3 Leg	MS65	9	39	48	\$32,500	\$32,500	\$0	0.00%
Buffalo Nickel	1937-D 3 Leg	MS66	4	14	18	\$90,000	\$90,000	\$0	0.00%
Mercury Dime	1916-D	MS65 FB	29	21	50	\$48,500	\$48,500	\$0	0.00%
Mercury Dime	1916-D	MS66 FB	16	6	22	\$62,500	\$62,500	\$0	0.00%
Mercury Dime	1916-D	MS67 FB	6	2	8	\$140,000	\$140,000	\$0	0.00%
Mercury Dime	1918-D	MS65 FB	14	6	20	\$35,000	\$35,000	\$0	0.00%
Mercury Dime	1918-D	MS66 FB	2	1	3	\$150,000	\$150,000	\$0	0.00%
Mercury Dime	1919-D	MS65 FB	12	4	16	\$40,000	\$42,500	\$2,500	6.25%
Mercury Dime	1919-D	MS66 FB	5	0	5	\$140,000	\$120,000	-\$20,000	-14.29%
Mercury Dime	1942/1	MS65 FB	9	2	11	\$40,000	\$40,000	\$0	0.00%

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Mercury Dime	1942/1	MS66 FB	6	2	8	\$62,500	\$61,500	-\$1,000	-1.60%
Mercury Dime	1942/1 D	MS65 FB	16	6	22	\$25,000	\$25,000	\$0	0.00%
Mercury Dime	1942/1 D	MS66 FB	10	5	15	\$37,500	\$37,500	\$0	0.00%
Mercury Dime	1945	MS66 FB	14	6	20	\$20,000	\$20,000	\$0	0.00%
Mercury Dime	1945	MS67 FB	4	1	5	\$38,000	\$38,000	\$0	0.00%
SL Quarter	1916	MS65 FH	65	44	109	\$35,000	\$37,000	\$2,000	5.71%
SL Quarter	1916	MS66 FH	8	16	24	\$50,000	\$50,000	\$0	0.00%
SL Quarter	1916	MS67 FH	4	3	7	\$90,000	\$125,000	\$35,000	38.89%
SL Quarter	1918/7 - S	MS63 FH	2	4	6	\$52,000	\$80,000	\$28,000	53.85%
SL Quarter	1918/7 - S	MS64 FH	3	5	8	\$85,000	\$125,000	\$40,000	47.06%
SL Quarter	1919-S	MS65 FH	10	6	16	\$35,000	\$35,000	\$0	0.00%
SL Quarter	1919-S	MS66 FH	3	2	5	\$47,500	\$65,000	\$17,500	36.84%
SL Quarter	1919-S	MS67 FH	1	2	3	\$100,000	\$110,000	\$10,000	10.00%
SL Quarter	1927-S	MS64 FH	10	6	16	\$70,000	\$75,000	\$5,000	7.14%
SL Quarter	1927-S	MS65 FH	3	4	7	\$155,000	\$155,000	\$0	0.00%
SL Quarter	1927-S	MS66 FH	2	1	3	\$200,000	\$200,000	\$0	0.00%
Walking Lib 50c	1919-D	MS64	69	58	127	\$40,000	\$35,000	-\$5,000	-12.50%
Walking Lib 50c	1919-D	MS65	10	4	14	\$135,000	\$130,000	-\$5,000	-3.70%
Walking Lib 50c	1919-D	MS66	1	0	1	\$275,000	\$275,000	\$0	0.00%
Walking Lib 50c	1921-D	MS64	97	61	158	\$15,000	\$16,500	\$1,500	10.00%
Walking Lib 50c	1921-D	MS65	32	18	50	\$27,500	\$29,000	\$1,500	5.45%
Walking Lib 50c	1921-D	MS66	3	3	6	\$50,000	\$52,500	\$2,500	5.00%
Walking Lib 50c	1921-S	MS64	68	47	115	\$47,500	\$47,500	\$0	0.00%
Walking Lib 50c	1921-S	MS65	22	19	41	\$100,000	\$100,000	\$0	0.00%
Walking Lib 50c	1921-S	MS66	1	1	2	\$200,000	\$200,000	\$0	0.00%
Morgan \$	1884-S	MS65	1	2	3	\$275,000	\$275,000	\$0	0.00%
Morgan \$	1884-S	MS67	1	0	1	\$500,000	\$500,000	\$0	0.00%
Morgan \$	1889-CC	MS64	26	35	61	\$57,500	\$57,500	\$0	0.00%
Morgan \$	1889-CC	MS65	1	4	5	\$250,000	\$250,000	\$0	0.00%
Morgan \$	1892-S	MS65	4	1	5	\$150,000	\$150,000	\$0	0.00%
Morgan \$	1892-S	MS66	4	1	5	\$200,000	\$225,000	\$25,000	12.50%
Morgan \$	1892-S	MS67	5	3	8	\$265,000	\$285,000	\$20,000	7.55%
Morgan \$	1893-S	MS65	5	2	7	\$400,000	\$400,000	\$0	0.00%
Morgan \$	1893-S	MS67	2	0	2	\$800,000	\$800,000	\$0	0.00%
Morgan \$	1895-O	MS65	5	1	6	\$190,000	\$190,000	\$0	0.00%
Morgan \$	1895-O	MS66	1	1	2	\$350,000	\$350,000	\$0	0.00%
Morgan \$	1895-O	MS67	1	0	1	\$525,000	\$575,000	\$50,000	9.52%
Morgan \$	1896-O	MS65	1	3	4	\$175,000	\$175,000	\$0	0.00%
Morgan \$	1896-O	MS66	2	0	2	\$350,000	\$350,000	\$0	0.00%
Morgan \$	1901	MS64	20	15	35	\$65,000	\$65,000	\$0	0.00%
Morgan \$	1901	MS65	3	3	6	\$200,000	\$200,000	\$0	0.00%
Indian \$5 Gold	1909-O	MS64	20	15	35	\$120,000	\$140,000	\$20,000	16.67%
Indian \$5 Gold	1909-O	MS65	1	1	2	\$250,000	\$250,000	\$0	0.00%
Indian \$5 Gold	1909-O	MS66	1	0	1	\$350,000	\$350,000	\$0	0.00%
Indian \$5 Gold	1911-D	MS65	1	4	5	\$165,000	\$225,000	\$60,000	36.36%
Indian \$5 Gold	1913-S	MS65	1	1	2	\$120,000	\$140,000	\$20,000	16.67%

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Indian \$5 Gold	1913-S	MS66	1	2	3	\$175,000	\$185,000	\$10,000	5.71%
Indian \$10 Gold	1907 Rolled E	MS65	15	11	26	\$235,000	\$255,000	\$20,000	8.51%
Indian \$10 Gold	1907 Rolled E	MS66	4	3	7	\$300,000	\$325,000	\$25,000	8.33%
Indian \$10 Gold	1907 Rolled E	MS67	3	2	5	\$350,000	\$375,000	\$25,000	7.14%
Indian \$10 Gold	1911-D	MS64	11	13	24	\$60,000	\$66,000	\$6,000	10.00%
Indian \$10 Gold	1911-D	MS65	3	0	3	\$100,000	\$110,000	\$10,000	10.00%
Indian \$10 Gold	1913-S	MS65	2	1	3	\$135,000	\$135,000	\$0	0.00%
Indian \$10 Gold	1913-S	MS66	1	0	1	\$200,000	\$200,000	\$0	0.00%
Indian \$10 Gold	1920-S	MS65	2	2	4	\$250,000	\$250,000	\$0	0.00%
Indian \$10 Gold	1920-S	MS66	1	1	2	\$300,000	\$315,000	\$15,000	5.00%
Indian \$10 Gold	1920-S	MS67	1	0	1	\$365,000	\$400,000	\$35,000	9.59%
Indian \$10 Gold	1933	MS63	2	2	4	\$200,000	\$210,000	\$10,000	5.00%
Indian \$10 Gold	1933	MS64	13	4	17	\$300,000	\$315,000	\$15,000	5.00%
Indian \$10 Gold	1933	MS65	8	3	11	\$600,000	\$625,000	\$25,000	4.17%
Saint \$20	1907 HR FE	MS65	55	37	92	\$55,000	\$60,000	\$5,000	9.09%
Saint \$20	1907 HR FE	MS66	29	37	66	\$80,000	\$100,000	\$20,000	25.00%
Saint \$20	1907 HR FE	MS67	4	5	9	\$150,000	\$195,000	\$45,000	30.00%
Saint \$20	1920-S	MS64	12	7	19	\$115,000	\$175,000	\$60,000	52.17%
Saint \$20	1920-S	MS65	2	1	3	\$200,000	\$275,000	\$75,000	37.50%
Saint \$20	1920-S	MS66	1	0	1	\$365,000	\$500,000	\$135,000	36.99%
Saint \$20	1921	MS64	3	1	4	\$190,000	\$400,000	\$210,000	110.53%
Saint \$20	1921	MS65	1	0	1	\$300,000	\$750,000	\$450,000	150.00%
Saint \$20	1921	MS66	1	0	1	\$400,000	\$1,100,000	\$700,000	175.00%
Saint \$20	1927-D	MS65	1	1	2	\$1,200,000	\$1,400,000	\$200,000	16.67%
Saint \$20	1927-D	MS66	3	2	5	\$1,500,000	\$1,800,000	\$300,000	20.00%
Saint \$20	1927-D	MS67	1	0	1	\$2,000,000	\$2,200,000	\$200,000	10.00%
	Totals		1099	849	1948	\$19,285,500	\$22,265,700	\$2,980,200	15.45%

Assuming you were to construct a portfolio of one of each coin, its performance compares favorably to other industry metrics as shown in the Table 2 below. (Note: Start Values are for late October 2005 and End Values for September 15, 2006.)

TABLE 2 - PERFORMANCE COMPARISON

Measure	Start Value	End Value	Change	% Change
Hypothetical Rare Coin Portfolio	\$19,285,500	\$22,265,700	\$2,980,200	15.45%
PCGS Key Dates and Rarities Index	23081.71	25569.91	2488.2	10.78%
K-Score Portfolio	\$757,277	\$835,658	\$78,381	10.35%
PCGS3000 Coin Market Index	64,889.91	67,411.08	2521.17	3.89%

The hypothetical portfolio's 15.45% gain over the past 10-1/2 months is higher than the PCGS Key Date and Rarity Index (10.78%), K-Score Portfolios of undervalued coins (10.35%), and the broad based PCGS3000 Rare Coin Index (3.89%). The selected groups of coins do fit the

criteria for inclusion in an investment portfolio: They are both rare and outperform the relevant metrics.

You may have noted that 10 of the coins are unique and another eight have populations of two known. Assuming the PCGS and NGC data to be reflective of how many of these coins actually survive, it is quite unlikely that any of these one or two population coins is currently for sale. And if any of them were to appear on the market, such would be a considered an important event. Perhaps more interesting to note is that if you were to remove those 10 unique coins from the hypothetical portfolio, the return would drop from 15.45% to 10.07% - to a level below that of the PCGS Key Data and Rarities and K-Score coins.

Some important caveats apply to this example. Prices for the high-end rarities listed by PCGS may be more reflective of current bids or last sale price rather than what the coin might realize in a heated auction today, thus underestimating current value. The time frame for this example is short and prices for great rarities tend to follow a step function pattern: unchanged for a long period of time followed by a jump (often) when sold. The coins included were typically limited to the two or three highest grades known which overlooks any potential gains in lower graded rarities. Also, there are many, many rare coins from other series that were not listed ranging from Half Cents to \$20 Liberty gold. But the example demonstrates that truly rare coins perform at levels much higher than the market.

Taking this illustrative example to the extreme, consider a perfect numismatic investor's world in which all the coins shown in Table 1 were available last fall at list prices to anyone with the money to purchase them. In such a perfect world, 189 portfolios could be constructed from the coins as shown below in Table 3. The wealthiest investor purchases a portfolio that contains one of each coin (91 in total), spending \$19,285,500. The second wealthiest individual purchase one of each of the remaining coins (81 in total after the 10 unique ones have been sold) for \$14,005,500. A third investor purchases a portfolio of one of each of the remaining coins (73) for \$10,435,500, etc. The last 31 investors each get to have one-coin portfolios for \$16,000.

TABLE 3 ALL POTENTIAL PORTFOLIOS				
Number of Coins	Number of Portfolios	Cost	Change in Value	% Change
91	1	\$19,285,500	\$2,980,200	15.45%
81	1	\$14,005,500	\$1,410,200	10.07%
73	1	\$10,435,500	\$1,175,200	11.26%
63	1	\$8,903,000	\$1,047,700	11.77%
59	1	\$8,088,000	\$827,700	10.23%
50	1	\$5,247,500	\$420,200	8.01%
46	1	\$4,755,500	\$389,700	8.19%
41	1	\$3,535,500	\$304,700	8.62%
37	1	\$2,983,000	\$304,700	10.21%
36	2	\$2,833,000	\$200,700	7.08%
34	2	\$2,193,000	\$200,700	9.15%
33	1	\$2,183,000	\$175,700	8.05%
32	1	\$2,048,000	\$170,700	8.33%

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30	1	\$1,910,500	\$155,700	8.15%
27	1	\$1,765,500	\$148,200	8.39%
26	1	\$1,465,500	\$133,200	9.09%
25	1	\$1,375,500	\$133,200	9.68%
24	1	\$1,260,500	\$73,200	5.81%
22	2	\$1,205,500	\$73,200	6.07%
20	2	\$1,118,000	\$73,200	6.55%
18	2	\$1,008,000	\$67,200	6.67%
16	9	\$755,500	\$47,200	6.25%
14	6	\$570,500	\$27,200	4.77%
13	7	\$470,500	\$27,200	5.78%
11	2	\$430,000	\$26,000	6.05%
9	11	\$354,000	\$24,500	6.92%
8	5	\$296,500	\$24,500	8.26%
7	26	\$216,500	\$4,500	2.08%
6	17	\$161,500	-\$500	-0.31%
5	6	\$126,500	-\$2,500	-1.98%
4	12	\$79,000	-\$2,500	-3.16%
3	15	\$39,000	\$2,500	6.41%
2	16	\$31,000	\$2,500	8.06%
1	31	\$16,000	\$1,000	6.25%
TOTAL	189			

You can see that portfolio returns drop off significantly after the wealthiest individual acquired the portfolio containing the unique coins. Some investors toward the bottom of the pile even lost money. If you took random samples of these portfolios, you would discover that the average return is 9.08%. If one coin were allocated for sale to each investor (1948 coins, thus 1948 investors) the average return per investor would have been 8.99%. Not bad, but not as good as some of the other metrics over the period.

Of course the real world doesn't work like this. One could readily argue that the example is not only unrealistic; it excludes many, many rare coins. But it does serve to illustrate the challenges associated with putting together a portfolio of the choicest coins for an investor. There are relatively few to go around. What does this signify for an "average" well-healed investor seeking the compelling investment benefits associated with rare coins? From his or her prospective is the numismatic profit emperor without clothes? As you will see, the emperor does have clothes but it was a challenge finding him a wardrobe.

THAT DEVIL IN THE DETAILS

"There are three kinds of lies: lies, damned lies, and statistics." (Often attributed to Mark Twain, but stated earlier and most likely by Disraeli). This is an appropriate quote (along with its common misattribution) to keep in mind when assessing rare coin returns. Consider how Buffalo Nickels in grades MS63 through MS65 (excluding overdates and varieties) fared at the wholesale level over the forty-one month period July 2002 though December 2005 as shown in Table 4 below:

TABLE 4 - BUFFALO NICKELS WHOLESAL

Start Value 7/2/02	End Value 12/2/05	Change	% Change
\$264,393	\$329,161	\$64,768	24.50%

Overall the series turned in a respectable performance. Or did it? During the forty-one month time frame, one - let me repeat - one, 1926-S Buffalo certified MS65 by PCGS sold at auction. (Bowers & Merena in 2003. Others certified MS65 by PCGS may have sold during that time frame, but we couldn't find any via auction records.) The coin auctioned for over \$100,000, which pushed up the wholesale price (site unseen bid) from \$33,000 to \$83,000. If we back out that coin's start and end values from the Buffalo data, the results look quite different as shown in Table 5 below:

TABLE 5 - BUFFALO NICKELS WHOLESAL NO 26-S

Start Value 7/2/02	End Value 12/2/05	Change	% Change
\$231,393	\$246,161	\$14,768	6.38%

That Buffalo coin's owner ate steak. Everyone else gnawed on leftovers. This is a classic example of how the potential for investing in rare coins can be easily misjudged or the statistics misused. The exceptional gain of just one coin can dramatically move the entire series' profit gauge. A more realistic return for the coins over the period is 6.38%, not 24.50%.

It was with these types of considerations in mind that we began searching for a means to identify generally available and affordable coins whose performance would at a minimum keep pace with the benchmark PCGS3000 Index. This index is not only the basis for those 35 years of 12.7% compounded price growth; it is the most widely cited in numismatics. By analogy it is the S&P500 for the coin industry.

Our efforts led the discovery of price anomalies. Consider Table 7 below.

TABLE 7 - MS65 BUFFALO NICKELS - POP vs. PRICE

Date & Mint	MS65 - PCGS + NGC Pop (9/05)	Price (9/05)
1927-S	30	\$24,500
1925-S	31	\$45,000

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1916-D	120	\$2,700
1917-D	138	\$4,200
1929	555	\$385
1934	661	\$400
1917	344	\$600
1934-D	344	\$875

The coins are sorted into pairs. In the first three pairs the coin listed first has a lower known population than the coin below it. In the last pair the coins have identical populations. By looking at prices you will note that the lower population coins are priced lower than the higher population coins, the opposite of what the laws of supply and demand would predict. And in the last pair of coins with the same population, the 1934-D is priced 46% higher than the 1917. Why? Is the 1917 nickel underpriced, is the 1934-D nickel overpriced, are both priced right or are both mispriced? Such questions could be asked of any of the other pairs of coins.

Price anomalies such as these abound in the rare coin market, so the challenge becomes modeling them. After a six-month effort of analyzing variables that influence coin prices, we were able to develop mathematical models that seemed to do a credible job of capturing price anomalies. Population was discovered to be just one of several variables driving price. These models allowed us to divide rare U.S. coins that are generally affordable and available into two groups: prospectively undervalued and prospectively overvalued. If we did our work right, the prospectively undervalued coins should outperform the prospectively overvalued coins.

Consider again the Buffalo nickel series in Table 5 that had a realistic return of 6.38%. If all the coins that our models identified as prospectively undervalued were acquired, the price appreciations would have been those as shown in Table 6 below:

TABLE 6 - BUFFALO NICKELS - PORTOFLIO COMPARISONS

Portfolio Type	Start Value 7/2/02	End Value 12/2/05	Change	% Change
K-Score (undervalued)	\$109,736	\$120,092	\$10,356	9.44%
All others (overvalued)	\$121,657	\$126,069	\$4,412	3.63%
TOTALS	\$231,393	\$246,161	\$14,768	6.38%

Three results stand out. First, the cost (wholesale in this example) for the K-Score Portfolio of prospectively undervalued coins was \$109,736 - only 47% of the \$231,393 cost for the entire series. Second, the K-Score Portfolio had a price appreciation of 9.44%, which is 48% higher than that for the entire series (the 6.38% appreciation). Third, coins the models identified as prospectively overvalued appreciated only 3.83%. Less money spent, above average returns.

These initial models, developed with both limited sets of coins and limited data, appeared promising. How would they perform across a broader range of coins using even more robust data? Could we put clothes back on the industry's Emperor?

DRESSING THE EMPORER

The objective of any firm offering rare coin portfolios to investors is to identify and acquire coins believed to have the greatest potential for appreciation. As discussed above, the rarest coins with the historically highest returns are relatively few in number. Their exceptional appreciation may also skew perceived performance, making the overall gains seen in many coin series appear much higher than they really are.

To overcome these obstacles we focused our analytic efforts on achieving the following objectives:

- **Availability and Affordability** - We purposely limited coins to those with retail prices to between \$100 and \$5,000 - ones that are usually available on the market and affordable for investors.
- **Liquidity** - The coin series selected for inclusion in portfolios are widely traded and popular thus providing liquidity advantages when sold.
- **Market or Greater Returns** - Collectively the coins selected should at minimum, perform at a level commensurate with the PCGS3000 Index.

The analytic models were finalized in October 2005. Ten series were studied and within the price range a total of 652 coins were identified as undervalued and 553 as overvalued. The numbers of coins by series are shown in Table 7 below.

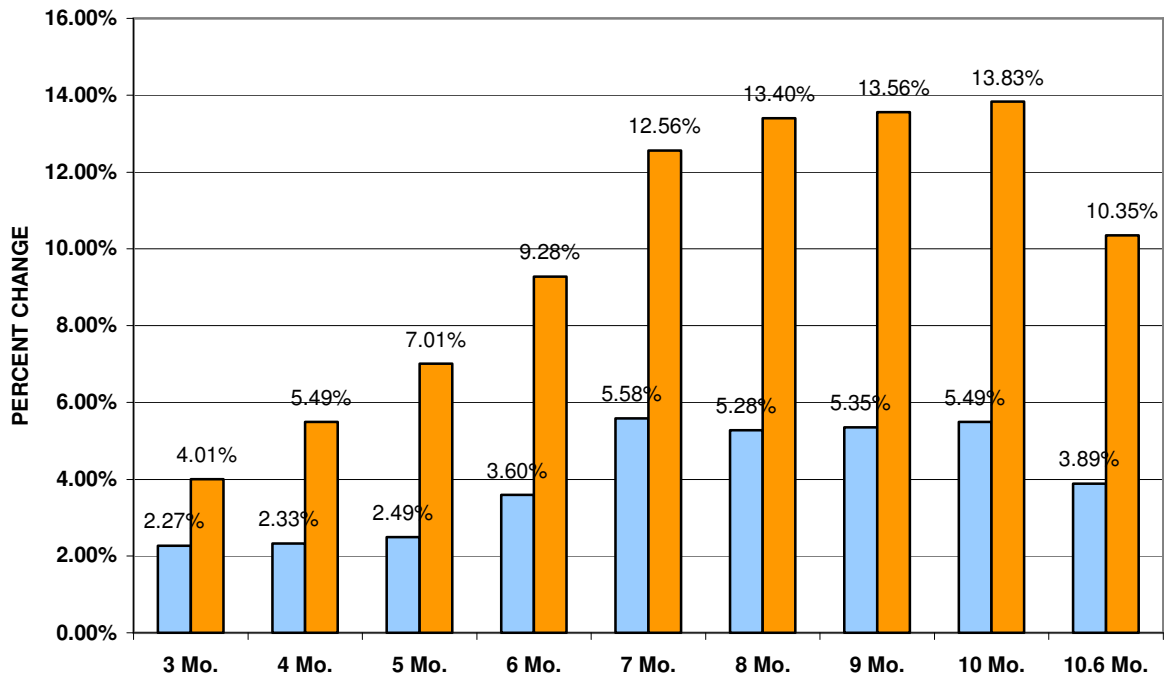
TABLE 8 - COINS BY SERIES

Series	Undervalued	Overvalued
Liberty Nickels	50	44
Buffalo Nickels	72	77
Mercury Dimes	96	79
SL Quarters	102	92
Walking Lib Halves	58	51
Morgan Dollars	125	86
Peace Dollars	39	21
Indian \$5 Gold	23	22
Indian \$10 Gold	27	28
St. Gaudens \$20	60	53
TOTAL	652	553

INVESTING IN RARE COINS - FINDING THE EMPORER'S CLOTHES

That there are more prospectively undervalued than overvalued coins is due to the way we handle coins identified as “irrationally” priced. These are certain key and semi-key dates that tend to go up in value regardless of what the models predict. An example is the 1934-S Peace Dollar in MS63 that the model said was overvalued but which is such a desired coin that it was included with the “undervalued” set. Defining which coins were “irrationally” priced was established BEFORE the models were run, not afterwards. This removed any opportunity for us

FIGURE 1 K-SCORE PORTFOLIO vs. PCGS3000
October 24, 2005 to September 15, 2006



to enhance results post-modeling.

Figure 1 below shows how the prospectively undervalued K-Score Portfolio coins performed (percent change) over the period October 24, 2005 through September 15, 2006. The PCGS3000 Index is shown in light blue and the K-Score Portfolio in gold.

The prospectively undervalued K-Score Portfolio substantially outperformed its benchmark over the period. This is shown more clearly in Figure 2 below.

Note that by the fourth month, the K-Score Portfolio coins had price improvements of 100% or more over the PCGS300 and during the past few months the gap has widened. It is now 166%. Note also that when the gold coin market tumbled the second week of September (the 10.6 month value), the K-Score Portfolio coins did not drop as much as did the PCGS3000 Index. Although the data is tentative, it would appear that the prospectively undervalued coins fare better during both up and down markets.

We asked ourselves is how well the models would perform if the price limits were removed and the irrationally priced coins evaluated purely on the basis of whether the model deemed them under or overpriced. For us, this was the real acid test of the models' robustness. The results are shown in Table 9 below:

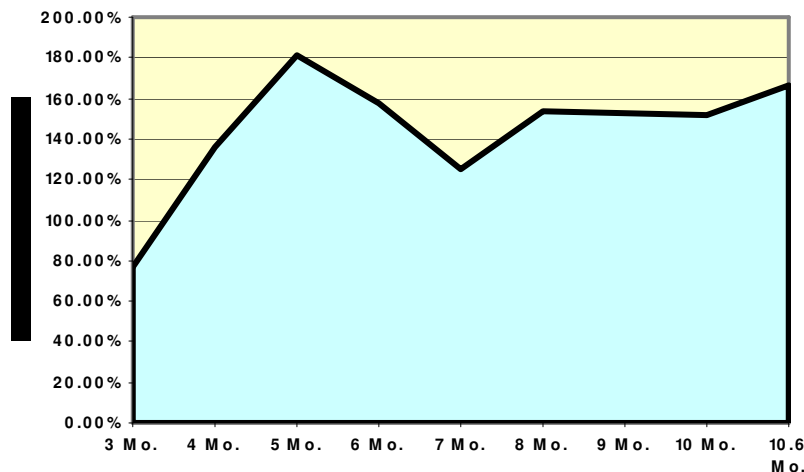
TABLE 9 - PORTOFLIO COMPARISONS

Portfolio/Index	Start Value (10/5)	End Value (9/06)	Change	% Change
K-Score - ALL COINS	\$5,320,658	\$6,305,893	\$985,235	18.52%
K-Score Portfolio	\$757,277	\$835,658	\$78,381	10.35%
PCGS3000	64,889.91	67,411.08	2521.17	3.89%

When the price limits were removed and coins evaluated purely on the basis of their predicted pricing, the models performed better than we anticipated. They also performed better than the hypothetical portfolio of the rarest coins and the PCGS Key Data and Rarity Index. Thus it appears the models can be used to generate even stronger returns with coins priced above \$5,000, subject to the caveat that such coins may be harder to obtain.

The results to date of our efforts are encouraging. If they hold up over time, it appears the unique road we have walked down will have been worthwhile. We are in the process of extending the models to several other coin series including Indian and Lincoln cents, classic Commemoratives and later date Liberty gold coins. Although we are limited to series and

FIGURE 2 K-SCORE % IMPROVEMENT OVER PCGS3000
October 24, 2005 to September 15, 2006



grades for which there is adequate analytic data, the estimated market value of coins priced between \$100 and \$5,000 that qualify for inclusion in basic K-Score Portfolios is in excess of \$1 billion. The emperor has clothes.

In an upcoming article I will look at other issues surrounding rare coin portfolios, including within portfolio diversification and the impact of portfolio size on potential returns.

Postscript. Some of you may be wondering about the 1917 versus 1934-D Buffalo nickel example provided earlier in this article. Recall that the two coins had the same population but the 1934-D was priced at \$875 and the 1917 at \$600. Contrary to intuition, the model predicted the 1934-D to be underpriced and the 1917 as overpriced. In the 11 months since the prediction was made, the 1934-D's list price rose by \$70 and the 1917's price remained unchanged.