
❖ Contrarian Research Report ❖

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❖ Contrarian Views and Ideas ❖

Exchanges Versus Indices

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The concept of indexation as a passive investment strategy is well established. Indeed, it is so well established that very few active managers can produce investment performance that is superior to that of an index. Indexation as an investment strategy has become so popular that it has been reasoned that one can diversify a portfolio beyond a standard index such as the S&P 500 by the purchase of other indices such as the Russell 2000, the Wilshire 5000 or the Morgan Stanley EAFE index as well as a vast variety of national and sectoral indices.

In fact, there are so many indices that the aggregate index trading volume inclusive of various exchange traded funds (ETFs) probably rivals that of individual stocks. Many managers of large pools of capital complain that the primary problem insofar as management is concerned is the lack of liquidity. Nearly limitless liquidity is available in index trading. Therefore, it would seem reasonable to believe that soon the investment community will evolve a new genus of manager such as the manager of indices. This will be the fund of indices and it will be much like the fund of funds except with greater liquidity and lower fees, although not necessarily lower leverage.

In preparation for this development, persons of an entrepreneurial cast of mind will seek to develop new indices to satisfy the growing demand for this sort of financial product. Towards this end, the following humble contribution is offered.

It should be observed that various exchanges around the globe have decided to become publicly traded. These include the London Stock Exchange as well as the Toronto Stock Exchange. The German stock exchange as well as various derivatives exchanges are publicly traded in the form of the so-called Deutsche Boerse. The joint exchange known as Euronext is the agglomeration of the Paris Amsterdam, Brussels and Lisbon stock exchanges as well as LIFFE. Other publicly traded exchanges are the Chicago Mercantile Exchange (CME), NASDAQ Stock Market (NDAQ), the International Securities Exchange (ISE), The Singapore Stock Exchange, Hong Kong Exchanges and Clearing Limited, and the Australian Stock Exchange.

Although the NYSE only proposes to become publicly traded and is not yet publicly traded, its shares can at least theoretically be purchased by the modality of the shares of Archipelago Holdings (AX). In order to complete its emergence as a publicly traded firm, the NYSE proposes to merge with Archipelago. The seat holders otherwise known as members of the NYSE will receive 70% of the shares of the combined company as well as \$400 million in cash. Holders of Archipelago shares will receive 30% of the shares of the combined company. Consequently, if one wished to know the theoretical market capitalization of the NYSE in its possibly soon to be public configuration, one could divide the current market capitalization of the Archipelago Holdings enterprise (roughly \$1.86 billion) by 0.3 to derive the NYSE value. This would equal approximately \$6.217 billion.

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Of course, since even the revenue and expense models of the NYSE in public company mode are unavailable, it is not possible to determine whether such a market capitalization is to be regarded as high or low or even proper or even reasonable. Nevertheless, some comparisons might be sensibly made with the Toronto Stock Exchange. The market capitalization of the Toronto Stock Exchange in U.S. dollars is about \$1.9 billion. The shares trade at a p/e ratio of approximately 20x. The NYSE would need to generate \$310 million of profit in order to support its current valuation in order to trade at a similar p/e.

The Toronto Stock Exchange earns in U.S. dollars perhaps \$95-100 million per annum. The average daily trading value is slightly less than \$3 billion U.S. dollars. The NYSE daily average trading value is \$54 billion. The management of the NYSE must find a way to convert this level of activity into exchange fees.

Although one cannot reasonably compute the future returns of the NYSE, one can certainly compute historical returns. This is because the NYSE maintains records of seat prices that extend back to the 19th century. The first recorded seat price was \$7,000 in 1868. * Currently, a seat might be obtained, if one were available, for perhaps \$2.4 million. This is nearly a 343 fold profit. However, one must also take note that this is over a 137 year period. The compound annual rate of return is only 4.35%. This is inferior to the assumed 10% compound annual rate of return for common stocks generally. In fact, in mid 1929, it is recorded that a seat sold for \$625,000.** Thus, if 1929 were used as a base year, the compound annual rate of return for seats is only 1.79%. The profit in dollars is nearly four fold. Common stocks for this time period (1929-2005) probably generated a 10% rate of return on a compound annual basis according to most academicians. It would seem that a seat was a poor investment.

Yet, such a comparison is not necessarily valid for two reasons. The first and perhaps minor reason was that a seat in 1929 had some strategic value inasmuch as it was a position from which one could quite easily and frequently, even legally, manipulate share prices. Such manipulations were common occurrences in the pre-1934 era. Second, and most important, the seat price calculation ignores income. Many seats are leased by holders to market participants. The lease income is largely a private matter so that the data is not very easy to obtain. Nonetheless, objectively verifiable data does exist with regard to lease rates dating to at least 1986.

In any case, much depends upon the measurement point. For instance, in 1975 with the end of fixed commissions, the price of a seat declined to roughly \$35,000. The rate of return on seats exclusive of the lease income is therefore 68.5x or 6,757%. This is a principal only compound annual rate of return of 15.1%. In order to have provided a comparable rate of return on a price only basis, the Dow Jones Industrials would now need to trade at a level of 39,236 and the S&P 500 at a level of 5,576.

* See William P. Barrett, Forbes N.Y October 11, 1999 – volume 164 – Issue 9 – pg. 121-126

** Forbes op.cit.

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It appears that the average lease rate, at least according to the NYSE, well exceeds 10% per annum. The following table provides average lease rates and average seat prices from the 1986-2004 period. The source of the data is the NYSE.

Membership Lease Rates and Seat Prices 1986-2004

	<u>Lease Rates</u>	<u>Seat Prices</u>
1986	\$ 80,000	\$ 600,000
1987	126,000	1,150,000
1988	120,000	820,000
1989	86,000	675,000
1990	66,000	430,000
1991	66,000	440,000
1992	85,000	600,000
1993	106,000	775,000
1994	128,000	830,000
1995	127,000	1,050,000
1996	150,000	1,450,000
1997	175,000	1,750,000
1998	204,000	2,000,000
1999	247,000	2,300,000
2000	315,000	1,700,000
2001	330,000	2,300,000
2002	325,000	2,550,000
2003	255,000	1,500,000
2004	129,000	1,150,000

A seat purchased in 1986 for \$600,000 would have collected in the next 18 years \$3,121,000 in rental income, and could currently be sold for \$2.4 million. Assuming no reinvestment of cash income, it would be a 9.2x increase in value. These numbers are not truly comparable to S&P 500 or Dow Jones Industrials rates of return since these do assure dividend reinvestment in the index. If it had been possible to reinvest dividends tax free in an index comprised of NYSE seats, as is assumed in the S&P 500 and Dow Jones Industrials return calculations, the total value held at present would amount to approximately \$8.44 million or a 14.07 fold value increase. The compound annual rate of return would be 15.82%. The S&P 500 for the same period of time appears to have generated a return of 12.97% on a compound annual basis.

One might therefore legitimately wonder whether an ownership position in an exchange is not ultimately a superior form of indexation to classical indexation. Instead of the

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purchase of perhaps thousands of companies in order to create a global index, one would purchase only a relatively small number of exchanges. Each example is more or less a monopoly in its own country. Although in Europe the leading companies are frequently listed on several exchanges, the bulk of trading usually occurs on the exchange in the country of origin. Similarly in the U.S., although there are regional exchanges, the bulk of trading occurs in the national exchanges such as the NYSE or NASDAQ. The business does have very strong centripetal as opposed to centrifugal forces. Exchanges frequently combine. For instance, Archipelago Holdings acquired the Pacific Stock Exchange prior to its merger with the NYSE. Similarly, NASDAQ Stock Market Inc. is merging with Instinet, which is another electronic exchange. As noted previously, Euronext itself is the merger of five exchanges. Moreover, there are suspicions that Euronext will merge with the London Stock Exchange or with Deutsche Boerse. There are also rumors that Deutsche Boerse would like to acquire the London Stock Exchange. The notorious Canadian Venture Exchange merged with the Toronto Stock Exchange. More recently, Merrill Lynch and Citadel Holdings announced that each firm will pay \$7.5 million for a combined 20% stake in the Philadelphia Stock Exchange.

The reason for exchange consolidation around the globe is self evident. In those places in the world where exchanges exist, a stock exchange is a near monopoly. The exchange is characterized by a cost structure clearly dominated by fixed costs. Variable costs are a very small part of the exchange cost structure. Consequently, changes in volume do not generally involve changes in cost. Volume or level of activity is almost always increasing. For instance, the NYSE listed 1,143 firms in 1960. Average daily volume was 3 million shares. At the end of 2004 there were 2,747 companies listed on the NYSE. Volume per day in 2004 was 1.442 billion shares. The compound annual growth rate in shares listed since 1960 is only 2%. The compound annual growth rate in volume is 15%. NYSE turnover was 12% in 1960. In 2004 it was 99%. All of this data is from the NYSE Fact Book and can be found at the end of this paper in Appendix I.

The increase in volume over the past 45 years is difficult to explain. In 1960 there were no index funds and no passive management investment strategies. Indexation is now a huge business. In principle, indexation should serve to reduce volume, since trades should only be conducted for index rebalancing purposes. However, given the multiplicity of indexes as well as ETFs, index products trade like shares. It is possible to “tilt” indexes by the addition of companies to a portfolio beyond those contained in the index or to short some undesirable index members. All of this must remain in the realm of true conjecture. Nonetheless, the volume increase is very real.

Thus, if one believes that the number of products that the investment community will offer customers will continue to increase, it is likely that volume will increase. Insofar as the publicly traded exchanges are concerned, increased volume generates incremental revenue without very much, if any, incremental cost. It has been finally recognized after 45 years that a 15% compound annual volume increase can result in a much greater earnings increase.

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As a consequence, exchanges are becoming companies dedicated to the task of increasing the level of and the frequency of investor activity. Of course, if the trend towards greater activity should reverse, the exchange would be in a very difficult position insofar as reported earnings are concerned. Revenue would no doubt decline with very little prospect of a decline in associated cost. As long as activity increases at the current rate, it is reasonable to suppose that earnings of the exchanges will increase at an even greater rate. This is a rate that cannot possibly be matched by any mere operating companies. Hence, exchanges might well prove to be more interesting investments than indices as long as volume continues to increase. In order to further its business plans, the exchanges must endeavor to increase activity. Since the NYSE has already attained the 100% turnover rate, it will certainly be interesting to see if this achievement can be improved upon.

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APPENDIX I

NYSE Overview Statistics As Of September 2004

	<u>Average daily volume (a)</u> <u>(mil. shares)</u>	<u>Global market capitalization</u> <u>(b) (\$ trils.)</u>	<u>Companies listed (c)</u>	<u>Percent turnover (d)</u>	<u>Seat prices</u> <u>(e)</u>
2004	1,442	\$17.8	2,747	99%	\$1,150,000
2003	1,398	\$17.3	2,750	99%	\$1,500,000
2002	1,441	\$13.4	2,783	105%	\$2,550,000
2001	1,240	\$16.0	2,798	94%	\$2,300,000
2000	1,042	\$17.1	2,862	88%	\$1,700,000
1999	809	\$16.8	3,025	78%	\$2,300,000
1998	674	\$14.0	3,114	76%	\$2,000,000
1997	527	\$11.8	3,047	69%	\$1,750,000
1996	412	\$9.2	2,907	63%	\$1,450,000
1995	346		2,675	59%	\$1,050,000
1994	291		2,570	54%	\$830,000
1993	265		2,361	54%	\$775,000
1992	202		2,089	48%	\$600,000
1991	179		1,885	48%	\$440,000
1990	157		1,774	46%	\$430,000
1989	165		1,720	52%	\$675,000
1988	161		1,681	55%	\$820,000
1987	189		1,647	73%	\$1,150,000
1986	141		1,575	64%	\$600,000
1985	109		1,541	54%	\$480,000
1984	91		1,543	49%	\$400,000
1983	85		1,550	51%	\$425,000
1982	65		1,526	42%	\$340,000
1981	47		1,565	33%	\$285,000

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	<u>Average daily volume (a)</u> (mil. shares)	<u>Global market capitalization (b)</u> (\$ trils.)	<u>Companies listed</u> (c)	<u>Percent turnover</u> (d)	<u>Seat prices (e)</u>
1980	45		1,570	36%	\$275,000
1979	32		1,565	28%	\$210,000
1978	29		1,581	27%	\$105,000
1977	21		1,575	21%	\$95,000
1976	21		1,576	23%	\$104,000
1975	19		1,557	21%	\$138,000
1974	14		1,567	16%	\$105,000
1973	16		1,560	20%	\$190,000
1972	16		1,505	23%	\$250,000
1971	15		1,426	23%	\$300,000
1970	12		1,351	19%	\$320,000
1969	11		1,311	20%	\$515,000
1968	13		1,273	24%	\$515,000
1967	10		1,274	22%	\$450,000
1966	8		1,286	18%	\$270,000
1965	6		1,273	16%	\$250,000
1964	5		1,247	14%	\$230,000
1963	5		1,214	15%	\$217,000
1962	4		1,186	13%	\$210,000
1961	4		1,163	15%	\$225,000
1960	3		1,143	12%	\$162,000

- (a) Year average, except for current year average through end of June. Sources: 1960 through 2001 NYSE Fact Book.
- (b) Market capitalization of U.S. companies plus global market capitalization of non-U.S. companies. Includes closed-end funds. Year-end, except for current year market capitalization at end of January.
- (c) Year end, except for current year through end of August. Sources: 1960 through 2001 NYSE Fact Book.
- (d) Year average, except for current year average through the end of August. Sources: 1960 through 2001 NYSE Fact Book.
- (e) Highest sale price for each year, except for current year through most recent sale. Sources: 1960 through 2001 NYSE Fact Book.

Appendix II

Exchanges Planning Public Offerings:

Bolsa de Madrid	Korea Stock Exchange	Mumbai Stock Exchange
Milan Stock Exchange	Tokyo Stock Exchange	