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J. M. Keynes's Investment Performance: A Note

JESS H. CHUA and RICHARD S. WOODWARD*

ASIDE FROM HIS CONTRIBUTION to the development of economic theory, John Maynard Keynes is reputed to have had extraordinary skills as an investor in the stock market. There has been no evidence to date, however, to support this widely accepted legend. The purpose here is to examine empirically the investment performance of John Maynard Keynes, in particular as First Bursar of the Chest Fund at King's College, Cambridge over the period from 1927 to 1945. On the basis of modern performance evaluation measures, the evidence indicates that Keynes was an outstanding portfolio manager, "beating the market" by a large margin.

I. The Chest Fund

Prior to June 1920, King's College investments were restricted to fixed income trustee securities. In November 1919, Keynes was appointed Second Bursar. By June 1920, he had influenced the College into starting a separate fund containing common shares, currency, and commodity futures, which eventually became the Chest Fund. The performance of the Chest Fund is the concern of this study. Keynes became First Bursar in 1924 and held the post until his death in 1945; as First Bursar, he made the final investment decisions regarding the various endowment funds.

Since access to the raw data concerning the Fund is restricted, it has not been possible to ascertain the proportions of the Fund invested in currency and/or commodities at any time. It would seem, however, that the proportions invested in currency were negligible, since the 12-year cumulative performance result for currency transactions was a loss of only £339 and in only 4 out of the 12 years (1933–45) did the profit or loss exceed £1,000. Investments in commodities were more substantial. The highest annual gain was for £17,000 from September 1936 to August 1937 and the highest annual loss, mainly in lard, for £12,600 in the following 12 months. Since information on the total value of the Fund is inaccessible, the relative importance of these numbers could not be determined either. The only indication that these amounts may constitute a small proportion as well comes from the fact that in 1937 the Fund consisted of 130 different securities.

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Table I
Relative Performance of the Chest Fund

Year	Chest Fund Index	Chest Fund Return	U.K. Market Return	Treasury Bill Rate	Chest Fund Risk Premium	U.K. Index Risk Premium
1927	100.0	—	—	—	—	—
1928	96.6	−3.4%	7.9%	4.2%	−7.6%	3.7%
1929	97.4	0.8	6.6	5.3	−4.5	1.3
1930	65.8	−32.4	−20.3	2.5	−34.9	−22.8
1931	49.6	−24.6	−25.0	3.6	−28.2	−28.6
1932	71.8	44.8	−5.8	1.5	43.3	−7.3
1933	97.0	35.1	21.5	0.6	34.5	20.9
1934	129.1	33.1	−0.7	0.7	32.4	−1.4
1935	186.3	44.3	5.3	0.5	43.8	4.8
1936	290.6	56.0	10.2	0.6	55.4	9.6
1937	315.4	8.5	−0.5	0.6	7.9	−1.1
1938	188.9	−40.1	−16.1	0.6	−40.7	−16.7
1939	213.2	12.9	−7.2	1.3	11.6	−8.5
1940	179.9	−15.6	−12.9	1.0	−16.6	−13.9
1941	240.2	33.5	12.5	1.0	32.5	11.5
1942	238.0	−0.9	0.8	1.0	−1.9	−0.2
1943	366.2	53.9	15.6	1.0	52.9	14.6
1944	419.2	14.5	5.4	1.0	13.5	4.4
1945	480.3	14.6	0.8	1.0	13.6	−0.2
Arithmetic mean:		13.06%	−0.11%	1.56%	11.50%	−1.66%
Geometric mean:		9.12%	−0.89%		7.36%	−2.50%
Standard deviation:		29.28%	12.55%		29.87%	12.88%
Beta:		—	—		1.78	—
Sharpe index:		0.385	−0.129			
Treyner index:		6.46	−1.66			
Jensen index:		14.45% (standard error = 4.69%)				

Transformed Sharpe difference statistic: 197.7 (asymptotic standard error = 69.46)

Transformed Treynor difference statistic: 22.13% (asymptotic standard error = 4.68%)

II. Keynes's Investment Performance

An index of the value of the Chest Fund¹ is presented in Column 1 of Table I. The percentage price changes, calculated from the index, are shown in Column 2. The numbers represent only capital appreciation from end of August to end of August. The income generated from investments in the Chest Fund constitutes private information, but the authors were told by King's College that all of this income was spent on modernizing and refurbishing King's College, rather than reinvested. Therefore, a UK Industrial Share Price Index of 365 stocks (August to August), without the dividend payments, is used as the market proxy.²

¹ All data on the Chest Fund and quotes on Keynes's investment policy are from Keynes's unpublished reports which will soon appear in D. E. Moggridge, ed., *Collected Writings of J. M. Keynes*. Index values of the fund were available but not the total value of the fund or investment proportions.

² *Bankers Magazine* (January 1947), pp. 40–44.

Percentage changes in the index are shown in Column 3. The Treasury Bill rates for the period are shown as well in Column 4.³ Risk premiums are in Columns 5 and 6. Summary statistics and the Sharpe [5], Treynor [6], and Jensen [2] evaluation measures are presented at the bottom of the Table.

The period of study encompassed the Great Depression and World War II. The Fund did not escape the ravages of the market crash in 1929; this is seen in the 32.4% and 24.6% decreases in Fund value, as opposed to the 20.3% and 25.0% decreases in the U.K. index value, for 1930 and 1931, respectively. It did recover much earlier than the market, as evidenced by the five consecutive years of capital appreciation in the 30% to 50% range from 1932 to 1936 when the market was still not showing any clear sign of recovery. From the large swings in the Fund's fortune, it is obvious that the Fund must have been more volatile than the market.

The Fund suffered its greatest loss of 40.1% in 1938 when the market lost 16.1%. But, again, Keynes showed an ability to adjust very quickly to changing market conditions. In 1939, while the market continued its drop, the Fund gained 12.9%. In 1941 and 1943, when the market recovered, the Fund again experienced gains in the 30% to 50% range.

The arithmetic and geometric mean returns for the Fund were 13.06% and 9.12%, respectively. Those for the U.K. market were negative (−0.11% and −0.89%, respectively), but close to zero. The standard deviation was 29.28% while that for the market was 12.55%. Beta for the fund was 1.78.⁴ The risk premiums exhibited similar relationships.

On the basis of the commonly used mean-variance performance evaluation measures, the Fund's performance was clearly superior to that of the market. The Sharpe and Treynor indices for the Fund were 0.385 and 6.46, respectively; those for the market were −0.129 and −1.66, respectively. The Jensen index for the fund was a very high 14.45%.

The results of the mean-variance evaluations are all statistically significant. The standard error for Jensen's index is 4.69% yielding a *t*-value of 3.08.⁵ The significance of the differences between the Sharpe and Treynor indices were tested with the transformed difference statistics (Jobson and Korkie [3]). The value of the Sharpe difference statistic is 197.7 with the asymptotic standard error equal to 69.46 and *t*-value of 2.85. The Treynor difference statistic has a value of 22.13% with the asymptotic standard error equal to 4.68%. There may remain some doubt due to the possible difference in incomes from the Fund and the U.K. index. But sensitivity analysis shows that the difference has to be more than 4.5% in order for the Jensen index to be insignificantly different from zero and the Sharpe and Treynor indices of the Fund and the market to be statistically indistinguishable, both at the 5% level. The average dividend rate on the UK Index over the period was less than 3%. Therefore, Keynes's performance was superior to that of the market on the basis of both total variance and systematic risk.

³ *London & Cambridge Economic Service*, various issues.

⁴ The *t*-statistic for the beta is 4.79. *R*-square for the regression is 0.59.

⁵ The standard error is for the intercept term (α) in the regression model:

$$(R_t - R_{Ft}) = \alpha + \beta (R_{Mt} - R_{Ft}) + e_t$$

As pointed out by Roll [4], Capital Asset Pricing Model (CAPM)-based performance measures, as applied above, are not unambiguous. Since superior performance was detected, the market proxy used is obviously not ex post mean-variance efficient for the period tested. Whether another market proxy would have reversed the conclusion is not known. To apply an unambiguous performance measure such as the one suggested by Cornell [1] would require information about the Chest Funds' composition. This information is, unfortunately, unavailable. A conceptual problem exists as well. The ex ante efficiency of the market proxy has not been ascertained; therefore, its use as the standard for comparison can be questioned.

III. Keynes's Investment Principles

Notwithstanding the above caveats, the Chest Fund returns appear impressive and it is of interest to consider the investment principles Keynes followed. In his investment policy report in 1938, he outlined three principles that he believed successful investment depends on:

- “(1) a careful selection of a few investments (or a few types of investment) having regard to their cheapness in relation to their probable actual and potential *intrinsic* [emphasis his] value over a period of years ahead and in relation to alternative investments at the time;
- (2) a steadfast holding of these in fairly large units through thick and thin, perhaps for several years, until either they have fulfilled their promise or it is evident that they were purchased on a mistake;
- (3) a *balanced* [emphasis his] investment position, i.e., a variety of risks in spite of individual holdings being large, and if possible opposed risks.”

However, he did not believe in market timing. In his own words:

“We have not proved able to take much advantage of a general systematic movement out of and into ordinary shares as a whole at different phases of the trade cycle. . . . As a result of these experiences I am clear that the idea of wholesale shifts is for various reasons impracticable and indeed undesirable. Most of those who attempt to sell too late and buy too late, and do both too often, incurring heavy expenses and developing too unsettled and speculative a state of mind, which, if it is widespread, has besides the grave social disadvantage of aggravating the scale of the fluctuations.”

REFERENCES

1. B. Cornell. “Asymmetric Information and Portfolio Performance Measurement.” *Journal of Financial Economics* (December 1979), pp. 381–90.
2. M. C. Jensen. “Risk, the Pricing of Capital Assets, and Evaluation of Investment Portfolios.” *Journal of Business* (April 1969), pp. 167–247.
3. J. D. Jobson and B. M. Korkie. “Performance Hypothesis Testing with the Sharpe and Treynor Measures.” *Journal of Finance* 36 (September 1981), 889–908.
4. R. Roll. “Ambiguity when Performance is Measured by the Securities Market Line.” *Journal of Finance* 33 (September 1978), 1051–69.
5. W. F. Sharpe. “Mutual Fund Performance.” *Journal of Business* (January 1966), pp. 119–38.
6. J. L. Treynor. “How to Rate Management of Investment Funds.” *Harvard Business Review* (January–February 1965), pp. 63–75.