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RISK-ADJUSTED AND EVA-CORRECTED PERFORMANCE OF AUSTRALIAN LISTED PROPERTY TRUSTS

Prof. Dominique Fischer

and Hafez A. Hafez

Department of Property Studies, Curtin Business School

Perth, Western Australia

fischerd@cbs.curtin.edu.au

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I. Introduction

The relative performance of Australian Listed Property Trusts was examined with respect to their persistence, resilience and selectivity advantages using a non-parametric approach (Achour-Fischer 1998). Some preliminary conclusions were:

> — Australian Listed Property Trusts do not offer any particular timing or selectivity advantages among each other and, more importantly they do not provide any advantage over the Market Portfolio.
>
> — Nevertheless, some Listed Property Trusts do offer long-term advantages over some others. The concept of resilience was suggested to describe this long-term advantage. Resilient performers have better results because their yearly gains are consistent and cumulative. Resilient funds do no win every —or any— stage in the race, but they win at the end of the full race.

In a subsequent article, a MM² risk-adjusted performance indicator (Fischer 2000) was used to confirm that securitised properties (Index of Listed Property Trusts) do not offer better risk-adjusted returns than a fully diversified portfolio of ordinary ASX shares: standard ASX paper beats paper-bricks. It was concluded that this result is not surprising and that the issue may not require more flogging. Nevertheless, the inter-ALPT performance may still warrant further analysis.

The present article attempts such further analysis based on:

> — Performance measures that are much closer to acceptable economic concepts and based on Rappaport's Economic Value Added (Rappaport 1997). Such EVA returns will be used again to decide whether a differential performance is the result of good asset selection or too much risk taking.
>
> — An extension of the EVA concept now currently used as an accounting and management tool. We suggest the use of a dynamic EVA indicator of performance that is very similar to the standard residual equity model used in real estate analysis. Such a dynamic tool will be used to reexamine the resilience of ALPT.

II. EVA, y va pas?[1]

The EVA (Economic Value Added) concept has been called "today's hottest financial idea and getting hotter" and "the real key to create wealth" by Fortune Magazine (1995). If we trust the dithyrambic description offered by an EVA advocate we read:

> "… the EVA formula is the foundation for a revolution in management…we are confident that you will come to agree that EVA is a bona fide revolution, one that can help any corporation, public or private, in any industry, produce superior results for shareholders, employees, and customers" (quoted in Ehrbar, 1998).

The reality, as usual, may be a bit less jazzy. EVA related concepts are very familiar financial tools, rediscovered—but still misused—by accountants less than10 years ago.

This sobering reassessment is confirmed by P. Drucker:

> "EVA is based on something we have known for a long time: what we call profits, the money left to service equity, is usually not profit at all. Until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it has a genuine profit. The enterprise still returns less to the economy that it

1 This bilingual pun cannot be translated but would be equivalent to "much a do about EVA"

> devours in resources… until then, it does not create wealth; it destroys it." (Drucker 1995).

From the co-rediscoverer we also learn:

> "EVA, as a measure of performance, has been a part of the economist's tool kit for more than 200 years. In its most fundamental form, EVA is the simple notion of residual income. That is, for investors to earn an adequate rate of return, the return must be large enough to compensate for risk. Thus, residual income is zero if a firm's operating return is just equal to the required return for risk. Of course, the required return is a capital charge for both debt and equity."
>
> "The accountant's measure of profit, while also recognizing the need to use the residual income, subtracts a required return only for senior securities, the interest cost of debt, and dividends paid on preferred stock…The residual income, known as net profit after tax… permits common shareholders funds to ride free — there is no charge for common equity." (Joel Stern, in Ehrbar, op. cit. p. XII[2]).

Further general descriptions will lead us— we mean us, from the US-sphere and not you, the readers from the UK-sphere— directly to a concept that is even more familiar to real estate economists:

> "At its most basic, EVA… is a measure of corporate performance that differs from most others by including a charge against profit for the cost of all the capital a company employs… the capital charge in EVA is what economists call an opportunity cost. It is the return that investors could expect to get by putting their money in a portfolio of other stocks and bonds of companies… This cost of capital or required rate of return, applies to equity as well as debt. Just as lenders require their interest payments, shareholders insists on getting at least a minimum acceptable rate of return on the money they have at risk… EVA is profit the way shareholders measure it... this measurement drives home a commonly ignored lesson that equity capital can be much more expensive to a company than its debt… while the cost of borrowed capital can be found on a company's book in the form of interest expense, the cost of equity capital is typically ignored in financial statements." (Thomas 1997).

Now, from these various quotes, it does not take very much to recognize that the so-called EVA revolution is nothing more that the straightforward application of the Net Present Value concept applied to residual equity after tax cash flows. This residual model has been described as the motherhood technique of real estate analysis ((Achour-Fischer 1999)) and is the standard investment valuation model taught in all North American universities and professional programs.

We are thus tredding on very familiar ground even if, in practice, the proper treatment has been simplified to accommodate the accounting profession's incurable allergy to financial math.

Two EVA-related treatments are suggested in this preliminary investigation:

1- A static treatment based on current EVA definitions:

An annual income return is defined as:

EVA_t = Dividends in year t – cost of capital * Price of LPT unit in t-1

> The dividends are adjusted for the number of new units issued, preferred units and grossed to take into account the franking effect.

An annual capital return defined as:

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2 In "Stern Stewart's Economic Value Added: the Real Key to Creating Wealth". Al Ehrbar, 1998.

$MVAt = (V_t - V_{t-1})/100$

Market Value Added (MVA) defined as the price variation (ex-dividend and adjusted for splits and dilution) in unit values[3] between t and t-1.

And an annual total return (income + capital):

$OVA_t = EVA_t + MVA_t$

The overall value added, for a given year t, is equal to the sum of EVA and MVA

2. A dynamic net present value of invested funds discounted at their opportunity cost.

The net present value is computed on the acquisition in t-n , the disposition in t and the cashing of annual dividends during the holding period.

$$NPV_t = -MVT_{t-n} + \sum \frac{annual\_dividends}{(1+ke)^n} + MV_t$$

III. The data and their adjustments

Currently published accounting data require various adjustments depending on the general accounting standards and the specific auditing rules of Australian LPT. These adjustments should be used to modify the timing of expenses and revenues, the various forms of off-balance sheet financing, the asset valuation, the treatment of inflation, the treatment of intangible assets, taxes, marketing expenditures and depreciation.

The painstaking transformation of ALPT accounting data to EVA compatible measurements was performed by Hafez and was, of course, limited to what could be obtained from publicly available information. (Hafez 2000)

The analysis was performed on listed property trusts traded on the Australian Stock Exchange (ASX) between Jun 1990 and Jun 1998[4]. All data had been gathered from secondary sources such as BRW, Shareholder magazines, ASX publications and the Property Investment Research reports.

The following limitations and transformation have been applied:

1. Only listed property trusts on the official ASX list and appearing on the ASX board (ASX Class 201)[5] are included. Thus all Syndicate, Unlisted and Wholesale Property Trusts are excluded from the treatment;
2. Property Trust & Developer (ASX Class 202) are included but not construction companies (ASX Class 062)[6];
3. Only the main trusts and not their sub-trusts (Split, Income or Growth are excluded) are included;
4. The market value of an entity is defined as the market price at the 30 of June or the latest quoted market price of the unit multiplied by the number of fully paid ordinary units on issue (after adjustment for unit splits);
5. If dividends are declared the price will be the "Ex Dividend" price quoted on the ASX board;
6. The dividends are "grossed" as to cancel the effect of "franking"[7] (the tax-

3 Market values in t are taken as the median value between the highest price in t, the lowest price in t and a price calculated based on the adjusted dividends of t divided by the dividend yield of t.

4 The period 1990 and 1998 was chosen because 1) Australian corporation laws that govern LPTs came to effect in December 1990 2) changes to this legislation was introduced in July 1998.

5 Some entities could be admitted on the official list but not quoted on the board of trade for example in 1998 the ASX had over 70 LPTs listed and less than 60 quoted.

7 Tax is paid at the yearly companies tax rate, and as taxpayers apply dividend imputation principle to their personnel tax rate, we must gross the dividend for fairness of comparison. Furthermore, some entities apply a franking percentage to their dividend and others are fully franked.

free component) and adjusted in order to cancel the effect of new unit issue and preferred units.

7. The dividends are be treated as paid when declared as opposed to "reinvested" toward purchasing of additional units in order to offset the effect of reinvestment schemes offered by some entities.
8. The opportunity cost of capital is taken as the average of ASX index return over the period.
9. Finally the analysis has been limited to funds that had survived at least 5 years The performance were thus tested on a 5 year period which is also the period habitually used to analyze direct property investments. (3 years holding periods have also been tested without major modifications in the conclusions). This 5 years survival limitation had the effect of reducing the useable trusts to a sample of 20 Funds for which the full information was available.

IV. Results and comparisons

— Computation of the a five year annual OVA

OVA returns have been computed, as described above and averaged over the 1994-1998 period. The results are shown in column 4 of table 1.

— Computation of risk-adjusted returns

The Modigliani-Modigliani procedure is used here to measure average annual OVA returns adjusted for the portfolio optimal leverage. The risk adjustment if performed by :

$$RAP_p = (\sigma_m/\sigma_p)\,(R_p - R_f) + R_f$$

Where

R_f = the short-term risk-free interest rate (average Bank Bill rates over 5 years);

R_p = average OVA returns of a portfolio p over the 5 year period

RAP_p = average return of risk-adjusted return of portfolio p (Risk Adjusted Performance of p) matched to the benchmark portfolio (m)

σ_p = standard deviation of R_p;

σ_m = standard deviation of the returns R_m. of the benchmark.

The risk-adjusted return of portfolio p, RAP_p is the return of portfolio p, levered by an amount L_p :

$$L_p = (\sigma_m/\sigma_p) - 1$$

The final results are shown in column 2 (table 1) and the required steps and full results are presented in table A. 1

— Computation of dynamic returns

The Net Present values and IRR have been computed on the same period, assuming an acquisition of LPT units at the market price prevalent at the end of 1993, a disposition price at the market 1998 market price. The annual cash flows are the adjusted distributed dividends for the years 1995 to 1998. The last cash flow being the sum of the net disposition price and the last year dividends. The final results are shown in column 1 (table 1) and the required steps and full results are presented in table A. 2 (Appendix)

— Publicly available returns

Finally, the cumulative returns published by the Property Investment Research (PIR) have been introduced in table 1 to evaluate the practical advantage of using various adjustments as compared to standard returns publicly available. The PIR returns are shown in column 4 (table 1)

Table 1: Same trusts, different return measurements

1993-1998	IRR	Risk equivalent return	OVA returns	PIR returns
	1	***2***	***3***	***4***
Flexi Property Fund	45.6%	18.5%	29.15%	41.84%
Armstrong Jones Office Fund	22.2%	19.9%	31.89%	27.77%
Colonial First State Industrial Property Trust	16.7%	18.6%	25.79%	13.55%
National Mutual Property Trust	15.8%	17.5%	15.72%	15.97%
Advance Property Fund	14.9%	11.9%	18.40%	8.19%
PA Property Trust	14.6%	21.1%	26.80%	9.57%
Schroders Property Fund	14.0%	14.9%	31.95%	7.40%
BT Property Trust	13.3%	22.0%	21.96%	10.55%
Mirvac Property Trust	13.0%	11.6%	16.97%	1.91%
Capcount Property Trust	12.4%	9.5%	9.14%	8.26%
Colonial First State Retail Property Trust	12.3%	13.4%	15.08%	14.84%
Armstrong Jones Retail Income Fund	11.2%	9.7%	8.64%	10.66%
Prime Credit Property Trust	10.6%	12.0%	11.56%	11.47%
AMP Industrial Trust	9.9%	8.7%	10.56%	9.27%
Gandel Retail Trust	9.5%	9.6%	10.28%	9.88%
General Property Trust	7.4%	14.3%	20.23%	8.84%
Capital Property	4.4%	7.9%	9.80%	4.83%
Prime Industrial property Trust (Heine)	-0.3%	2.2%	-0.32%	7.80%
Global Property Fund	-1.3%	-9.3%	-0.33%	-2.88%
Property Trust of Australasia	-4.5%	-14.6%	-1.42%	-5.99%

The rankings of the different returns are also shown in table A.2 (appendix) and from Rank order correlation presented in table 2, we can conclude that the rankings are generally coherent.

Table 2: Spearman rank-order correlation results

Paired Indicators	Spearman R on ranks	p-values (2 tailed)
IRR and RAP	0.8195	0.0004
IRR and OVA	0.8150	0.0004
IRR and PIR	0.6496	0.0464
OVA and PIR	0.4767	0.0375
OVA and RAP	0.9187	0.0000
RAP and PIR	0.6827	0.0029

The rank order correlations between all computed returns are positive and significant. This is quite reassuring: the general rankings are consistent and funds are indeed displaying a notable level of resilience. They seem to maintain their performance (good, bad or ugly) over the 5 years period.

Furthermore, the EVA inspired returns show higher level of rank correlation among each other (IRR, RPA and OVA in columns 1, 2 and 3) than with the PIR standard returns. This coherence may justify the extra efforts invested in our adjustments… or it may not.

V. Conclusion

The major advantage of using dynamic EVA inspired returns (NPV and IRR) is to make ALPT performance results comparable to expected equity returns from properly performed investment analysis. Furthermore, the RAP Modigliani-Modigliani adjustment allows treating the relative portfolio riskiness in a more intuitive and convincing manner. Such standardised treatments should facilitate the comparison between paper-property investments and brick investments.

Which brings us to probably the most puzzling conclusion: our results (however measured) do not correspond at all with the results obtained on direct property performances. Fischer has shown that direct property display a very clear sectoral over performance in WA and Queensland retail sectors (Fischer 2000). However, when we observe the description of our winning survivors (table 3), none of them seem to fit the mould. The LPT winners have very little if any of the golden assets. In fact, most of the LPT winners seem to have made the wrong asset allocation. In this respect, our favourite is certainly the poorly timed BT Property funds that acquired WA and Queensland shopping centres in 92 and 94, to get rid of them in 97 in order to purchase East Coast office properties.

This contradiction may raise a more disturbing question: are we not observing a patent case of bottom-of-the-basket agency syndrome? Translation: are the Listed property trusts managers diligent property investors or are they simply picking bottom-of-the basket assets. After all—pure conjecture—they may be more concerned by the resilience of their fee structure.

Our present results may not warrant such a bold inference but they will certainly lead us to a future paper on ALPT agency problems.

Finally, three (3) fundamental conclusions should be derived from this exercise:

1. It may not be advisable to present too many papers for the same conference unless you are reasonnably sure to obtain results that are at least vaguely consistent.

2. It is certainly not advisable to announce three fundamental conclusions unless you *do* have three fundamental conclusions to offer.

3.

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