

The performance of secondary share recommendations published in the news media and the effects on the efficiency of the Johannesburg Stock Exchange

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The objective of this study is to determine if the buy and sell recommendations published in newspapers are able to outperform the market. The empirical evidence supports the hypothesis that buy and sell recommendations released to a small group of investors is not immediately and fully reflected in the share price. Instead, it appears that subsequent publication of these recommendations in newspapers has a significant impact on the market price. The findings of this investigation are not at variance with the notion of an efficient market. The publication of analysts' recommendations in newspapers makes the market more efficient by passing on new information to a large group of investors.

Die doel van hierdie studie is om te bepaal of die koop-en-verkoop-aanbevelings wat in koerante gepubliseer word, beleggers in staat stel om beter as die mark te presteer. Die empiriese bewyse bevestig die hipotese dat koop-en-verkoop-aanbevelings wat aan 'n klein groep beleggers vrygestel word, nie dadelik en ten volle in aandeelepryse weerspieël word nie. Intendeel, dit blyk dat die daaropvolgende publiserings van hierdie aanbevelings in koerante 'n betekenisvolle uitwerking op die aandeelepryse het. Die bevindings van hierdie ondersoek is nie noodwendig teenstrydig met die idee van 'n doeltreffende mark nie. Die publiserings van die aanbevelings van ontleders in koerante maak die mark meer doeltreffend deurdat nuwe inligting aan 'n groot groep beleggers oorgedra word.

Introduction

This study is an extension of an earlier investigation by Bhana (1990) which evaluated the performance of buy and sell recommendations of stockbrokers and investment-advisory services in South Africa (primary dissemination). It was observed that clients of stockbrokers and investment-advisory services could have earned superior returns by following the buy and sell recommendations. That investigation also revealed that the buy and sell recommendations were associated with genuine changes in the value of securities and were not mere self-fulfilling prophecies.

The majority of individual investors in South Africa rarely have access to the newsletters (which provide buy and sell recommendations) of stockbrokers and investment-advisory services. They tend to rely on the coverage of the investment scene in South Africa provided by the newspapers and financial periodicals. These popular news media often publish share recommendations that have been previously published by stockbrokers and investment-advisory services for circulation to their selected clients. For obvious reasons, the analysts are careful to ensure that their clients receive the information before it is published in the financial press. The interval between the client's receipt of the recommendation and publication in the financial press is fairly short in the order of a few days to up to two weeks. Besides providing their readers with buy and sell recommendations, the popular press also draws attention to the attributes of particular shares which are deemed to warrant further consideration.

Stockbrokers and investment-advisory service recommendations are often published in the daily newspapers and the widely read Sunday newspapers. Therefore, it is possible to examine the effect on market prices of the publication of analysts' recommendations in the popular

newspapers. These share recommendations affects market prices in two phases. Primary dissemination may be defined as the release of share recommendations to the clients of stockbrokers/investment-advisory services only. Secondary dissemination may be defined as the subsequent release to the general public (publication in popular newspapers) of the share recommendations that were earlier released to the clients of stockbrokers/investment-advisory services.

The object of this study is to determine the economic value of secondary dissemination of share recommendations in newspapers and financial journals in South Africa. The strong form of the efficient market hypothesis predicts that any new information contained in the primary dissemination will be rapidly impounded in the share prices. Therefore, secondary recommendations in the newspapers and financial journals should not enable investors to derive abnormal gains.

Previous studies

In contrast to the proliferation of studies of the primary dissemination of buy and sell recommendations, there have been relatively few studies on the economic value of the subsequent appearance of these recommendations in the popular news media. The appearance of secondary dissemination in the news media is often difficult to detect and this may have prevented researchers from making an evaluation of the economic significance of such information.

Davies and Canes (1978) evaluated the buy and sell recommendations of investment analysts which were subsequently published in the 'Heard on the Street' column of the Wall Street Journal. It was reported that there is on average, an abnormal return of about one per cent on the day the share receives a buy recommendation in the column, and a negative return of over two

per cent if the share receives a sell recommendation. One possible explanation for this finding is that sell recommendations were usually given greater prominence in the column. Davies and Canes (1978) conclude that secondary dissemination in the newspaper column significantly affects share prices and that the effects of the buy and sell recommendations are not reversed within the subsequent 20 trading days.

'Wall Street Week' is a very popular national television show in the United States of America. Guests appearing on this programme are investment analysts who are associated with various investment-advisory services. The investment analysts invariably repeat the buy and sell recommendations that they have already published in newsletters released to their clients. Several studies have evaluated the performance record of the buy and sell recommendations by guests appearing on 'Wall Street Week'.

Fosback (1984) evaluated the investment performance of 261 buy and sell recommendations by investment analysts appearing on 'Wall Street Week'. This study revealed that investors who followed these recommendations were not able to outperform the market. Dorfman (1985) also evaluated the recommendations by guests appearing on the same television programme. Dorfman (1985: 15) reports that the recommendations were of no value to investors and that following the recommendations is a 'surefire way to lose a buck'. A major deficiency of both these studies is that the performance of the recommendations were compared to average market returns.

To overcome this measurement flaw, Pari (1987) evaluated the recommendations appearing on the 'Wall Street Week' on the basis of performance measures that explicitly adjust for risks. The results generally indicated that criticisms of Wall Street Week's recommendations by Fosback (1985) and Dorfman (1985) were justified on a risk-adjusted basis. Recommendations by analysts had an immediate positive impact on share prices on the first trading day after the broadcast. However, this positive performance appears to be short-lived. The excess returns turn negative on the second trading day following the broadcast and remain negative for a period of at least nine trading days. Pari (1987: 76) concluded that despite the popularity of 'Wall Street Week', investors would do well to ignore the recommendations offered on the programme and rather invest in low cost index funds.

Methodology and data

To evaluate the performance of shares recommended in newspapers, the weekly excess returns were calculated by using the parameters of the Market Model (Bowman, 1983). This method employs simple linear regression to estimate the required risk-adjusted return for a security. The research methodology used in the earlier study dealing with primary dissemination of share recommendations (Bhana, 1990), is also used for this investigation.

The hypothesis tested in this study can be stated as:

Ho: The primary dissemination of share recommendations to a small group of investors will not result in the new information being immediately and fully reflected in the share price. Readers of newspapers who are not recipients of stockbrokers and investment-advisory services newsletters would respond to the 'new' information appearing in newspaper columns and thereby exert an influence on share prices. Therefore, the publication of analysts' recommendations in newspapers can be expected to increase market efficiency by making available new information to a larger group of investors.

To test the hypothesis, the variable of interest is the security's 'excess' or 'residual' return. If the mean value of this quantity for the recommendations appearing in newspapers is non-zero (positive for buy recommendation; negative for sell recommendation) and statistically significant, we can draw an inference on the economic value of newspaper recommendations.

Weekly share prices were collected for a period of 33 weeks surrounding each recommendation. The standard reference date for each security ($t=0$) is the week in which a recommendation for it appeared. In every instance, return residuals were computed for the 24 weeks just prior to and for the eight weeks immediately following the recommendation. Thus the analytical interval runs from week $t = -24$ through $t = +8$, spanning a variety of different calendar periods but structured always around the applicable recommendation date.

The weekly average residuals (AR) were estimated from the Market Model. A total of 33 average residuals were calculated i.e. for the 24 trading weeks prior to the recommendation date and the 9 week period on and after the recommendation date. The average residuals were used as a basis for examining abnormal share price movements surrounding the recommendation date. The cumulative average residual (CAR), defined as the sum of the previous weekly average residuals, was calculated for each trading week of the study.

If one assumes that the share recommendations appearing in newspapers are of no economic value, one can expect that both AR and CAR would fluctuate randomly about zero in the post-recommendation period. However, if the recommendations appearing in newspapers do provide valuable advice to investors and there trading on the basis of the recommendations, this would be reflected for buy (sell) recommendations by positive (negative) weekly average residuals and a corresponding build up in CAR.

The sample population was stratified according to the original recommendation appearing in stockbrokers' and investment-advisory services newsletters. The purpose for doing this was to determine whether stockbrokers as a group or investment-advisory services as a group were able to offer superior share advice to investors following newspaper recommendations.

Empirical results

For the first test, random samples were drawn for 100 buy recommendations made by stockbrokers and investment-advisory services to their clients, and which were followed by secondary dissemination in the popular press and financial journals. Secondary dissemination of investment recommendations is popular in practice. Several columns in newspapers and financial journals are devoted to investment recommendations based on original recommendations appearing in stockbrokers/investment advisory-services research reports. For obvious reasons, the analysts are careful to ensure that their clients receive the share recommendations before it is published in the popular press. Secondary dissemination of the analysts' recommendation is its first public exposure. Any price movements that accompanies publication in the popular press is then a result of dissemination of the original recommendation rather than an endorsement by another knowledgeable party. Therefore, in an efficient market, the appearance of a recommendation in the popular press should have no systematic effect on the price of the share recommended.

The average residuals for all shares recommended for purchase relative to the appearance of the recommendation in the popular press is shown in Table 1. The results show considerable support for the hypothesis that appearance of the recommendations in popular financial publications influenced the share price. For buy recommendations by stockbrokers, statistically significant annualized positive abnormal returns of approximately 21 per cent and 17 per cent are found on the week of publication and the week following publication respectively. The time-series regression analysis revealed that during the week of publication of the buy recommendation by stockbrokers, it has about 75 per cent probability of rising in value. This lends support to the notion that dissemination of an analysts' recommendation in the popular press has a significant impact on share price.

One possible explanation of these results is that publication of investment analysts' recommendations in the popular press sometimes constitutes new information for certain investors. Clients of stockbrokers reading the popular press will recognize that the recommendation has already appeared in the analysts' newsletter. However, investors who are not clients of stockbrokers will be unaware of recommendations made by analysts. These investors would respond to the 'new' information and thereby exert an influence on share price.

In Table 1 is also shown the weekly average residuals for the buy recommendations made by investment-advisory services which are subsequently published in the popular press. The results are very similar to the recommendations made by stockbroker analysts' which are published in the popular press. However, the magnitudes of the average residuals are somewhat lower for publication of investment-advisory services recommendations in the popular press. The results indicate that the buy recommendations of stockbroker

analysts' were of greater economic value to readers of popular financial publications than the corresponding recommendations by investment-advisory services.

For the second test, random samples were drawn of 100 sell recommendations made by stockbrokers, and investment-advisory services to their clients and which are followed by secondary dissemination in the popular press and financial journals. The average residuals for all shares recommended for sale relative to the appearance of the recommendation in the popular press is shown in Table 2. For the sell recommendations by both stockbrokers' analysts and investment-advisory services, there are significant negative abnormal returns during the four weeks preceding the publication and one week following the publication. However, the magnitudes of the abnormal returns are substantially lower than the corresponding buy recommendations published in the popular press. Furthermore, the time-series regression analysis revealed that there is about 68 per cent probability of the sell recommendation declining in value during the week of publication. These results confirm

Table 1 Investment return residuals for buy recommendations by stockbrokers and investment advisory services during 1979-1988 (secondary dissemination)

Week (t)	Stockbrokers			Investment advisory serv.		
	Average return resid. (%)	Equiv. annual return (%)	Cumulative average resid. (%)	Average return resid. (%)	Equiv. annual return (%)	Cumulative average resid. (%)
-17	0,25 ^a	13,00	0,25	-	-	-
-16	0,24 ^a	12,48	0,49	-	-	-
-15	0,21 ^a	10,92	0,70	0,18 ^b	9,36	0,18
-14	0,25 ^a	13,00	0,95	0,21 ^a	10,92	0,39
-13	0,18 ^b	9,36	1,13	0,17 ^b	8,84	0,56
-12	0,26 ^a	13,52	1,39	0,20 ^a	10,40	0,76
-11	0,17 ^b	8,84	1,56	0,19 ^a	9,88	0,95
-10	0,19 ^a	9,88	1,75	0,23 ^a	11,96	1,18
-9	0,23 ^a	11,96	1,98	0,20 ^a	10,40	1,38
-8	0,21 ^a	10,92	2,19	0,24 ^a	12,48	1,62
-7	0,24 ^a	12,48	2,43	0,19 ^a	9,88	1,81
-6	0,28 ^a	14,56	2,71	0,25 ^a	13,00	2,06
-5	0,32 ^a	16,64	3,03	0,27 ^a	14,04	2,33
-4	0,31 ^a	16,12	3,34	0,26 ^a	13,52	2,59
-3	0,26 ^a	13,52	3,60	0,28 ^a	14,56	2,87
-2	0,35 ^a	18,20	3,95	0,25 ^a	13,00	3,12
-1	0,43 ^a	22,36	4,38	0,32 ^a	16,64	3,44
0	0,40 ^a	20,80	4,78	0,31 ^a	16,12	3,75
1	0,32 ^a	16,64	5,10	0,28 ^a	14,56	4,03
2	0,14	7,28	5,24	0,11	5,72	4,14
3	0,12	6,24	5,36	0,07	3,64	4,21
4	0,09	4,68	5,45	0,06	3,12	4,27
5	0,06	3,12	5,51	0,08	4,16	4,35
6	0,08	4,16	5,59	0,07	3,64	4,42
7	0,04	2,08	5,63	0,09	4,68	4,51
8	0,05	2,60	5,68	0,03	1,56	4,54

a = significant at 0,01 level; b = significant at 0,05 level

Table 2 Investment return residuals for sell recommendations by stockbrokers and investment advisory services during 1979–1988 (secondary dissemination)

Week (t)	Stockbrokers			Investment advisory serv.		
	Average return	Equiv. annual	Cumulative average	Average return	Equiv. annual	Cumulative average
	resid. %	return %	resid. %	resid. %	return %	resid. %
-15	-0,03	-1,56	-0,03	-0,02	-1,04	-0,02
-14	-0,05	-2,60	-0,08	-0,04	-2,08	-0,06
-13	-0,07	-3,64	-0,15	-0,05	-2,60	-0,11
-12	-0,09	-4,68	-0,24	-0,08	-4,16	-0,19
-11	-0,08	-4,16	-0,32	-0,06	-3,12	-0,25
-10	-0,05	-2,60	-0,37	-0,05	-2,60	-0,30
-9	-0,10	-5,20	-0,47	-0,09	-4,68	-0,39
-8	-0,09	-4,68	-0,56	-0,07	-3,64	-0,46
-7	-0,14	-7,28	-0,70	-0,12	-6,24	-0,58
-6	-0,15	-7,80	-0,85	-0,13	-6,76	-0,71
-5	-0,14	-7,28	-0,99	-0,15	-7,80	-0,86
-4	-0,22 ^a	-11,44	-1,21	-0,20 ^a	-10,40	-1,06
-3	0,26 ^a	-13,52	-1,47	-0,21 ^a	-10,92	-1,27
-2	-0,23 ^a	-11,96	-1,70	-0,24 ^a	-12,48	-1,51
-1	-0,40 ^a	-20,80	-2,10	-0,35 ^a	-18,20	-1,86
0	-0,35 ^a	-18,20	-2,45	-0,37 ^a	-19,24	-2,23
1	-0,19 ^a	-9,88	-2,64	-0,18 ^b	-9,36	-2,41
2	+0,10	+5,20	-2,54	+0,09	+4,68	-2,32
3	-0,05	-2,60	-2,59	+0,07	+3,64	-2,25
4	+0,08	+4,16	-2,51	-0,06	-3,12	-2,31
5	-0,09	-4,68	-2,60	+0,05	+2,60	-2,26
6	+0,03	+1,56	-2,57	-0,08	-4,16	-2,34
7	+0,05	+2,60	-2,52	+0,05	+2,60	-2,29
8	-0,07	-3,64	-2,59	-0,04	-2,08	-2,33

a = significant at 0,01 level; b = significant at 0,05 level

that the buy recommendations by investment analysts have greater economic value than the corresponding sell recommendations.

The differences between the buy and sell recommendations can be seen from the CAR values presented in Figures 1 and 2. Recommendations by investment-advisory services have been excluded in Figures 1 and 2 as they follow a trend very similar to that of stockbrokers' recommendations. The total price movement is much higher for the buy recommendations and most of the abnormal price performance occurs before publication in the press, with a continuation of relatively small price increases in the following eight weeks. The sell recommendation shows a tendency for the price to move down before publication. In the following seven weeks the price moves up and down in a random fashion.

The behaviour of the abnormal returns prior to the period of publication should be interpreted with caution. In part, this behaviour is explained by selection bias, since a share is sometimes brought to the attention of the author of the newspaper column by abnormal price behaviour that then prompts him to seek an explanation

from stockbroker analysts and investment-advisory services. At other times, the author decides to publish a previously received recommendation about a share when abnormal price behaviour is observed. In some cases, however, he may discover or already have on hand a recommendation which in fact is unrelated to abnormal behaviour. The high degree of serial correlation in the return residuals (0,43 for the buy recommendation and 0,24 for the sell recommendations) is probably due to the variation among shares in the lag between an analysts' notification of his client and publication of the recommendation in the popular press.

There is an interesting trend in the behaviour of the average residuals in the period following the publication. The price adjustment is not completed during the week of publication, but seems to persist for a further week (the t-value for the week is statistically significant). Under these circumstances astute traders could outperform the market by delaying the purchase for a few days following a sell recommendation or by delaying the sale for a few days following a purchase recommendation. The values of the average residuals are fairly small, and therefore could not be used to develop an investment strategy if transaction costs are to be incurred. There is no evidence that the cumulative average residuals revert to prepublication levels.

This indicates that the analysts' recommendations published in the popular press does have short-term economic value.

Conclusion

On the basis of the evidence of this investigation, it would seem that share prices do adjust in response to analysts' recommendations. Further, the evidence also supports the hypothesis that buy or sell recommendations released to a small group of investors are not immediately and fully reflected in the share price. Instead, it appears that subsequent dissemination of the information in newspapers has a significant impact on the market price. This is consistent with the view that a few investors with inside information will not eliminate all abnormal returns because of the abnormal risk that such a portfolio shift on their part would entail. This investigation has provided evidence that investors who use analysts' services are getting something of value.

The 'free' information available from reading the popular press appears to be quickly incorporated into share prices. The information contained in the popular press cannot be utilized to develop a trading strategy when transaction costs have to be incurred. Recommendations of investment analysts which are not widely disseminated but available only to clients are likely to yield superior returns provided the recipients trade before the information becomes public. This study has not determined the extent of inside information used by investment analysts in researching investment recommendations. If investment analysts compete to provide clients with valuable information, the benefits of their research may unavoidably be shared with the investment community as a whole, with the by-product of maintain-

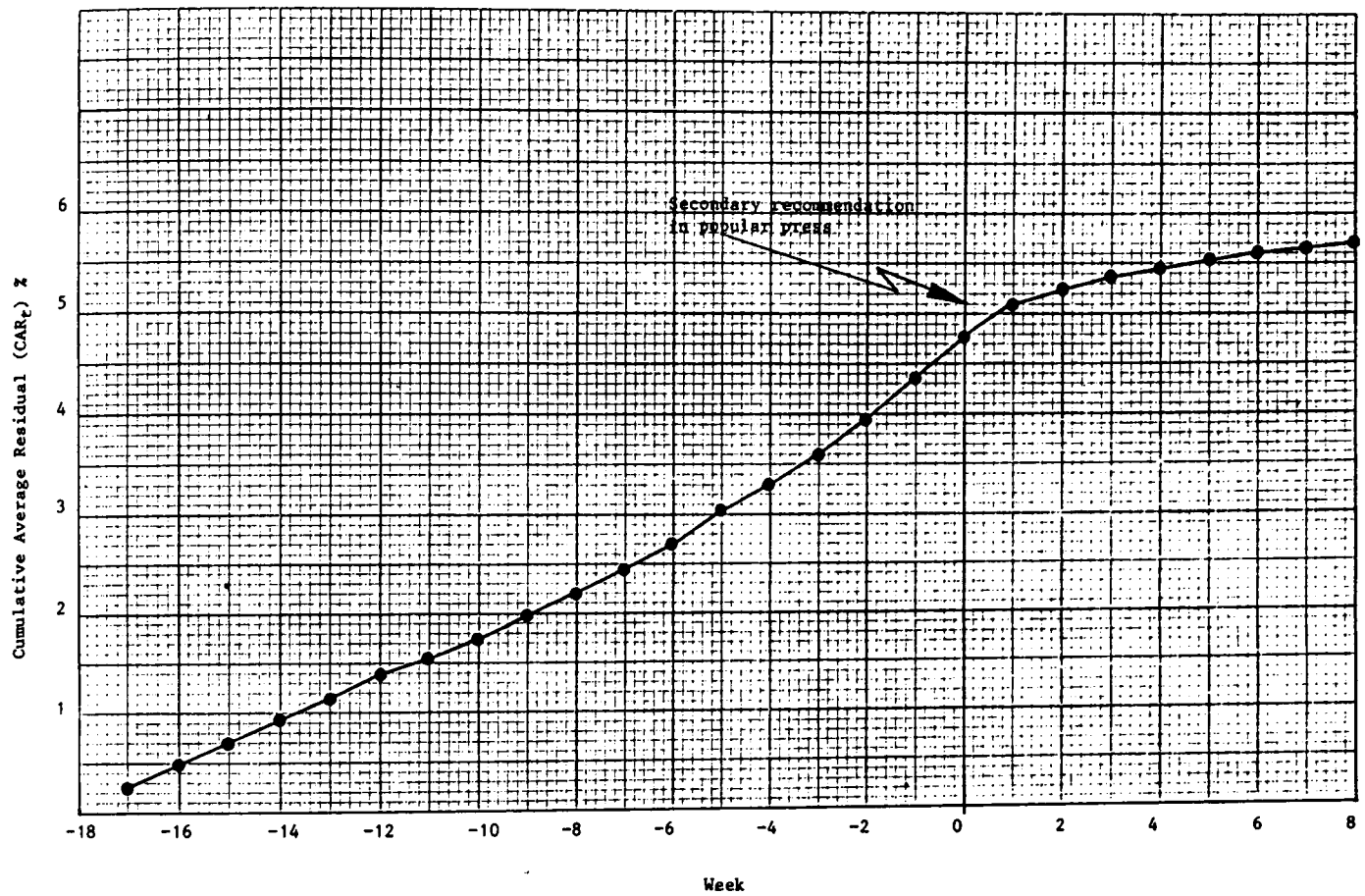


Figure 1 Cumulative average residuals (CARs) for buy recommendations by stockbrokers followed by secondary recommendations in newspapers

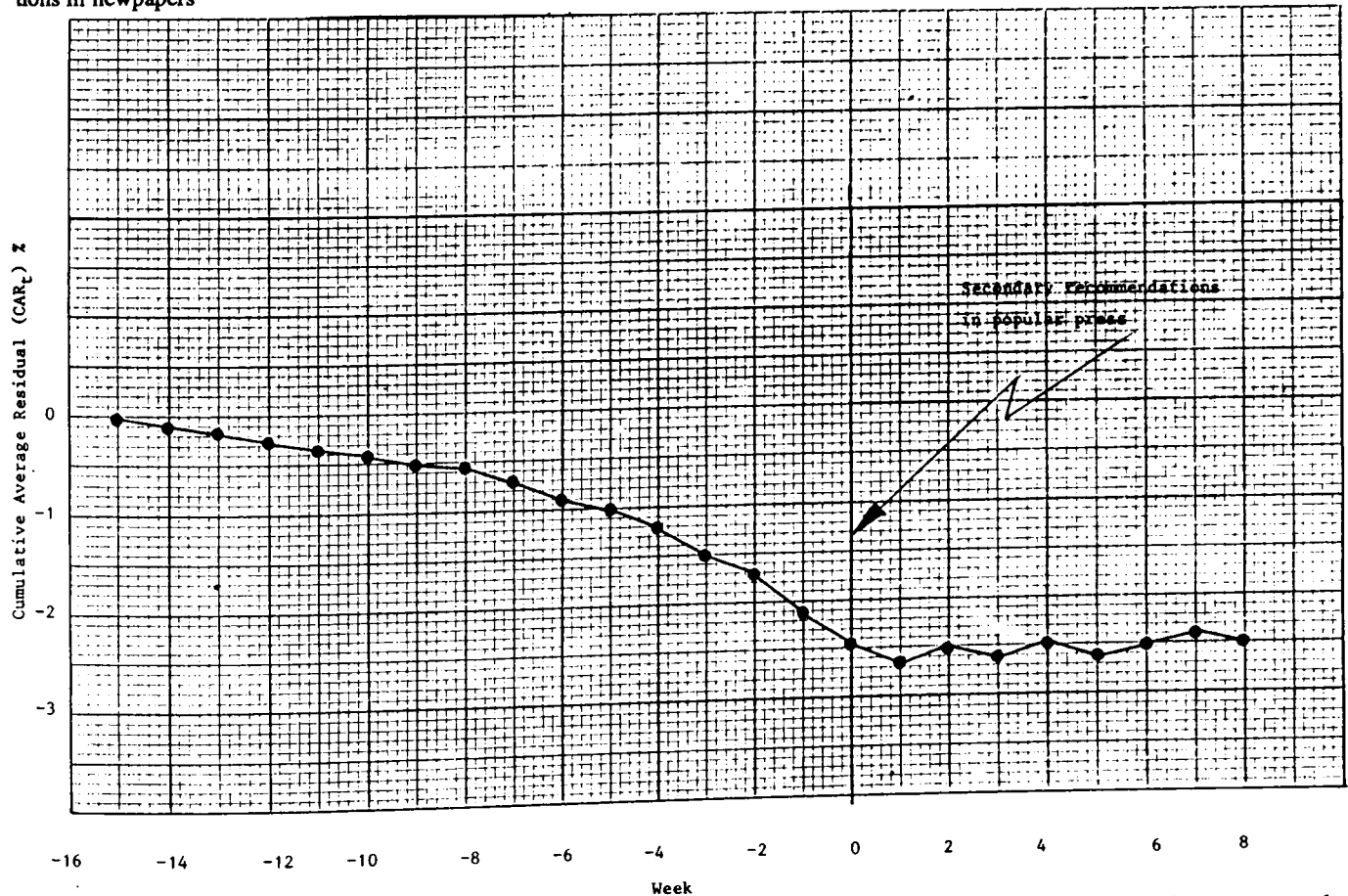


Figure 2 Cumulative average residuals (CARs) for sell recommendations by stockbrokers followed by secondary recommendations in newspapers

ing the efficiency of the market.

The results of this investigation confirm the findings of Reilly (1982) who observed that new information is not impounded in the share price immediately upon publication. There appears to be a gradual flow of information from analysts/insiders to the sophisticated investors and eventually to the general public. The findings of this investigation may be interpreted as a contradiction of the strong form of market efficiency. However, the findings are not necessarily at variance with the notion of an efficient market — publication of analysts' recommendations in newspapers make the market more efficient by passing on new information to a large group of investors.

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